



Center for AI and
Digital Policy

ARTIFICIAL INTELLIGENCE AND DEMOCRATIC VALUES INDEX

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Preface

The past year has produced rapid changes in the world of AI policies and practices. National governments and international organizations are moving quickly to create new frameworks in an attempt to maximize the benefits and minimize the risks of Artificial Intelligence. At the same time, private companies and government agencies are gathering vast repositories of data, deploying new AI systems to manage every activity from employment and transportation to education for children and care for the elderly. At the outset, it is worth considering whether the gap between the policies to govern the deployment of these new technologies and the actual deployment is narrowing or growing wider, as this would be a critical indicator of the respect for democratic values at the heart of a human-centered polity.

As we undertook the second survey of national AI policies and practices we built on our earlier work, we identified new trends, and we revisited the metrics we had established for trustworthy and human-centric AI. Here are a few key findings from the past year:

The UNESCO Recommendation on the Ethics of AI, adopted by 193 countries in November 2021, was the single most significant AI policy development of the past year. The UNESCO Recommendation speaks directly to the widespread – and widely shared – aspiration of countries that AI should benefit humanity. In a field that barely existed a few years ago, the UNESCO AI Recommendation is a remarkably comprehensive AI policy framework, touching upon established AI concerns, such as fairness, accuracy, and transparency, and emerging AI issues, including gender equity and sustainable development. UNESCO’s proposal for Ethical Impact Assessment provides a powerful new tool to assess, in advance, the consequences of the deployment of AI systems. Recognizing the importance of the first global framework for AI ethics, we have this year altered one of our metrics to take account of the significance of the UNESCO Recommendation on AI. It is a development worth acknowledging and celebrating. In future reports, we will likely add another metric to assess the far more challenging issue of implementation.

Since publication of our last report, we also note *the introduction of the European Commission proposal for the regulation AI*. The Commission has set out a comprehensive, risk-based approach that could extend the “Brussels Effect” to the global governance of AI. The European Parliament has also signaled its intention to strengthen key provisions, and likely will prohibit the use of AI techniques for remote biometric identification. Meanwhile, the Council of the European Union, under the Presidency of

Slovenia and now France, have proposed additional texts that would, among other changes, extend the prohibition on social scoring to private companies as well as public agencies.

2021 also marked the adoption of *Resolution 473 in Africa, concerning the need to undertake a study on human and peoples' rights and artificial intelligence*. The African Commission on Human and Peoples' Rights called on State Parties “to ensure that the development and use of AI, robotics and other new and emerging technologies is compatible with the rights and duties in the African Charter and other regional and international human rights instruments, in order to uphold human dignity, privacy, equality, non-discrimination, inclusion, diversity, safety, fairness, transparency, accountability and economic development as underlying principles that guide the development and use of AI, robotics and other new and emerging technologies.”¹ It is a powerful statement.

China has also adopted sweeping new laws for both data protection and the regulation of recommendation algorithms. Although the privacy rules look very similar to the GDPR and the regulation for the governance of recommendation algorithms share similar ambitions to proposals pending in both the European Union and the US Congress, there are real concerns about AI policies that are intended to favor a government in power. Against the backdrop of democratic values, the goals of transparency and accountability are offset by the inherent bias of such a legal structure.

We also noted this year the growing conflict over the deployment of facial recognition for mass surveillance. While the European Parliament voted to ban the use of AI technology for this purpose, many governments and private companies pushed forward new systems for surveillance in residential communities, inside school classrooms, and at public parks. These are not the CCTV cameras of old, but sophisticated image processing systems, designed specifically to identify individuals in public spaces by name. In some countries, this system of unique identification is then tied to elaborate government databases for scoring people based on their allegiance to the government in power. It is a form of social control beyond the imagination of even George Orwell.

We call attention also to the unfortunate failure of negotiators at the UN conference in late December to make progress on a proposal to limit – or better to prohibit – the use of lethal autonomous weapons. This occurred in the same year that the United Nations was able to verify the use of

¹ African Commission on Human and Peoples' Rights, *473 Resolution on the need to undertake a Study on human and peoples' rights and artificial intelligence (AI), robotics and other new and emerging technologies in Africa - ACHPR/Res. 473 (EXT.OS/ XXXI) 2021* (Feb. 25, 2021),

autonomous drone swarms to target and kill retreating military forces in the civil war in Libya.

As the field of AI policy rapidly matures, we observe the growing presence of judicial decisions, now shaping the laws of algorithms. In several cases, including the secretive evaluation of employee performance, courts have rejected opaque automated decisions. These judgements are based on well-established legal frameworks, such as the GDPR, though we see also legislative efforts to make automated decision-making with AI techniques more accountable. We report these outcomes favorably as algorithmic transparency remains one of our key metrics for the evaluation of AI policies and practices.

In addressing the need to advance democratic values in the age of AI, the ability of the European Union, the United States, and allies to work in common purpose remains central. On that front, the past year provides reason for both optimism and concern. The EU and the US launched a Trade and Technology Council in 2021 that set out a common framework on AI policy that could promote further transatlantic cooperation. The good news is that “human rights” and “democratic values” undergird many of the proposals. Top officials in the Biden Administration also expressed support for the EU AI Act, a key legislative framework that will likely move forward in 2022.

At the same time, the future of the EU AI Act is not certain, as some politicians have made the mistake of assuming it is possible to trade the protection of rights for innovation. *Technologies that fail to protect rights are not innovative, they are oppressive and stifling.* On the US side, several federal agencies have initiated AI-related “listening sessions,” but the necessary work of establishing legal standards to protect democratic values has yet to begin.

Still, our survey of national AI policies and practices also revealed the hard work of many NGOs, advocates, academics, and government officials, around the world, who have fully engaged the challenges that AI poses and are prepared to stand on the front lines in defense of fundamental rights. The remarkable progress made by the ReclaimYourFace campaign in Europe, and similar campaigns in Africa, Asia, and Latin America speak to a rapidly growing public recognition that not all technologically transformative impacts should be welcome. There is a growing understanding that “red lines” are necessary to safeguard fundamental rights. And in that recognition may be found also the key to aligning AI policies and practices, to narrowing the gap between the world of AI as it is and the world of AI we wish to inhabit. If AI is to remain human-centric, then we must determine the appropriate applications of AI.

We cannot say enough to thank the extraordinary CAIDP team members – the Global Academic Network, the Research Group, the Regional Coordinators, the CAIDP Fellows, the law school externs, and friends – who made possible this report. From an early project with a handful of people, the current report reflects the efforts and dedication of more than 100 experts in almost 40 countries. They did the hard work of researching and writing, presenting for discussion, and then preparing the assessments and ratings that make possible comparative analysis. We are also grateful to the advisors and reviewers who provided comments on earlier drafts of the report and direction for future editions. Our board members and dedicated volunteers have kept us on course during this period of remarkable growth. And we thank the supporters of CAIDP who have helped establish one of the most influential organizations in the field of AI policy. Together we share a commitment to *a better society, more fair, more just — a world where technology promotes broad social inclusion based on fundamental rights, democratic institutions, and the rule of law.*

To those in the AI policy field, whether advisors, decisionmakers, heads of government, independent experts, or simply members of the public who are interested in the growing impact of artificial intelligence on our lives and our societies, we hope you will give this report your attention. The rate of change is accelerating. We must act before it is too late.

As always, we welcome your advice, suggestions, revisions, and updates. Please send editorial comments to editor@caidp.org and visit our website caidp.org to find more about our activities, recent policy developments and how to get involved.

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February 2022

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Endorsements

“A very worthwhile analysis.”

- Stuart Russel, University of Berkeley, California

“An impressive body of work.”

- Alessandro Acquisti, Carnegie Mellon University

“An excellent report, a very useful tool for the community and a reference to see nexus between AI and Democratic Values”

- Leyla Keser, Istanbul Bilgi University

“A very insightful report on AI laws and policies that addresses significant international developments and provides a terrific comparison of AI laws and policies across 50 countries.”

- Lee J. Tiedrich, Duke University

“The CAIDP's Report on AI and Democratic Value is an incredibly comprehensive and brave collection of policy and legal developments on the field of AI in the world. The AIDV report can be a point of reference not only for scholars and NGOs, but also for policymakers across the globe. The fundamental rights challenge of AI is too big to be ignored: the regulatory urgency should be complemented by far-seeing wisdom and the AIDV report can be a real help in this direction.”

- Gianclaudio Malgieri, EDHEC Business School

“This report is unique in that it compares AI policies and practices around the world and should inspire progress toward trustworthy and human-centric AI. The report also documents the important role of digital rights and consumer groups in this endeavor.”

- Ursula Pahl, European Consumer Association (BEUC)

“It's rare to read a document that has the potential to influence national policies on artificial intelligence around the world. The country descriptions and evaluations are thoughtfully organized, well-written, and carefully documented. The country rankings enable readers to have a broad understanding of who the leaders are and why, while pointing out what still needs to be done. The *AI and Democratic Values* index gives me hope that AI policy efforts can improve human rights, social justice, and dignity.”

- Ben Shneiderman, author, *Human-Centric AI* (Oxford 2022)

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“In this historical moment of global interest negotiation and competition on AI we are in right now, we urgently need a shared narrative serving the human interest and democracy. With its comprehensive overview of key global and local power actors and initiatives ***The Artificial Intelligence and Democratic Values Index*** is an essential instrument for the facilitation of this shared global dialogue on AI now and in many years to come.”

- Gry Hasselbalch, DataEthics.eu, InTouchAI.eu

““A comprehensive and detailed overview of the global governance of AI - an essential body of work as AI emerges from the scientific frontier to center stage in society.”

- Joichi Ito, Director, Center for Radical Transformation, Chiba Institute of Technology

“This is a very ambitious and important exercise. The outcome is impressive- detailed and rigorous.”

- Valsamis Mitsilegas, Queen Mary University of London

“A unique comparative analysis of AI policy across the world. The ***Artificial Intelligence and Democratic Values Index*** does not just provide a comprehensive perspective on the evolution of AI policy but also contribute to underlining the constitutional relationship between AI and democracy.”

- Oreste Pollicino, Bocconi University

- Giovanni De Gregorio, University of Oxford

“This comparative study sheds critical light on the adoption of Artificial Intelligence in democratic societies. ***AI and Democratic Values*** is an indispensable reference source for regulators, reporters, academics, and practitioners

- Dr. Pablo G. Molina, Georgetown University and founder, International Applied Ethics and Technology Association (iaeta.org)

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EXECUTIVE SUMMARY

Purpose and Scope

Artificial Intelligence and Democratic Values is the first global survey to assess progress toward trustworthy AI, based on detailed narrative reports, combined with a methodology that produces ratings and rankings for national AI policies and practices.

The **AI Index** has these objectives: (1) to document the AI policies and practices, based on publicly available sources, (2) to establish a methodology for the evaluation of AI policies and practices, based on global norms, (3) to provide a basis for comparative evaluation, (4) to provide the basis for future evaluations, and (5) to ultimately encourage all countries to make real the promise of AI that is trustworthy, human-centric, and provides broad social benefit to all.

Artificial Intelligence and Democratic Values focuses on human rights, rule of law, and democratic governance metrics. Endorsement and implementation of the OECD/G20 AI Principles is among the primary metrics. Opportunities for the public to participate in the formation of national AI policy, as well as the creation of independent agencies to address AI challenges, is also among the metrics. Patents, publications, investment, and employment impacts are important metrics for the AI economy, but they are not considered here.

Artificial Intelligence and Democratic Values will be published on an annual basis and will evolve as country practices change and new issues emerge.

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The 2022 Edition

The 2022 edition of the report updates and expands the initial report. Among the key changes:

- The number of countries assessed increased from 30 to 50
- Endorsement of the UNESCO Recommendation on AI Ethics is now one of the key metrics to assess progress toward human-centric and trustworthy AI.
- For the metric concerning Implementation of the OECD AI Principles, we have awarded top scores to Canada, France, Japan, and Korea, the countries that were central to the development and implementation of the first global framework for AI policy.
- Additional efforts were made to normalize scores across key metrics. For example, the determination of implementation of the Universal Declaration for Human Rights now tracks the designation of Freedom House for countries as “Free,” “Partly Free,” and “Not Free.”
- The scores for country reports previously published were reviewed and revised based on developments during the past year concerning AI policies and practices.
- The number of researchers participating in the project has grown significantly. The 2022 CAIDP Research Group now includes over 100 participants from almost 40 countries.
- We acknowledge the comments of several reviewers who recommended a more detailed approach to the review of human rights. Additional recommendations concern expanded coverage of AI and immigration and AI and criminal justice. We will address these topics in the next edition.

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Findings

- **The OECD/G20 AI Principles have Framed the Global Debate over AI policy.** There are hundreds of frameworks for ethical AI, but only the OECD/G20 Principles have significantly shaped the policies and practices of national governments. Over 50 governments have formally endorsed the OECD/G20 AI Principles.
- **Governments have Both National Ambitions and Collaborative Goals.** National AI policies typically reflect ambitions to be a leader in AI, to establish centers of AI excellence, and to promote economic growth. Many of these ambitions will set countries in competition for investment, personnel, and deployment. At the same time, countries recognize the need for global cooperation in such areas as public health, climate change, and sustainable development.
- **AI Safeguards Build on Data Protection Law.** AI policy safeguards follows from other laws and policy frameworks, most notably data protection. The GDPR (Article 22), the Modernized Council of Europe Privacy Convention (Article 9), and the recently adopted California Privacy Rights Act in the US include explicit provisions for AI. The Global Privacy Assembly, the international conference of data protection officials, has recently adopted a sweeping resolution on the need for AI accountability.
- **Facial Surveillance as an AI “Red Line.”** Few AI applications are more controversial than the use of AI for surveillance in public spaces. The use of facial recognition on a general population has raised widespread controversy with many NGOs stating it should be prohibited. Other controversial AI applications include the scoring of citizens, criminal sentencing, administrative service decisions, and hiring assessments.
- **Concern About Autonomous Weapons Remains.** The risk of lethal autonomous weapons was among the first AI issues to focus the attention of government policymakers. Although many other AI policy issues have emerged in the last few years, concerns about autonomous weapons remains.
- **NGOs are Powerful Advocates for the Public.** In Europe, civil society groups have published substantial reports on AI policy, documented abuses, and called for reform. Their advocacy has also strengthened democratic institutions which must now consider legal measures to address public concerns.
- **AI Policy is in the Early Days, but the Pace is Accelerating.** AI research can be traced back to the 1950s but the effort of national

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governments to develop formal frameworks for AI policy is a recent phenomenon. Governments around the world are moving rapidly to understand the implications of the deployment of AI as more systems are deployed. We anticipate that the rate of AI policymaking will accelerate in the next few years.

Recommendations

- 1. Countries must establish national policies for AI that implement democratic values*
- 2. Countries must ensure public participation in AI policymaking and also create robust mechanisms for independent oversight of AI systems*
- 3. Countries must guarantee fairness, accountability, and transparency in all AI systems*
- 4. Countries must commit to these principles in the development, procurement, and implementation of AI systems for public services*
- 5. Countries must halt the use of facial recognition for mass surveillance*

New Recommendations (2022)

- 6. Countries must curtail the deployment of lethal autonomous weapons*
- 7. Countries must begin implementation of the UNESCO AI Recommendation*
- 8. Countries must establish a comprehensive, legally binding convention for AI*

THE GLOBAL AI POLICY LANDSCAPE

As a field of research, AI policy is in the very early stages. Only in the last few years have national governments formally considered and adopted policy frameworks that explicitly discuss “Artificial Intelligence.”² While government funding for work on Artificial Intelligence goes back to the mid-1950s, it would be many years before governments examined the consequences of this research. That gap is now closing. Governments around the world confront important decisions about AI priorities, AI ambitions, and AI risks. Much of this report concerns the current policies and practices of national governments.

In addition to national governments, many intergovernmental organizations are pursuing AI policies and initiatives. This section provides an overview of these organizations, listed in a simple A to Z. We also note the important work of technical associations and civil society organizations. This section briefly summarizes these activities, as of early 2022.

The Council of Europe

The Council of Europe (COE) is the continent’s leading human rights organization.³ The COE is comprised of 47 member states, 27 of which are members of the European Union. All COE member states have endorsed the European Convention of Human Rights, a treaty designed to protect human rights, democracy and the rule of law. Article 8 of the Convention, concerning the right to privacy, has influenced the development of privacy law around the world.

The COE Convention 108 (1981) is the first binding international instrument which protects the individual against abuses which may accompany the collection and processing of personal data and which regulates the transborder flow of personal data.⁴

In 2018, the Council of Europe amended Convention 108 and opened for signature and ratification the COE Modernized Convention 108+.⁵ Article 9(1)(c) specifically addresses AI decision-making. As the COE explains, the “modernised Convention extends the catalogue of information to be transmitted to data subjects when they exercise their right

² Marc Rotenberg, *AI Policy Sourcebook* (2019, 2020).

³ Council of Europe, *Who we are*, <https://www.coe.int/en/web/about-us/who-we-are>

⁴ Council of Europe, Treaty office, *Details of Treaty No. 108*, <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/108>

⁵ Council of Europe, Data Protection, Modernisation of Convention 108, <https://www.coe.int/en/web/data-protection/convention108/modernised>

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of access. Furthermore, data subjects are entitled to obtain knowledge of the reasoning underlying the data processing, the results of which are applied to her/him. This new right is particularly important in terms of profiling of individuals.”⁶ Forty-two states have signed the protocol amending the Privacy Convention.⁷

Several new AI initiatives are underway at the Council of Europe, including at the Council of Ministers, the COE Parliamentary Assembly. Marija Pejčinović Burić, Secretary General of the Council of Europe, has said “It is clear that AI presents both benefits and risks. We need to ensure that AI promotes and protects our standards. I look forward to the outcome of the work of the Ad hoc Committee on Artificial Intelligence (CAHAI), . . . The Council of Europe has, on many occasions, demonstrated its ability to pioneer new standards, which have become global benchmarks.”⁸

Citing the risks to privacy and data protection in 2021, the Council of Europe called for strict rules to limit the use of facial recognition.⁹ The guidelines were developed by the Consultative Committee of the Council of Europe Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data,¹⁰ reflecting the close connection between traditional rules for data protection and the emerging realm of AI policy.

CAHAI

The COE Council of Ministers established the Ad Hoc Committee on Artificial Intelligence (CAHAI) in September 2019.¹¹ The aim of the CAHAI is to “examine the feasibility and potential elements on the basis of broad multi-stakeholder consultations, of a legal framework for the

⁶ Council of Europe, Data Protection, *Modernisation of Convention 108: Overview of the novelties*, <https://rm.coe.int/modernised-conv-overview-of-the-novelties/16808accf8>

⁷ Council of Europe, Treaty Office, *Chart of signatures and ratifications of Treaty 223* (Status as of Nov. 22, 2020), <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/223/signatures>

⁸ Council of Europe, *Artificial intelligence and human rights*, <https://www.coe.int/en/web/artificial-intelligence/secretary-general-marija-pejcinovic-buric>

⁹ Council of Europe, *Facial recognition: strict regulation is needed to prevent human rights violations* (Jan. 28, 2021), <https://www.coe.int/en/web/portal/-/facial-recognition-strict-regulation-is-needed-to-prevent-human-rights-violations->

¹⁰ Council of Europe, *Details of Treaty No.108 of 1981*, <https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treaty-num=108>

¹¹ Council of Europe, *The Council of Europe established an Ad Hoc Committee on Artificial Intelligence - CAHAI* (Sept. 11, 2019), <https://www.coe.int/en/web/artificial-intelligence/-/the-council-of-europe-established-an-ad-hoc-committee-on-artificial-intelligence-cahai>

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development, design and application of artificial intelligence, based on the Council of Europe’s standards on human rights, democracy and the rule of law.”¹² The Council of Ministers approved the first progress report of the CAHAI in September 2020.¹³

The CAHAI held its final meeting in December 2021.¹⁴ At the end of the meeting, the CAHAI adopted the “Possible elements of a legal framework on artificial intelligence, based on the Council of Europe’s standards on human rights, democracy and the rule of law.” The CAHAI framework contains an outline of the legal and other elements which in the view of the Committee could be included in legally binding or non-legally binding instruments that will make up an appropriate legal framework on AI of the Council of Europe. The document outlines the “Possible elements of a legal framework on artificial intelligence, based on the Council of Europe’s standards on human rights, democracy and the rule of law.” The CAHAI framework will now be submitted to the Committee of Ministers for further consideration.

Committee of Ministers

In September 2020 the Committee of Ministers approved the CAHAI progress report, which concluded that the “Council of Europe has a crucial role to play today to ensure that AI applications are in line with human rights protections.”¹⁵ The Committee of Ministers asked the CAHAI to draft a feasibility study on a legal instrument that could “regulate the design, development and application of AI that have a significant impact on human rights, democracy and the rule of law.” The Committee of Ministers also proposed that the CAHAI should examine “human rights impact assessments” and “certification of algorithms and AI systems.” The Committee of Ministers will review the recommendation in early February 2022. These initiatives follow the 2020 Recommendation of the Committee of Ministers to member States on the human rights impacts of algorithmic

¹² Council of Europe, *CAHAI - Ad hoc Committee on Artificial Intelligence*, <https://www.coe.int/en/web/artificial-intelligence/cahai>

¹³ Council of Europe, *Ad hoc Committee on Artificial Intelligence (CAHAI): Progress Report* (Sept. 23, 2020), https://search.coe.int/cm/Pages/result_details.aspx?ObjectID=09000016809ed062

¹⁴ Council of Europe, The CAHAI held its 6th and final plenary meeting (Dec. 2, 2021), <https://www.coe.int/en/web/artificial-intelligence/-/outcome-of-cahai-s-6th-plenary-meeting>

¹⁵ Council of Europe, *Ad hoc Committee on Artificial Intelligence (CAHAI): Progress Report* (Sept. 23, 2020), https://search.coe.int/cm/Pages/result_details.aspx?ObjectID=09000016809ed062

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systems¹⁶ and its 2019 Declaration on the manipulative capabilities of algorithmic processes.¹⁷

In March 2021, the Committee of Ministers issued a comprehensive declaration on the need to ensure that AI systems for social services respect human rights.¹⁸ The Committee emphasized said that such systems should be developed and implemented in accordance with the principles of legal certainty, legality, data quality, non-discrimination, and transparency. The Ministers also recommended effective arrangements to protect vulnerable persons from serious or irreparable harm.

In November 2021, the Committee of Ministers also issued a Recommendation on the protection of individuals with regard to automatic processing of personal data in the context of profiling. The Committee stressed that “respect for fundamental rights and freedoms, notably the rights to human dignity and to privacy but also to freedom of expression, and for the principle of non-discrimination and the imperatives of social justice, cultural diversity and democracy, should be guaranteed, in both the public and private sectors, during the profiling operations.”¹⁹

European Committee on Crime Problems

In September 2021, based on the results of the 2020 Feasibility Study on a future Council of Europe instrument on artificial intelligence and criminal law,²⁰ the CDPC set up a Drafting Committee consisting of experts appointed by the members of the CDPC tasked with the elaboration of an

¹⁶ Committee of Ministers, *Recommendation CM/Rec(2020)1 on the human rights impacts of algorithmic systems* (Apr. 8, 2020)

https://search.coe.int/cm/pages/result_details.aspx?objectid=09000016809e1154

¹⁷ Committee of Ministers, *Declaration on the manipulative capabilities of algorithmic processes* (Feb. 13, 2019)

¹⁸ Council of Europe, *Declaration by the Committee of Ministers: the use of computer-assisted or AI-enabled decision making by public authorities in the area of social services must respect human rights* (Mar. 17, 2021),

https://www.coe.int/en/web/artificial-intelligence/newsroom/-/asset_publisher/csARLoSVrbAH/content/declaration-by-the-committee-of-ministers-the-use-of-computer-assisted-or-ai-enabled-decision-making-by-public-authorities-in-the-area-of-social-servi

¹⁹ Committee of Ministers, *Recommendation CM/Rec(2021)8 on the protection of individuals with regard to automatic processing of personal data in the context of profiling* (Nov. 3, 2021)

https://search.coe.int/cm/pages/result_details.aspx?Objectid=0900001680a46147

²⁰ European Committee on Crime Problems, *Feasibility Study on a future Council of Europe instrument on artificial intelligence and criminal law* (Sept.,4 2020)

<https://rm.coe.int/cdpc-2020-3-feasibility-study-of-a-future-instrument-on-ai-and-crimina/16809f9b60>

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instrument on AI and criminal law related to vehicles and automated driving.²¹ One of the main purposes of this instrument would be to “ensure the development of AI systems in accordance with the fundamental rights protected by Council of Europe instruments.”²² In November 2021, the Drafting Committee held its first meeting but failed to agree on the bindingness of the instrument.²³

Parliamentary Assembly

In October 2020, the Parliament Assembly of the Council of Europe has adopted a new resolution on the Need for Democratic Governance of Artificial Intelligence.²⁴ The Assembly called for “strong and swift action” by the Council of Europe. The parliamentarians warned that “soft-law instruments and self-regulation have proven so far not sufficient in addressing these challenges and in protecting human rights, democracy and rule of law.”

In a set of recommendations examining the opportunities and risks of AI for democracy, human rights and the rule of law adopted in October 2020 as well, the Parliamentary Assembly called on the Committee of Ministers to take into account the particularly serious potential impact of the use of artificial intelligence “in policing and criminal justice systems”²⁵ or “on the enjoyment of the rights to equality and non-discrimination”,²⁶ when assessing the necessity and feasibility of an international legal framework for artificial intelligence.

²¹ European Committee on Crime Problems, *Drafting Committee to elaborate an instrument on artificial intelligence and criminal law – Terms of Reference / Working methods* (Sept. 16, 2021) <https://rm.coe.int/cdpc-2021-2-terms-of-reference-cdpc-aicl/1680a18ffe>

²² European Committee on Crime Problems, *Drafting Committee to elaborate an instrument on artificial intelligence and criminal law – Terms of Reference / Working methods*, op. cit., p. 11.

²³ European Committee on Crime Problems, *1st meeting of the Drafting Committee to elaborate an instrument on Artificial Intelligence and Criminal Law* (Nov. 15-16 2021)

²⁴ Council of Europe, Parliamentary Assembly, *Need for democratic governance of artificial intelligence* (Oct. 22, 2020), <https://pace.coe.int/en/files/28803/html>

²⁵ Parliamentary Assembly, *Recommendation 2182(2020) Justice by algorithm – The role of artificial intelligence in policing and criminal justice systems* (Oct. 22, 2020) <https://pace.coe.int/en/files/28806/html>; See also, *Resolution 2342 (2020)* <https://pace.coe.int/en/files/28805>

²⁶ Parliamentary Assembly, *Recommendation 2183 (2020) Preventing discrimination caused by the use of artificial intelligence* (Oct. 22, 2020) <https://pace.coe.int/en/files/28809/html>; See also, *Resolution 2343 (2020)* <https://pace.coe.int/en/files/25318/html>

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European Court of Human Rights

The European Court of Human Rights has generated an abundant amount of case law interpreting Article 8 of the European Convention on Human Rights on the right to private life. The opinions of the Court on privacy and data protection are widely regarded by other courts. The Court has dealt with numerous aspects relating to the protection of personal data, which has been deemed of fundamental importance to a person's enjoyment of a person's right to respect for private and family life as guaranteed by Article 8. The Court has addressed privacy challenges in relation to telephone conversations, telephone numbers, computers, video surveillance, voice recording, bulk interceptions of telecommunications and the internet.²⁷ However, to date, the Court has not addressed matters relating to AI tools, including automated decision-making based on algorithms.

Commissioner for Human Rights

In January 2021, at a virtual event organized by the German Federal Foreign Office and Federal Ministry of Justice and Consumer Protection as part of Germany's Chairmanship of the Committee of Ministers of the Council of Europe, the Commissioner for Human Rights started her speech on "Human Rights in the Era of AI – Europe as international Standard Setter for Artificial Intelligence" by asserting that "Ensuring that technological development works for and not against human rights, democracy and the rule of law is one of the biggest tasks that states face".²⁸

Her speech refers to and builds on the 10-point Recommendation on AI and human rights she addressed to Council of Europe member states in May 2019.²⁹ It focused more specifically on 1) Human rights impact assessment, 2) Public consultations 3) Obligations of member states to facilitate the implementation of human rights standards in the private sector 4) Information and transparency 5) Independent oversight 6) Non-discrimination and equality 7) Data protection and privacy 8) Freedom of

²⁷ For an overview of the case law, see European Court of Human Rights, *Mass surveillance* (Jan. 2022)

https://www.echr.coe.int/documents/fs_mass_surveillance_eng.pdf; *Personal data protection* (Jan. 2022) https://www.echr.coe.int/Documents/FS_Data_ENG.pdf.

²⁸ Commissioner for Human Rights, *Human Rights in the Era of AI – Europe as international Standard Setter for Artificial Intelligence* (Jan. 20, 2021)

<https://rm.coe.int/german-cm-presidency-high-level-conference-human-rights-in-the-era-of-1680a12379>

²⁹ Commissioner for Human Rights, Recommendation, *Unboxing Artificial Intelligence: 10 steps to protect Human Rights* (May 2019) <https://rm.coe.int/unboxing-artificial-intelligence-10-steps-to-protect-human-rights-reco/1680946e64>

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expression, freedom of assembly and association, and the right to work 9) Remedies 10) Promotion of “AI literacy.”

Commission for the Efficiency of Justice

In December 2020, The European Commission for the Efficiency of Justice (CEPEJ) adopted a feasibility study on the establishment of a certification mechanism for artificial intelligence tools and services. The study is based on the CEPEJ Charter on the use of artificial intelligence in judicial systems. According to the CEPEJ, the Council of Europe, if it decides to create such a mechanism, would be a pioneer in this field.³⁰

In December 2021, the CEPEJ adopted the 2022-2025 Action plan: “Digitalisation for a better justice.” The CEPEJ Action Plan sets out as the priority assisting “States and courts in a successful transition towards digitalisation of justice in line with European standards and in particular Article 6 of the European Convention of Human Rights” on the right to a fair trial, “while also ensuring that justice is human, efficient and of high quality.” “Human justice” is presented as one of the main goals the CEPEJ should take into account: “The digitalisation of justice shall make justice more efficient but must never seek to replace the judge. The judge must remain at the centre of the procedure.”³¹

The European Union

Many institutions in the European Union now play a significant role in the development of AI policies and practices.

The European Commission

The European Commission plays an active role in developing the EU’s overall strategy and in designing and implementing EU policies. The Commission is the initiator of EU legislation. AI was identified as a priority when the new Commission, under the Presidency of Ursula von der Leyen, was established in late 2019.³² At that time, von der Leyen

³⁰ Council of Europe, *CEPEJ: Artificial intelligence and cyberjustice at the heart of the discussions* (Dec. 11, 2020), <https://www.coe.int/en/web/portal/-/cepej-artificial-intelligence-and-cyberjustice-at-the-heart-of-discussions>

³¹ European Commission for the Efficiency of Justice, *2022-2025 CEPEJ Action plan: “Digitalisation for a better justice”*, CEPEJ(2021)12Final (Dec. 8-9, 2021) <https://rm.coe.int/cepej-2021-12-en-cepej-action-plan-2022-2025-digitalisation-justice/1680a4cf2c>

³² CAID Update 1.3, *European Commission Proposes Options for Ethical*, (Aug. 3, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/center-for-ai-policy-update-european-commission-proposes-four-options-for-ethical-ai/>

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recommended new rules on Artificial Intelligence that respect human safety and rights.³³

Von der Leyen's proposal followed remarks by Chancellor Angela Merkel at the G20 summit in 2019, who called for the European Commission to propose comprehensive regulation for artificial intelligence. "It will be the job of the next Commission to deliver something so that we have regulation similar to the General Data Protection Regulation that makes it clear that artificial intelligence serves humanity," Merkel stated.

In February 2020, the Commission published the white paper On Artificial Intelligence -A European Approach to Excellence and Trust for public comment. The Commission subsequently proposed several options for AI regulation. Speaking to the EU Ambassadors Conference in November 2020, President von der Leyen said, "European rules on personal data protection have inspired others to modernise their own privacy rules. We must now put special focus on the international transfer of data, particularly after a recent ruling of the European Court of Justice."³⁴ And in remarks to the Council on Foreign Relations, she said "we must work together on a human-centric vision on AI - a global standard aligned with our values."³⁵

Following the U.S. election in November 2020, the European Commission developed a new framework for transatlantic relations. On December 2, 2020, the European Commission proposed a New EU-US Agenda for Global Change. The New Agenda covers a wide range of topics, but it is notable that the Commission states, "we need to start acting together on AI - based on our shared belief in a human- centric approach and dealing with issues such as facial recognition. In this spirit, the EU will propose to start work on a Transatlantic AI Agreement to set a blueprint for regional and global standards aligned with our values."³⁶ The Commission further states, "We must also openly discuss diverging views on data governance and see how these can be overcome constructively. The EU and the US

³³ European Commission, *A Union that Strives for more: the first 100 days* (Mar. 6, 2020), https://ec.europa.eu/commission/presscorner/detail/en/ip_20_403

³⁴ European Commission, *Speech by President von der Leyen at the EU Ambassadors' Conference 2020* (Nov. 10, 2020),

https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_2064

³⁵ Council on Foreign Relations, *A Conversation with Ursula von der Leyen* (Nov. 20, 2020), <https://www.cfr.org/event>

³⁶ European Commission and High Representative of the Union for Foreign Affairs and Security Policy, *Joint Communication to the European Parliament, the European Council and the Council: A New EU-US Agenda for Global Change* (Dec. 2, 2020) (emphasis in the original), https://ec.europa.eu/info/sites/info/files/joint-communication-eu-us-agenda_en.pdf

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should intensify their cooperation at bilateral and multilateral level to promote regulatory convergence and facilitate free data flow with trust on the basis of high standards and safeguards.”

The Trade and Technology Council

At the US-EU Summit in Brussels in June 2021, President von der Leyen launched together with US President Biden the EU-US Trade and Technology Council (TTC). One of its main purposes is to coordinate approaches to key technology issues and deepen transatlantic trade and economic relations based on shared democratic values. The Trade and Technology Council will include a working group on technology standards cooperation including AI and another one on the misuse of technology threatening security and human rights. For the EU, the TTC is co-chaired by European Commission Executive Vice Presidents Valdis Dombrovskis and Margrethe Vestager and for the US by Trade Representative Katherine Tai, Secretary of Commerce Gina Raimondo and Secretary of State Anthony Blinken.

In a joint statement following the TTC inaugural meeting in Pittsburgh in September 2021, “the European Union and the United States acknowledge that AI technologies yield powerful advances but also can threaten our shared values and fundamental freedoms if they are not developed and deployed responsibly or if they are misused. The European Union and the United States affirm their willingness and intention to develop and implement AI systems that are innovative and trustworthy and that respect universal human rights and shared democratic values.”³⁷ They also agreed on the importance of public consultation as the TTC undertakes its work. As a result, in October 2021, the Commission launched an online consultation platform on the TTC³⁸ allowing stakeholders to share their views and make recommendations as well as be informed about its work.

The EU AI Act

In April 2021 The European Commission published the “AI package. This package consisted of: a Communication on Fostering a European Approach to Artificial Intelligence; the Coordinated Plan with Member States: 2021 update; a proposal for an AI Regulation laying down harmonised rules for the EU (the “AI Act”).³⁹ In January 2022, The

³⁷ *EU-US Trade and Technology Council Inaugural Joint Statement* (Sept. 29, 2021) https://ec.europa.eu/commission/presscorner/detail/e%20n/statement_21_4951

³⁸ Futurium Platform, *Trade and Technology Council Community* <https://futurium.ec.europa.eu/en/EU-US-TTC>

³⁹ European Commission, *A European approach to artificial intelligence*, <https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence>.

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European Commission proposed to define a set of principles for a human-centered digital transformation.⁴⁰

The draft AI Act follows a risk-based approach and proposes to categorize AI systems based on the four different risk levels they create: 1) an unacceptable risk; 2) a high risk; 3) limited risk; or 4) minimal risk. No limitations or requirements are set for use of AI systems creating minimal or low risk.

The draft AI Act prohibits certain AI practices that create unacceptable risk as they contradict EU values and fundamental rights. The draft Act proposes to prohibit four AI practices: 1) deployment of subliminal techniques beyond a person's consciousness, 2) exploitation of the vulnerabilities of specific vulnerable groups, 3) social scoring, and 4) use of 'real-time' remote biometric identification systems in publicly accessible spaces for law enforcement.

The draft AI Act sets out specific requirements for high-risk AI systems, that create an adverse impact on safety or fundamental rights. This includes AI systems that are product or safety components or systems used in the areas listed in Annex III of the draft AI Act, including such areas as biometric identification and categorization, education, employment, law enforcement, migration, asylum and border control. For other AI systems that do not pose high risks, the draft AI Act imposes limited transparency rules. The draft Act classifies as limited-risk AI systems intended to interact with natural persons, emotion recognition systems and biometric categorization systems, and AI systems used to generate or manipulate image, audio or video content.

The Commission proposal is subject to review and amendment by the Parliament and the Council, and then a subsequent negotiation, known as the "trialogue."⁴¹

Fundamental Rights in the Digital Age

In December 2021, the European Commission released its annual report on the application of the Charter of Fundamental Rights in the EU. It is the first thematic report and it focuses on the challenges in protecting fundamental rights in the digital age.⁴² One of the key policy areas of the

⁴⁰ European Commission, *Declaration on European Digital Rights and Principles* (Jan. 26, 2022), <https://digital-strategy.ec.europa.eu/en/library/declaration-european-digital-rights-and-principles>

⁴¹ European Council, Council of the European Union, *The ordinary legislative procedure*, <https://www.consilium.europa.eu/en/council-eu/decision-making/ordinary-legislative-procedure/>

⁴² European Commission, *Protecting Fundamental Rights in the Digital Age – 2021 Annual Report on the Application of the EU Charter of Fundamental Rights*, COM(2021)

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report concerns “Safeguarding fundamental rights where artificial intelligence is used” and another one “Supervising digital surveillance” with a paragraph dedicated to remote biometric identification.

In January 2022, the European Commission proposed to define a set of principles for a human-centered digital transformation in an interinstitutional Declaration.⁴³ This was one of the four cardinal points identified by the Commission in its Digital Compass in which it set its vision for a successful digital transformation of Europe by 2030.⁴⁴ The European Parliament and the Council are invited to discuss then endorse the Declaration by the Summer of 2022.

The European Parliament

The European Parliament is co-legislator, together with the Council of the European Union. The Parliament has convened hearings and adopted resolution to outline the element of EU legislation.⁴⁵ One resolution urged the Commission to establish legal obligations for artificial intelligence and robotics, including software, algorithms and data. A second would make those operating high-risk AI systems strictly liable for any resulting damage. And a third resolution on intellectual property rights makes clear that AI should not have legal personality; only people may claim IP rights.

The European Parliament adopted all of these proposals in sweeping majorities, across parties and regions. But even those proposals are unlikely to meet the concerns of civil society. As Access Now and EDRi said of the resolution on AI ethics, “They are cautious and restrained on fundamental rights, taking only tentative steps to outline the biggest threats that artificial intelligence pose to people and society, while also failing to propose a legislative framework that would address these threats or provide any substantive protections for people’s rights.”

819 final (Dec. 12, 2021),

https://ec.europa.eu/info/sites/default/files/1_1_179442_ann_rep_en_0.pdf

⁴³ European Commission, *Declaration on European Digital Rights and Principles* (Jan. 26, 2022), <https://digital-strategy.ec.europa.eu/en/library/declaration-european-digital-rights-and-principles>

⁴⁴ European Commission, *2030 Digital Compass: the European way for the Digital Decade* COM(2021) 118 final, (March 9, 2021) <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52021DC0118>

⁴⁵ CAIDP Update 1.12, *European Parliament Adopts Resolutions on AI* (Oct. 24, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/caidp-update-european-parliament-adopts-resolutions-on-ai/>

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The influential LIBE Committee has also highlighted concerns about AI and fundamental rights and AI in criminal justice.⁴⁶ In February 2020, the Committee held a hearing on Artificial Intelligence and Criminal Law, and examined the benefits and risks of AI, predictive policing, facial recognition, as well as the ethical and fundamental rights implications. LIBE worked in association with the United Nations Interregional Crime and Justice Research Institute (UNICRI), the European Union Agency for Fundamental Rights (FRA), and the Council of Europe (COE). In November 2020, LIBE issued an opinion concerning AI and the application of international law.⁴⁷

The JURI Committee, responsible for Legal Affairs, also requested a significant report on Artificial Intelligence and Civil Liability.⁴⁸ The report “demonstrates how technology regulation should be technology-specific, and presents a Risk Management Approach, where the party who is best capable of controlling and managing a technology-related risk is held strictly liable, as a single entry point for litigation.” The report outlines the application to four case studies. Following the European Parliament’s October 2020 resolution on the topic, the European Commission published an inception impact assessment on a likely legislative initiative to adapt the EU liability rules to the digital age and circular economy in June 2021⁴⁹ and launched a public consultation on the topic from October 2021 until January 2022.⁵⁰

⁴⁶ CAIDP Update 1.8 *LIBE Committee of EU Parliament Examines AI Practices, Data Protection*, (Sept. 9, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/caidp-update-libe-committee-of-eu-parliament-examines-ai-practices-data-protection/>

⁴⁷ European Parliament, Committee on Civil Liberties, Justice and Home Affairs, *on artificial intelligence: questions of interpretation and application of international law in so far as the EU is affected in the areas of civil and military uses and of state authority outside the scope of criminal justice (2020/2013 (INI))*, (Nov. 23, 2020), https://www.europarl.europa.eu/doceo/document/LIBE-AD-652639_EN.pdf

⁴⁸ Policy Department for Citizens' Rights and Constitutional Affairs, Directorate-General for Internal Policies, *Artificial Intelligence and Civil Liability*, PE 621.296 JURI (July 14, 2020), [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/621926/IPOL_STU\(2020\)621926_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/621926/IPOL_STU(2020)621926_EN.pdf)

⁴⁹ European Commission, *Inception Impact Assessment - Adapting liability rules to the digital age and circular economy* (Jun. 30, 2021) https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12979-Civil-liability-adapting-liability-rules-to-the-digital-age-and-artificial-intelligence_en

⁵⁰ European Commission, *Public consultation on Civil liability – adapting liability rules to the digital age and artificial intelligence* (Oct. 18, 2021) <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12979-Civil->

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Following a report by the JURI Committee, the European Parliament adopted in January 2021 a resolution on “artificial intelligence: questions of interpretation and application of international law in so far as the EU is affected in the areas of civil and military uses and of state authority outside the scope of criminal justice”⁵¹. In its resolution, the Parliament reiterated its call for an EU strategy to prohibit the use of lethal autonomous weapon systems and for a ban on “killer robots”. It also called for the EU to play a leading role in creating and promoting a global framework governing the military use of AI. Regarding the use of AI in the public sector, especially healthcare and justice, the Parliament stressed that “the use of AI systems in the decision-making process of public authorities can result in biased decisions that negatively affect citizens, and therefore should be subject to strict control criteria regarding their security, transparency, accountability, non-discrimination, social and environmental responsibility, among others; urges Member States to assess the risks related to AI-driven decisions connected with the exercise of State authority, and to provide for safeguards such as meaningful human supervision, transparency requirements and the possibility to contest such decisions”. The Parliament also invited the Commission to “assess the consequences of a moratorium on the use of facial recognition systems, and, depending on the results of this assessment, to consider a moratorium on the use of these systems in public spaces by public authorities and in premises meant for education and healthcare, as well as on the use of facial recognition systems by law enforcement authorities in semi-public spaces such as airports, until the technical standards can be considered fully fundamental rights-compliant, the results derived are non-biased and non-discriminatory, and there are strict safeguards against misuse that ensure the necessity and proportionality of using such technologies.”

In May 2020, the Directorate General for Parliamentary Research Services of the European Parliament published *The Impact of the General Data Protection Regulation (GDPR) on Artificial Intelligence*.⁵² The study

[liability-adapting-liability-rules-to-the-digital-age-and-artificial-intelligence/public-consultation_en](#)

⁵¹ European Parliament, *Resolution on artificial intelligence: questions of interpretation and application of international law in so far as the EU is affected in the areas of civil and military uses and of state authority outside the scope of criminal justice* (2020/2013(INI)), (Jan. 20, 2021) https://www.europarl.europa.eu/doceo/document/TA-9-2021-0009_EN.html

⁵² European Parliament Think Tank, *The impact of the General Data Protection Regulation (GDPR) on artificial intelligence* (June 25, 2020), [https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_STU\(2020\)641530](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_STU(2020)641530)

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examines the tensions and proximities between AI and data protection principles, such as in particular purpose limitation and data minimization. And in June 2020 the European Parliament established a Special Committee on Artificial Intelligence to study the impact of AI and to propose a roadmap for the EU. According to the decision of Parliament, the Committee should pursue a “holistic approach providing a common, long-term position that highlights the EU’s key values and objectives.”⁵³

The work of the European Parliament on Artificial Intelligence also intersects with the Digital Services Act, an initiative to overhaul the E-Commerce Directive which has been the foundation of the digital single market for the last twenty years.⁵⁴ At the end of October, 2020, European Margrethe Vestager said the proposed Digital Services Act package will aim to make ad targeting more transparent and to ensure companies are held accountable for their decisions.⁵⁵ “The biggest platforms would have to provide more information on the way their algorithms work, when regulators ask for it,” Vestager said.

Committees – AIDA, IMCO, LIBE

There are three committees within the European Parliament that have primary jurisdiction for the development of AI policy. The AIDA Committee - the Special Committee on Artificial Intelligence in a Digital Age – was established by the European Parliament on June 18, 2020 with the goal of “setting out a long-term EU roadmap on Artificial Intelligence (AI).”⁵⁶ Over an 18-month period, AIDA organized hearings and workshops with key stakeholders, including experts, policy-makers, and the business community. In November 2021, members of the AIDA committee met with policymakers, NGOs, and business groups in Washington, DC.

⁵³ European Parliament, *Setting up a special committee on artificial intelligence in a digital age, and defining its responsibilities, numerical strength and term of office* (June 18, 2020), https://www.europarl.europa.eu/doceo/document/TA-9-2020-0162_EN.html

⁵⁴ European Parliament, *Digital Services Act: Opportunities and Challenges for the Digital Single Market and Consumer Protection*, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/652712/IPOL_BRI\(2020\)652712_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/652712/IPOL_BRI(2020)652712_EN.pdf)

⁵⁵ Matthew Broersma, *New EU Rules ‘Would Open Tech Giants’ Algorithms To Scrutiny*, Silicon.co (Nov. 2, 2020) <https://www.silicon.co.uk/workspace/algorithms-tech-giants-348707>

⁵⁶ European Parliament, AIDA Committee, *About: Welcome Words*, <https://www.europarl.europa.eu/committees/en/aida/about>

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In January 2022, the rapporteur of the AIDA Committee published a draft report on artificial intelligence in a digital age.⁵⁷ Approximately 1,400 amendments were received.⁵⁸ AIDA committee anticipated the finalization of the report and a vote on the associated resolution in March 2022.

Two committees in the European Parliament will then take the reins for the proposed EU AI Act. The IMCO Committee is responsible for the legislative oversight and scrutiny of EU rules on the single market, including the digital single market, customs and consumer protection.⁵⁹ The LIBE Committee is “is responsible for the majority of legislation and democratic oversight of policies that enable the European Union to offer its citizens an area of freedom, security and justice (Article 3 TEU). While doing so, we ensure, throughout the EU, the full respect of and compliance with the EU Charter of Fundamental Rights, in conjunction with the European Convention on Human Rights.”⁶⁰

A joint hearing between IMCO and LIBE was held on January 25, 2022.⁶¹ The two rapporteurs expressed their views on the AI Act. Brando Benifei, co-rapporteur for the Internal Market and Consumer Protection Committee, stated “Our aim is to protect citizens and consumers, and stimulate positive innovation at the same time, while focussing especially on SMEs and start-ups. A legislative framework ensuring that AI systems entering the EU single market are safe, human-centric and respect our fundamental rights and freedoms will stimulate trust among citizens, which is key to a successful and inclusive uptake of AI on our continent. That is what we will strive for.” Dragoş Tudorache, co-rapporteur for the Civil Liberties, Justice and Home Affairs Committee, said, “The AI Act is a central piece of the European regulatory environment for the digital future and the first of its kind worldwide. We have a chance to lead by example

⁵⁷ Special Committee on Artificial Intelligence in a Digital Age, *Draft Report on artificial intelligence in a digital age*, (2020/2266(INI)) (Nov. 2, 2021), https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/AIDA/PR/2022/01-13/1224166EN.pdf

⁵⁸ AIDA, *AIDA Committee Meeting, Consideration of Amendments* (Feb. 1, 2022), <https://www.europarl.europa.eu/committees/en/aida-committee-meeting-consideration-of-product-details/20220117CAN64673>

⁵⁹ European Parliament, *About IMCO, Welcome Words*, <https://www.europarl.europa.eu/committees/en/imco/about>

⁶⁰ European Parliament, *About LIBE, Welcome Words*, <https://www.europarl.europa.eu/committees/en/libe/about>

⁶¹ *Artificial Intelligence Act: EP lead committees to launch joint work on 25 January* (Jan. 24, 2022), <https://portal.ieu-monitoring.com/editorial/artificial-intelligence-act-ep-lead-committees-to-launch-joint-work-on-25-january>

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and to shape the rules of the digital world according to our values. As the heart of European democracy, the European Parliament has a key role to play: we need to find the right balance between enhancing the protection of our fundamental rights and boosting Europe’s competitiveness and capacity to innovate.”

According to a draft schedule, the IMCO and LIBE committees anticipate that reports will be made final by June 20, 2022 and a vote on the reports will occur September 29, 2022. The Parliament is expected to vote on November 9, 2022.

The Two Councils

The European Council defines the EU's overall political direction and priorities.⁶² Its members are the heads of state or government of the 27 EU member states, the European Council President, and the President of the European Commission. The European Council is not one of the EU's legislating institutions, so does not negotiate or adopt EU laws. This is the prerogative of the Council of the European Union (“Council”), composed of representatives of member states’ ministers.

In June 2020, the Council of the European Union set out Conclusions for Shaping Europe’s Digital Future.⁶³ Regarding AI, the Council stressed, some “some artificial intelligence applications can entail a number of risks, such as biased and opaque decisions affecting citizens’ well-being, human dignity or fundamental rights, such as the rights to non-discrimination, gender equality, privacy, data protection and physical integrity, safety and security, thus reproducing and reinforcing stereotypes and inequalities. Other risks include the misuse for criminal or malicious purposes such as disinformation.”

And then in October 2020, the European Council issued conclusions on the charter of fundamental rights in the context of artificial intelligence and digital change.⁶⁴ “These conclusions are designed to anchor the EU's fundamental rights and values in the age of digitalisation, foster the EU's digital sovereignty and actively contribute to the global debate on the use of artificial intelligence with a view to shaping the international framework,” the Presidency of the Council stated.

⁶² European Council <https://www.consilium.europa.eu/en/european-council/>

⁶³ Council of the European Union, *Shaping Europe’s Digital Future* (June 9, 2020), <https://data.consilium.europa.eu/doc/document/ST-8711-2020-INIT/en/pdf>

⁶⁴ Council of the European Union, *Artificial intelligence: Presidency issues conclusions on ensuring respect for fundamental rights* (Oct. 21, 2020), <https://www.consilium.europa.eu/en/press/press-releases/2020/10/21/artificial-intelligence-presidency-issues-conclusions-on-ensuring-respect-for-fundamental-rights/#>

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The Presidency recommended a “fundamental rights-based” approach to AI and emphasized dignity, freedoms, equality, solidarity, citizen’s rights, and justice.⁶⁵ The Council urged the Union and Member States to “consider effective measures for identifying, predicting and responding to the potential impacts of digital technologies, including AI, on fundamental rights.” The Council said the “Commission’s announced proposal for a future regulatory framework for AI, should strengthen trust, strike a fair balance between the various interests and leave room for research and development and further innovation and technical and socio-technical developments.” The Council also acknowledged the work of the FRA on AI.

The Council of the European Union, through the Transport, Telecommunications and Energy Council, has already set out proposed changes to the EU AI Act. The Slovenian Presidency (July to December 2021) published in late November 2021 compromise text Articles 1 – 7 of the AI Act.⁶⁶ The text strengthens certain provisions but would also exempt general purpose AI systems.

A compromise text dated January 13th was proposed by the French Presidency (January to June 2022), addressing Articles 8-15 and Annex IV.⁶⁷ The French Presidency aims at adopting a Council position before July 2022. The French proposal would extend the ban on social scoring to private actors, make clear that obligations for high-risk systems apply to both public and private authorities, add insurance to the list of high-risk systems, expand the definition of prohibited system that distort human behaviour, and expand the limitation on remote identification systems. At the same time, the French proposal would exclude AI systems “exclusively developed or used for military purposes” as long as it is used only for military purposes. A related provision would exclude AI systems that are exclusively developed or used for national security purposes

The Czech Republic will take up the presidency of the Council for the second half of 2022. However, since the Parliament is not expected to finalize its position on the EU AI Act until late 2022, the final negotiations

⁶⁵ COE, *Presidency conclusions: The Charter of Fundamental Rights in the context of Artificial Intelligence and Digital Change*, 11481/20 (Oct. 21, 2020), <https://www.consilium.europa.eu/media/46496/st11481-en20.pdf>

⁶⁶ Council of the European Union, *Presidency Compromise Text* (Nov. 29, 2021), <https://data.consilium.europa.eu/doc/document/ST-14278-2021-INIT/en/pdf>

⁶⁷ Council of the European Union, *Presidency compromise text - Articles 8-15 and Annex IV* (Jan. 13, 2022), <https://www.caidp.org/app/download/8367910663/CAIDP-Congress-TTC-Statement-01172022.pdf>

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between the Parliament, the Council, and the Commission are expected to take place under the Swedish presidency (January – June 2023).

The Court of Justice of the European Union

Although the Court of Justice has yet to rule directly on AI policies, the Court will play a significant role as AI policies evolve and AI law is adopted.⁶⁸ Judgments of the Court concerning data transfers will also impact the development of AI systems. In the 2020 Schrems II judgment, the Court struck down the Privacy Shield framework that permitted the transfer of personal data from the European Union to the United States.⁶⁹ The Schrems II judgment will likely limit the collection and use of personal data for AI systems.

A case currently before the Court of Justice concerns the application of Article 22 of the GDPR to credit scoring in Germany. The case was referred by a German court and poses the question whether Article 22(1) prohibits the “the automated establishment of a probability value concerning the ability of a data subject to service a loan in the future.”⁷⁰ AlgorithmWatch has established OpenSchufa, with the goal of making credit report scoring transparent.⁷¹ According to AlgorithmWatch, “Germany's leading credit bureau, SCHUFA, has immense power over people's lives. A low SCHUFA score means landlords will refuse to rent you an apartment, banks will reject your credit card application and network providers will say 'no' to a new Internet contract.”⁷²

The European Data Protection Board

The European Data Protection Board (EDPB) is an independent European body, which contributes to the consistent application of data protection rules throughout the European Union and promotes cooperation between the EU’s data protection authorities.⁷³

⁶⁸ CAIDP Update 1.1, *EU Privacy Decision Will Have Global Consequences*, (July 19, 2020), <https://dukakis.org/news-and-events/center-for-ai-and-digital-policy-update-eu-privacy-decision-will-have-global-consequences/>

⁶⁹ CJEU, *The Court of Justice invalidates Decision 2016/1250 on the adequacy of the protection provided by the EU-US Data Protection Shield* (July 16, 2020), <https://curia.europa.eu/jcms/upload/docs/application/pdf/2020-07/cp200091en.pdf>

⁷⁰ Court of Justice of the European Union, *SCHUFA Holding*, Case C-634-21, Request for a Preliminary Ruling (Oct. 15, 2021).

⁷¹ *OpenSchufa, cracking the Schufa Code*, <https://www.startnext.com/en/openschufa>

⁷² AlgorithmWatch, *OpenSCHUFA – shedding light on Germany’s opaque credit scoring* (May 22, 2018), <https://algorithmwatch.org/en/openschufa-shedding-light-on-germanys-opaque-credit-scoring-2/>

⁷³ EDPB, *Who we are*, https://edpb.europa.eu/about-edpb/about-edpb_en

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In a January 2020 letter to Sophie in't Veld, EDPB Chair Andrea Jelinek addressed “the appropriateness of the GDPR as a legal framework to protect citizens from unfair algorithms” and also whether the EDPB would issue guidance on the topic.⁷⁴ Jelinek responded that the GDPR is a “robust legal framework” to protect citizens’ right to data protection, and highlighted several articles in the GDPR that would apply to AI systems, including Article 22, regarding the legal effects of automated processing, and Article 35, about the obligation to undertake Data Protection Impact Assessments prior to processing.

Jelinek also warned of specific challenges arising from AI. The “data maximization presumption of AI “creates an incentive for large and possibly unlawful data collection and further processing of data.” She also warned that the opacity of algorithms (the “black box”) can lead to lack of transparency towards the data subject and also “a loss of human autonomy for those working with algorithms.” But Jelinek concluded that it would be “premature at this time” to issue guidance on what constitutes a “fair algorithm.”

In a June 2020 letter to several members of the European Parliament about facial recognition and the company ClearView AI, EDPB Chair Jelinek stated “Facial recognition technology may undermine the right to respect for private life and the protection of personal data . . . It may also affect individuals’ reasonable expectation of anonymity in public spaces. Such technology also raises wider issues from an ethical and societal point of view.” But Jelinek failed to state whether the use of facial recognition in public spaces was permissible under the GDRP.⁷⁵

The European Data Protection Supervisor

The European Data Protection Supervisor is the European Union’s independent data protection authority.⁷⁶ The EDPS responsibilities include the mission to “monitor and ensure the protection of personal data and privacy when EU institutions and bodies process the personal information of individuals.” In comments on the Commission’s White Paper on Artificial Intelligence, the EDPS stated, “benefits, costs and risks should be considered by anyone adopting a technology, especially by public

⁷⁴ EDPB, *Letter to MEP Sophie in't Veld (OUT2020-0004)*, https://edpb.europa.eu/sites/edpb/files/files/file1/edpb_letter_out2020_0004_intveldalgorithms_en.pdf

⁷⁵ EDPB *Letter Members of the European Parliament (OUT2020-0052)* (June 10, 2020), https://edpb.europa.eu/sites/edpb/files/files/file1/edpb_letter_out_2020-0052_facialrecognition.pdf

⁷⁶ EDPS, *About*, https://edps.europa.eu/about-edps_en

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administrations who process great amounts of personal data.”⁷⁷ The EDPS also expressed support for a moratorium on facial recognition in public space, “so that an informed and democratic debate can take place and until the moment when the EU and Member States have all the appropriate safeguards.”

In June 2021, the EDPB Chair Andrea Jelinek and the EDPS Wojciech Wiewiórowski issued a joint opinion on the European Commission’s Proposal for a Regulation laying down harmonized rules on artificial intelligence (AI).⁷⁸ They stressed the need to make clear that existing EU data protection legislation, including the GDPR, applies to the processing of personal data falling under the scope of the draft AI Regulation. They also proposed that compliance with legal obligations arising from EU legislation - including on personal data protection - should be a precondition for entering the European market as CE marked product.

They also recommended several “red lines” for AI deployment, including general ban on any use of AI for automated recognition of human features in publicly accessible spaces, such as recognition of faces, gait, fingerprints, DNA, voice, keystrokes and other biometric or behavioral signals. They proposed a ban on AI systems using biometrics to categorize individuals into clusters based on ethnicity, gender, political or sexual orientation, or other grounds on which discrimination is prohibited under Article 21 of the Charter of Fundamental Rights. Furthermore, the EDPB and the EDPS said that the use of AI to infer emotions of a natural person should be prohibited, except for very specified cases. Andrea Jelinek, EDPB Chair, & Wojciech Wiewiórowski, EDPS, said:

Deploying remote biometric identification in publicly accessible spaces means the end of anonymity in those places. Applications such as live facial recognition interfere with fundamental rights and freedoms to such an extent that they may call into question the essence of these rights and freedoms. This calls for an immediate application of the precautionary approach. A general ban on the use of facial

⁷⁷ EDPS, *Opinion 4/2020, EDPS Opinion on the European Commission’s White Paper on Artificial Intelligence – A European approach to excellence and trust* (June 29, 2020), https://edps.europa.eu/sites/edp/files/publication/20-06-19_opinion_ai_white_paper_en.pdf

⁷⁸ EDPB, *EDPB & EDPS call for ban on use of AI for automated recognition of human features in publicly accessible spaces, and some other uses of AI that can lead to unfair discrimination* (June 21, 2021), https://edpb.europa.eu/news/news/2021/edpb-edps-call-ban-use-ai-automated-recognition-human-features-publicly-accessible_en

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recognition in publicly accessible areas is the necessary starting point if we want to preserve our freedoms and create a human-centric legal framework for AI. The proposed regulation should also prohibit any type of use of AI for social scoring, as it is against the EU fundamental values and can lead to discrimination.

Fundamental Rights Agency

The EU Agency for Fundamental Rights is also examining the impact of AI. In 2018, the FRA launched a project on Artificial Intelligence, Big Data and Fundamental Rights to assess the use of AI for public administration and business in the EU.⁷⁹ A 2018 report explores discrimination in AI⁸⁰ and a 2019 FRA report examines facial recognition.⁸¹

In mid-December 2020, the German presidency of the EU, in collaboration with the EU Fundamental Rights Agency and German Ministry of Justice and Consumer Protection, organized a conference on AI and the European Way.⁸² The conference highlighted recent papers on AI policy from the FRA. The organizers reposted the 2018 FRA report on discrimination in AI and the 2019 FRA report on facial recognition. One paper also summarized FRA AI policy initiatives between 2016 and 2020.⁸³ The German Government also provided its comments on the Commission White Paper on AI⁸⁴ and the detailed 2019 Opinion of the Data Ethics Commission concerning algorithm-based decision-making, AI, and data.⁸⁵

⁷⁹ FRA, *Artificial Intelligence, Big Data and Fundamental Rights* (May 30, 2018), <https://fra.europa.eu/en/project/2018/artificial-intelligence-big-data-and-fundamental-rights>

⁸⁰ FRA, *Big Data: Discrimination in data-supported decision-making* (May 29, 2018), <https://fra.europa.eu/en/publication/2018/bigdata-discrimination-data-supported-decision-making>

⁸¹ FRA, *Facial recognition technology: fundamental rights considerations in the context of law enforcement* (Nov. 27, 2019), <https://fra.europa.eu/en/publication/2019/facial-recognition-technology-fundamental-rights-considerations-context-law>

⁸² *Doing AI the European way: Protecting Fundamental Rights in an Era of Artificial Intelligence* (Dec. 14, 2020), <https://eu2020-bmjv-european-way-on-ai.de/en/>

⁸³ *Policy initiatives in the area of artificial intelligence* (last updated Apr. 29, 2020), [https://eu2020-bmjv-european-way-on-ai.de/storage/documents/AI_policy_initiatives_\(2016-2020\).pdf](https://eu2020-bmjv-european-way-on-ai.de/storage/documents/AI_policy_initiatives_(2016-2020).pdf)

⁸⁴ Die Bundesregierung, *Comments from the Federal Government of the Federal Republic of Germany on the White Paper on Artificial Intelligence - A European Concept for Excellence and Trust*, COM (2020) 65 final, https://eu2020-bmjv-european-way-on-ai.de/storage/documents/Federal_Government's_Comments_on_the_AI_White_Paper.pdf

⁸⁵ Daten Ethik Kommission, *Opinion of the Data Ethics Commission* (2019), https://eu2020-bmjv-european-way-on-ai.de/storage/documents/Data_Ethics_Commission_Full_Report_in_English.pdf

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In December 2020, the FRA also issued a report on “Getting the future right-Artificial intelligence and fundamental rights in the EU.”⁸⁶

High-Level Expert Group on AI

Following the launch of the Artificial Intelligence Strategy in 2018, the European Commission appointed a group of 52 experts to advise for its implementation.⁸⁷ The group members were selected following an open selection process and comprised representatives from academia, civil society and industry. The High-Level Expert Group on Artificial Intelligence (AI HLEG) has produced four reports: Ethics Guidelines for Trustworthy AI, Policy and Investment Recommendations for Trustworthy AI, The final Assessment List for Trustworthy AI, and Sectoral Considerations on the Policy and Investment Recommendations.

According to the ethical guidelines AI should be 1 lawful — respect laws and regulations (including the EU Charter on Fundamental Rights, UN Human Rights Treaties and the Council of Europe Convention on Human Rights); 2. ethical - respect ethical principles and values and 3. robust — from a technical perspective and with consideration of its social environment.⁸⁸ Since publication in 2019, the ethics guidelines have helped frame EU policy processes with among others key requirements derived from the guidelines in the European Commission’s 2021 “AI Act” proposal.⁸⁹

International outreach for human-centric artificial intelligence initiative

In September 2021, The European Commission’s Service for Foreign Policy Instruments (FPI) and the Directorate General for Communications Networks, Content and Technology (DG CONNECT), in collaboration with the European External Action Services (EEAS), launched the International outreach for human-centric artificial intelligence initiative (InTouchAI.eu) - a large foreign policy instrument project to engage with international partners on regulatory and ethical matters and

⁸⁶ FRA, *Getting the future right- Artificial intelligence and fundamental rights* (Dec. 14, 2020) <https://fra.europa.eu/en/themes/artificial-intelligence-and-big-data>

⁸⁷ European Commission, *High-Level Expert Group on Artificial Intelligence*, <https://ec.europa.eu/digital-single-market/en/high-level-expert-group-artificial-intelligence>

⁸⁸ European Union, *Ethics guidelines for trustworthy AI* (Nov. 8, 2019), <https://op.europa.eu/en/publication-detail/-/publication/d3988569-0434-11ea-8c1f-01aa75ed71a1>

⁸⁹ European Commission, *Proposal for a Regulation of the European Parliament and the Council, Laying Down Harmonized Rules for Artificial Intelligence (Artificial Intelligence Act)*, (Apr. 21, 2021), <https://op.europa.eu/en/publication-detail/-/publication/d3988569-0434-11ea-8c1f-01aa75ed71a1>

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promote the responsible development of trustworthy AI at global level with the main vision to ensure that AI “works for people and protects fundamental rights.”⁹⁰

G7

The Group of Seven (G7) is an inter-governmental political forum consisting of Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. The members constitute the wealthiest liberal democracies. The group is officially organized around shared values of pluralism and representative government. The G7 is also the incubator for significant work on AI policy.

In advance of the 2016 G7 summit in Japan, then Prime Minister Shinzo Abe urged his government to develop policies for AI that could provide the basis for a global standard.⁹¹ At the subsequent meeting of G7 ICT ministers, Japan’s Communications Minister proposed international rules that would make “AI networks controllable by human beings and respect for human dignity and privacy.”⁹² She introduced eight basic principles Japan proposed for AI. These principles are very similar to those later adopted by the OECD and then the G20.

Prior to the 2018 G7 summit, France and Canada announced a joint undertaking on Artificial Intelligence that led to the creation of the Global Partnership on AI.⁹³ According to the Mission Statement of the two countries, the goal “will be to support and guide the responsible adoption of AI that is human-centric and grounded in human rights, inclusion, diversity, innovation and economic growth.”⁹⁴

In advance of the 2019 G7 summit, hosted by France, leaders of scientific societies set out a declaration on Artificial Intelligence and

⁹⁰ European Commission, *International outreach for human-centric artificial intelligence initiative*, <https://digital-strategy.ec.europa.eu/en/policies/international-outreach-ai>

⁹¹ CAIDP Update, *Prime Minister Abe’s AI and Data Governance Legacy* (Aug. 30, 2020), <https://www.japantimes.co.jp/news/2016/04/29/national/japan-pushes-basic-ai-rules-g-7-tech-meeting/>

⁹² Japan Times, *Japan pushes for basic AI rules at G-7 tech meeting* (Apr. 29, 2016), <https://www.japantimes.co.jp/news/2016/04/29/national/japan-pushes-basic-ai-rules-g-7-tech-meeting/>

⁹³ France Diplomacy, *French-Canadian Declaration on Artificial Intelligence* (June 7, 2018), <https://www.diplomatie.gouv.fr/en/country-files/canada/events/article/french-canadian-declaration-on-artificial-intelligence-07-06-18>

⁹⁴ Canada, Prime Minister of Canada, *Mandate for the International Panel on Artificial Intelligence* (Dec. 6, 2018), <https://pm.gc.ca/en/news/backgrounders/2018/12/06/mandate-international-panel-artificial-intelligence>

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Society in which they stated, “Artificial intelligence (AI) is one of the technologies that is transforming our society and many aspects of our daily lives. AI has already provided many positive benefits and may be a source of considerable economic prosperity. It also gives rise to questions about employment, confidentiality of data, privacy, infringement of ethical values and trust in results.”⁹⁵

At the 2021 G7 summit hosted by the UK, the G7 Leaders committed to work together for a “values-driven digital ecosystem for the common good that enhances prosperity in a way that is sustainable, inclusive, transparent and human-centric.”⁹⁶ They called for a “human centric approach to artificial intelligence,” building on the work of the Global Partnership for Artificial Intelligence (GPAI) advanced by the Canadian and French G7 Presidencies in 2018 and 2019.

The G7 Leaders committed to work together for a “values-driven digital ecosystem for the common good that enhances prosperity in a way that is sustainable, inclusive, transparent and human-centric.” They called for a “human centric approach to artificial intelligence,” building on the work of the Global Partnership for Artificial Intelligence (GPAI) advanced by the Canadian and French G7 Presidencies in 2018 and 2019, and looking forward to the GPAI Summit in Paris in November 2021.

At the 2021 G7 privacy officials also issued a statement on Data Free Flows with Trust.⁹⁷ Regarding artificial intelligence, the officials said, “human dignity, must be central to AI design; AI must be transparent, comprehensible, and explainable; and the data protection principles of purpose limitation and data minimization must apply to AI.” They further said that “‘red lines’ are needed for AI systems that are not compatible with our values and fundamental rights.”

G20

The G20 is an international forum, made up of 19 countries and the European Union, representing the world’s major developed and emerging economies.⁹⁸ Together, the G20 members represent 85 % of global GDP,

⁹⁵ Summit of the G7 Science Academies, Artificial intelligence and society (Mar. 26, 2019), <https://royalsociety.org/-/media/about-us/international/g-science-statements/2019-g7-declaration-artificial-intelligence-and-society.pdf>

⁹⁶ The White House, *Carbis Bay G7 Summit Communique* (June 13, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/13/carbis-bay-g7-summit-communique/>

⁹⁷ G7 United Kingdom 2021, *Data Free Flows with Trust* (Sept. 8, 2021), <https://www.caidp.org/app/download/8342900463/g7-attachment-202109.pdf>

⁹⁸ OECD, *What is the G20?* <https://www.oecd.org/g20/about/>

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75% of international trade and two-thirds of the world's population. According to the OECD, because of its size and strategic importance, the G20 has a crucial role in setting the path for the future of global economic growth.

In the last few years, and in collaboration with the OECD, the G20 has taken a leading role in the promulgation of the global framework for AI policy. At the Osaka summit in 2019, former Prime Minister Abe and OECD Secretary General Gurría gathered support for the OECD AI Principles from the G20 countries. The preparatory work for the 2020 summit in Riyadh provided the first opportunity to assess progress toward implementation of the OECD AI Principles.⁹⁹

In November 2020, the G20 Leaders Declaration addressed both Artificial Intelligence and the digital economy. On AI, the G20 nations said, “We will continue to promote multi-stakeholder discussions to advance innovation and a human-centered approach to Artificial Intelligence (AI), taking note of the Examples of National Policies to Advance the G20 AI Principles. We welcome both the G20 Smart Mobility Practices, as a contribution to the well-being and resilience of smart cities and communities, and the G20 Roadmap toward a Common Framework for Measuring the Digital Economy.”¹⁰⁰

On the Digital Economy, the G20 said in 2020, “We acknowledge that universal, secure, and affordable connectivity, is a fundamental enabler for the digital economy as well as a catalyst for inclusive growth, innovation and sustainable development. We acknowledge the importance of data free flow with trust and cross-border data flows.” The G20 Declaration further said, “We support fostering an open, fair, and non-discriminatory environment, and protecting and empowering consumers, while addressing the challenges related to privacy, data protection, intellectual property rights, and security.”

The G20 advanced AI policy in the 2021 Leaders' Declaration, issued at the conclusion of the Summit in Rome.¹⁰¹ Recognizing the “benefits stemming from the responsible use and development of trustworthy human-centered Artificial Intelligence (AI),” the G20 Leaders said in Rome they would encourage competition and innovation, “as well

⁹⁹ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹⁰⁰ G20 Riyadh Summit, *Leaders Declaration* (Nov. 21-22, 2020), https://g20.org/en/media/Documents/G20%20Riyadh%20Summit%20Leaders%20Declaration_EN.pdf

¹⁰¹ G20 Information Centre, *G20 Rome Leaders' Declaration* (Oct. 31, 2021), <http://www.g20.utoronto.ca/2021/211031-declaration.html>

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as diversity and inclusion,” and the importance of international cooperation to promote research, development, and application of AI

In advance of the 2021 Summit, the G20 Digital Economy Ministers reaffirmed “their willingness to implement trustworthy Artificial Intelligence (AI) and to commit to a human-centered approach, as . . . guided by the G20 AI Principles, drawn from the OECD Recommendations on AI.”¹⁰² The Ministers also noted that the “measurement of AI, notably its diffusion and impact across the economy and the international comparability of indicators on AI, needs to be improved.”

“Privacy and data protection” figured prominently in the 2021 G20 Leaders Statement with multiple references in policies concerning health and COVID, transportation and travel, the digital economy and higher education, data free flows with trust, and digital identity tools. The G20 Leaders also prioritized Gender Equality and Women’s Empowerment, a focus area for AI policy. And the G20 Leaders said they would work in 2022 “towards enhancing confidence in the digital environment by improving internet safety and countering online abuse, hate speech, online violence and terrorism while protecting human rights and fundamental freedoms.”

Global Privacy Assembly

The Global Privacy Assembly is the global network of privacy officials and experts. The Global Privacy Assembly meets annually to discuss emerging privacy issues and to adopt resolutions. In recent years, the focus of the GPA has moved toward AI.¹⁰³

The GPA adopted a foundational Declaration in 2018 on Ethics and Data Protection in Artificial Intelligence.¹⁰⁴ The 2018 GPA 2018 Resolution on Ethics in AI emphasized fairness, vigilance, transparency and intelligibility, and measures to reduce unlawful bias and discrimination.

In 2020, The Assembly adopted a significant Resolution on Accountability and AI that urged organizations deploying AI systems to

¹⁰² G20 Information Centre, *Declaration of G20 Digital Ministers: Leveraging Digitalisation for a Resilient, Strong, Sustainable and Inclusive Recovery* (Aug. 5, 2021), <http://www.g20.utoronto.ca/2021/210805-digital.html>

¹⁰³ CAIPD Update 1.15, *Privacy Commissioners Adopt Resolutions on AI, Facial Recognition* (Oct. 19, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/caidp-update-privacy-commissioners-adopt-resolutions-on-ai-facial-recognition/>

¹⁰⁴ International Conference of Data Protection and Privacy Commissioner, *Declaration on Ethics and Data Protection in Artificial Intelligence* (Oct. 23, 2018), http://globalprivacyassembly.org/wp-content/uploads/2018/10/20180922_ICDPPC-40th_AI-Declaration_ADOPTED.pdf. See also complete text in Reference section.

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implement accountability measures, including a human rights impact assessment.¹⁰⁵ The Privacy Assembly also urged governments to make changes to data protection law “to make clear the legal obligations regarding accountability in the development and use of AI.” The 2020 GPA AI Accountability Resolution builds on a recent a recent GPA survey that identified accountability measures that are “very important or important for either AI developers or AI users.” The GPA Resolution reiterated several key principles for data protection, such as fairness and transparency, but stopped short of endorsing a formal ban which had been urged by many human rights advocates at the 2019 conference in Tirana. More than 100 organizations and 1,200 experts recommended that “countries suspend the further deployment of facial recognition technology for mass surveillance” and “establish the legal rules, technical standards, and ethical guidelines necessary to safeguard fundamental rights and comply with legal obligations before further deployment of this technology occurs.” The Assembly said it would consider the “circumstances when facial recognition technology poses the greatest risk to data protection and privacy rights,” and develop a set of principles that could be adopted at the next conference.

The OECD

The OECD is an international organization that “works to build better policies for better lives.”¹⁰⁶ The goal of the OECD is to “shape policies that foster prosperity, equality, opportunity and well-being for all.”

The OECD has led the global effort to develop and establish the most widely recognized framework for AI policy. This is a result of a concerted effort by the OECD and the member states to develop a coordinated international strategy. The OECD AI Principles also build on earlier OECD initiatives such as the OECD Privacy Guidelines, a widely recognized framework for transborder data flows and the first global framework for data protection.¹⁰⁷ OECD policy frameworks are not treaties, do not have legal force, and are not directly applicable to OECD member

¹⁰⁵ Global Privacy Assembly, *Adopted Resolution on Accountability in the Development and Use of Artificial Intelligence* (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN.pdf>. See also complete text in Reference section

¹⁰⁶ OECD, *Who we are*, <https://www.oecd.org/about/>

¹⁰⁷ OECD, *OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data* (1981), <https://www.oecd.org/sti/ieconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsOfPersonalData.htm>

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states. However, there are many instances of countries adopting national laws based on OECD policies, and a clear convergence of legal norms, particularly in the field of data protection.

Following the publication of the OECD AI Principles in 2019, the OECD continues extensive work on the adoption and implementation of AI policies.¹⁰⁸

Global Partnership on AI

The Global Partnership on Artificial Intelligence (GPAI) emerged from the OECD Recommendation on Artificial Intelligence.¹⁰⁹ GPAI activities are intended to foster the responsible development of AI grounded in “human rights, inclusion, diversity, innovation, and economic growth.”¹¹⁰ The GPAI aims to “bridge the gap between theory and practice on AI by supporting cutting-edge research and applied activities on AI-related priorities.” The GPAI developed within the G7 under the Canadian and French presidencies. As of January 2022, GPAI’s members now include Australia, Belgium, Brazil, Canada, Czech Republic, Denmark, France, Germany, India, Ireland, Israel, Italy, Japan, Mexico, the Netherlands, New Zealand, Poland, the Republic of Korea, Singapore, Slovenia, Spain, Sweden, the United Kingdom, the United States, and the European Union.

The GPAI held the Montreal Summit in early 2020.¹¹¹ The five key themes at the first GPAI meeting were the Responsible Use of AI, Data Governance, The Future of Work, AI and the Pandemic Response, Innovation, and Commercialization. The organizers of the Montreal Summit included an AI Art Session to learn how AI will “advance art artistry.”

OECD AI Observatory

The OECD AI Observatory, launched in February 2020, provides extensive data and multi-disciplinary analysis on artificial intelligence across a wide range of policy areas.¹¹² According to the OECD, the AI Policy Observatory is based on multidisciplinary, evidence-based analysis, and Global multi-stakeholder partnerships.

¹⁰⁸ CAIP Update 1.13, *OECD Report Examines Implementation of AI Principles* (Oct. 5, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/caidp-update-oecd-report-examines-implementation-of-ai-principles/>

¹⁰⁹ GPAI, *The Global Partnership on Artificial Intelligence*, <https://gpai.ai>

¹¹⁰ GPAI, *About GPAI*, <https://gpai.ai/about/>

¹¹¹ GPAI, *Montreal Summit 2020*, <https://www.c2montreal.com/en/lp/global-partnership-on-artificial-intelligence/>

¹¹² OECD, *AI Policy Observatory*, <https://www.oecd.ai/>

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National Implementation

The OECD also published the first report that attempts to assess the implementation of the OECD AI Principles among the G-20 nations in 2020.¹¹³ Examples of AI National Policies surveys “rationales and illustrative actions” for the 10 principles that make up the OECD/G-20 Guidelines on AI policy. The report was prepared by the G20 Digital Economy Task Force. Key observations from the Task Force report:

- G20 countries are moving quickly to build trustworthy AI ecosystems, though most initiatives are very recent
- Many national AI strategies address multiple G20 AI Principles simultaneously, which the OECD contends reinforce the strong complementarity of the Principles
- So far, few national policies emphasize Principles of robustness, security and safety, and accountability,
- Many national policies emphasize R&D, fostering a digital ecosystem, human capacity, and international cooperation

The Task Force also found that “there is potential for steering public research towards socially oriented applications and issues, and for leveraging R&D activities to make progress on issues such as accountability, explainability, fairness and transparency.” The Task Force emphasized that there “is currently a critical window for G20 members to continue their leadership on AI policy issues and to promote implementation of the G20 AI Principles. Development, diffusion and use of AI technologies are still at a relatively early level of maturity across many countries and firms, and policy-making on AI is in an active experimental phase.”¹¹⁴

A second report on implementation was published in 2021.¹¹⁵ The report builds both on the expert input provided at meetings of the OECD.AI Network of Experts working group on national AI policies that took place online from February 2020 to April 2021 and on the EC-OECD database of national AI strategies and policies. The expert group leveraged the OECD AI Policy Observatory www.oecd.ai (OECD.AI), containing a database of national AI policies from OECD countries and partner economies and the EU. These resources help policy makers keep track of national initiatives to

¹¹³ CAIP Update 1.13, *OECD Report Examines Implementation of AI Principles* (Oct. 5, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/caidp-update-oecd-report-examines-implementation-of-ai-principles/>

¹¹⁴ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹¹⁵ OECD, *State of Implementation of the OECD AI Principles: Insights from National AI Policies* (June 2021), <https://oecd.ai/en/policies>

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implement the recommendations to governments contained in the OECD AI Principles. National policy makers are the primary audience for this report. The expert group met monthly between June 2020 and March 2021 to discuss case studies from selected countries during 90-minute online meetings. Over this period, 24 case studies were discussed during ten virtual meetings. These discussions provided “deep dives” into national experiences in implementing AI policies and were rich in lessons learned and good practices identified for each phase of the AI policy cycle.

OECD Secretary General Angel Gurría remarks at the 2020 G-20 Digital Economy Ministers Meeting in Riyadh also provide insight into the work of the OECD on AI.¹¹⁶ Secretary Gurría, addressing the global challenges of the COVID-19 crisis, urged countries to “use digital technologies to build our economies back in a better way: more resilient, inclusive and sustainable.” He also spoke about the need to bridge the digital divide, to shift to smart mobility practices, and to continue work on measurement of the digital economy.

“As this year’s G20 AI Dialogue showed,” Secretary Gurría said in 2020, “AI’s full potential is still to come. To achieve this potential, we must advance a human-centred and trustworthy AI, that respects the rule of law, human rights, democratic values and diversity, and that includes appropriate safeguards to ensure a fair and just society. This AI is consistent with the G20 AI Principles you designed and endorsed last year, drawing from the OECD’s AI Principles.”

The OECD ONE PAI

The OECD has also established a Working Group on Policies for AI (ONE PAI).¹¹⁷ The Working Group is developing practical guidance for policymakers on a wide array of topics: investing in AI R&D; data, infrastructure, software & knowledge; regulation, testbeds and documentation; skills and labor markets; and international co-operation.

The ONE PAI leverages lessons learned by other OECD bodies, as well as analysis of national AI policies. The working group is focusing on the practical implementation of the OECD AI Principles throughout the AI policy cycle for:

- Policy design – focusing on national AI governance policies and approaches;

¹¹⁶ CAIP Update 1.2, *OECD’s Gurría Underscores AI Fairness at G-20* (July 26, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/center-for-ai-policy-update-oecd-gurría-underscores-ai-fairness-at-g-20-meeting/>

¹¹⁷ OECD, OECD Network of Experts on AI (ONE AI), <https://oecd.ai/network-of-experts>

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- Policy implementation – focusing on lessons learned to date through national implementation examples;
- Policy intelligence – identifying different evaluation methods and monitoring exercises; and
- Approaches for international and multi-stakeholder co-operation on AI policy.

The OECD ONE PAI held five virtual meetings between June and September 2020 which provided “deep dives” into national experience in implementing AI policies in practice.

United Nations

The United Nations launched work on AI in 2015 with the General Assembly event *Rising to the Challenges of International Security and the Emergence of Artificial Intelligence*.¹¹⁸ In 2015, the UN Interregional Crime and Justice Research Institute (UNICRI) launched a program on AI and Robotics.

The Secretary General

In its 2020 Roadmap for Digital Cooperation, the UN Secretary General stated that “Digital technologies provide new means to advocate, defend and exercise human rights, but they can also be used to suppress, limit and violate human rights,” noting with emphasis lethal autonomous weapons and facial recognition.¹¹⁹ He also announced the creation of an advisory body on global artificial intelligence cooperation to provide guidance to the Secretary General and the international community on artificial intelligence that is trustworthy, human-rights based, safe and sustainable and promotes peace. The advisory body will comprise Member States, relevant United Nations entities, interested companies, academic institutions, and civil society groups.

The Roadmap echoes the UN Secretary General 2018 Strategy on New Technologies whose goal was to “define how the United Nations system will support the use of these technologies to accelerate the

¹¹⁸ UNICRI, *Rising to the Challenges of International Security and the Emergence of Artificial Intelligence* (Oct. 7, 2015),

http://www.unicri.it/news/article/cbrn_artificial_intelligence

¹¹⁹ UN Secretary General, *Report - Roadmap for Digital Cooperation* (June 2020),

https://www.un.org/en/content/digital-cooperation-roadmap/assets/pdf/Roadmap_for_Digital_Cooperation_EN.pdf); see also UN Secretary General, *The Highest Aspiration - A Call to Action for Human Rights* (2020) https://www.un.org/sg/sites/www.un.org.sg/files/atoms/files/The_Highest_Aspiration_A_Call_To_Action_For_Human_Right_English.pdf

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achievement of the 2030 Sustainable Development Agenda and to facilitate their alignment with the values enshrined in the UN Charter, the Universal Declaration of Human Rights and the norms and standards of International Laws" with the first principle: "Protect and Promote Global Values" and the second principle: "Foster inclusion and transparency."¹²⁰

In a 2021 report *Our Common Agenda*, the UN Secretary General also proposed the creation of a Digital Global Compact which could "promote regulation of artificial intelligence to ensure that this is aligned with shared global values." The Compact would be agreed on during a Summit of the Future, prepared in part by "a multi-stakeholder digital technology track."¹²¹

On January 26, 2022, Maria-Francesca Spatolisano was designated as the Acting UN Envoy on Technology. She is in charge of coordinating the implementation of the Secretary-General's Roadmap on Digital Cooperation and advancing work towards the Global Digital Compact proposed in the Common Agenda, in close consultation with Member States, the technology industry, private companies, civil society, and other stakeholders.¹²²

In December 2021, Secretary-General Antonio Guterres encouraged the Review Conference of the U.N.'s Convention on Certain Conventional Weapons "to agree on an ambitious plan for the future to establish restrictions on the use of certain types of autonomous weapons."¹²³ This follows his call for an international legal ban on LAWS which he qualified in a 2019 message to Meeting of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems as "politically unacceptable, morally repugnant."¹²⁴

¹²⁰ UN Secretary General, *Strategy on New Technologies* (Sept. 2018, <https://www.un.org/en/newtechnologies/images/pdf/SGs-Strategy-on-New-Technologies.pdf>)

¹²¹ UN Secretary General, Report: *Our Common Agenda* (2021), https://www.un.org/en/content/common-agenda-report/assets/pdf/Common_Agenda_Report_English.pdf.

¹²² <https://www.un.org/techenvoy/content/about>

¹²³ United Nation, *Secretary-General's message to the Sixth Review Conference of High Contracting Parties to the Convention on Certain Conventional Weapons* (Dec. 13, 2021) <https://www.un.org/sg/en/node/261134>

¹²⁴ United Nations, *Secretary-General's message to Meeting of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems* (March 25, 2019) <https://www.un.org/sg/en/content/sg/statement/2019-03-25/secretary-generals-message-meeting-of-the-group-of-governmental-experts-emerging-technologies-the-area-of-lethal-autonomous-weapons-systems>

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UNESCO Recommendation on AI Ethics

In 2020 UNESCO embarked on a two-year project to develop a global standard for Artificial Intelligence. UNESCO Director General Audrey Azoulay stated, "Artificial intelligence can be a great opportunity to accelerate the achievement of sustainable development goals. But any technological revolution leads to new imbalances that we must anticipate."¹²⁵

In 2020 UNESCO published a draft Recommendation on the Ethics of Artificial Intelligence. UNESCO stated that the Recommendation "aims for the formulation of ethical values, principles and policy recommendations for the research, design, development, deployment and usage of AI, to make AI systems work for the good of humanity, individuals, societies, and the environment." The UNESCO draft Recommendation sets out about a dozen principles, five Action Goals, and eleven Policy Actions. Notable among the UNESCO recommendations is the emphasis on Human Dignity, Inclusion, and Diversity. UNESCO also expresses support for Human Oversight, Privacy, Fairness, Transparency and Explainability, Safety and Security, among other goals. Understandably, UNESCO is interested in the scientific, educational, and cultural dimensions of AI, the agency's program focus.

The UNESCO Recommendation was adopted on November 24, 2021, at the 41st General Conference at its 41st session. This is the first global agreement on the Ethics of Artificial Intelligence.¹²⁶ UNESCO Director General Audrey Azoulay stated, "The world needs rules for artificial intelligence to benefit humanity. The recommendation on the ethics of AI is a major answer. It sets the first global normative framework while giving member states the responsibility to apply it at their level. UNESCO will support its 193 member states in its implementation and ask them to report regularly on their progress and practices."

The UNESCO Recommendation was the outcome of a multi-year process and was drafted with the assistance of more than 24 experts.¹²⁷ According to UNESCO, the "historical text defines the common values and principles which will guide the construction of the necessary legal

¹²⁵ UNESCO, *Artificial intelligence with human values for sustainable development*, <https://en.unesco.org/artificial-intelligence>

¹²⁶ UNESCO, *Recommendation on the Ethics of Artificial Intelligence* (2021), <https://unesdoc.unesco.org/ark:/48223/pf0000380455>

¹²⁷ UNESCO, *Preparation of a draft text of the Recommendation: Ad Hoc Expert Group*, <https://en.unesco.org/artificial-intelligence/ethics#aheg>

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infrastructure to ensure the healthy development of AI.”¹²⁸ UNESCO explained, “The Recommendation aims to realize the advantages AI brings to society and reduce the risks it entails. It ensures that digital transformations promote human rights and contribute to the achievement of the Sustainable Development Goals, addressing issues around transparency, accountability and privacy, with action-oriented policy chapters on data governance, education, culture, labour, healthcare and the economy.” The key achievements of the UNESCO AI Recommendation include:

1. **Protecting data.** The UNESCO Recommendation calls for action beyond what tech firms and governments are doing to guarantee individuals more protection by ensuring transparency, agency and control over their personal data.
2. **Banning social scoring and mass surveillance.** The UNESCO Recommendation explicitly bans the use of AI systems for social scoring and mass surveillance.
3. **Monitoring and Evaluation.** The UNESCO Recommendation establishes new tools that will assist in implementation, including Ethical Impact Assessments and a Readiness Assessment Methodology.
4. **Protecting the environment.** The UNESCO Recommendation emphasizes that AI actors should favor data, energy and resource-efficient AI methods that will help ensure that AI becomes a more prominent tool in the fight against climate change and on tackling environmental issues.

The Recommendation aims to provide a basis to make AI systems work for the good of humanity, individuals, societies and the environment and ecosystems, and to prevent harm. It also aims at stimulating the peaceful use of AI systems. The Recommendation provides a universal framework of values and principles of the ethics of AI. It sets out four values: respect, protection and promotion of human rights and fundamental freedoms and human dignity; environment and ecosystem flourishing; ensuring diversity and inclusiveness; living in peaceful, just and interconnected societies.

¹²⁸ UNESCO, *UNESCO member states adopt the first ever global agreement on the Ethics of Artificial Intelligence* (Nov. 25, 2021), <https://en.unesco.org/news/unesco-member-states-adopt-first-ever-global-agreement-ethics-artificial-intelligence>

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Further, the Recommendation outlines 10 principles – proportionality and do no harm, safety and security, fairness and non-discrimination, sustainability, right to privacy and data protection, human oversight and determination, transparency and explainability, responsibility and accountability, awareness and literacy – backed up by more concrete policy actions on how they can be achieved. The Recommendation also introduces red-lines to unacceptable AI practices. For example, it states that “AI systems should not be used for social scoring or mass surveillance purposes.”

The Recommendation focuses not only on values and principles, but also on their practical realization, via concrete eleven policy actions. It encourages Member States to introduce frameworks for ethical impact assessments, oversight mechanisms etc. Member States should ensure that harms caused through AI systems are investigated and redressed, by enacting strong enforcement mechanisms and remedial actions, to make certain that human rights and fundamental freedoms and the rule of law are respected.

UN High Commissioner for Human Rights

In the Roadmap for Digital Cooperation, the Secretary General stated, "To address the challenges and opportunities of protecting and advancing human rights, human dignity and human agency in a digitally interdependent age, the Office of the United Nations High Commissioner for Human Rights will develop system-wide guidance on human rights due diligence and impact assessments in the use of new technologies, including through engagement with civil society, external experts and those most vulnerable and affected."¹²⁹

In September 2021, the UN High Commissioner for Human Rights Michelle Bachelet called for a moratorium on the sale and use of AI that pose a serious risk to human rights until adequate safeguards are put in place.¹³⁰ She also called for a ban on AI applications that do not comply with international human rights law. “Artificial intelligence can be a force for good, helping societies overcome some of the great challenges of our

¹²⁹ UN Secretary General, *Report - Roadmap for Digital Cooperation* (June 2020) https://www.un.org/en/content/digital-cooperation-roadmap/assets/pdf/Roadmap_for_Digital_Cooperation_EN.pdf

¹³⁰ UN Human Rights, Office of the High Commissioner, *Artificial intelligence risks to privacy demand urgent action – Bachelet* (Sept. 15, 2021), <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=27469&LangID=E>; see also *UN Urges Moratorium on AI that Violates Human Rights*, CAIDP Update 2.34 (Sept. 15, 2021), <https://www.caidp.org/app/download/8343909663/CAIDP-Update-2.34.pdf>

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times. But AI technologies can have negative, even catastrophic, effects if they are used without sufficient regard to how they affect people’s human rights,” Bachelet said.

The High Commissioner’s statement accompanied the release of a new report on *The Right to Privacy in the Digital Age*. The UN Report details how AI systems rely on large data sets, with information about individuals collected, shared, merged and analyzed in multiple and often opaque ways. The UN Report finds that data used to guide AI systems can be faulty, discriminatory, out of date or irrelevant. Long-term storage of data also poses particular risks, as data could in the future be exploited in as yet unknown ways.¹³¹

International Telecommunications Union

In 2017 and 2018, the International Telecommunications Union (ITU) organized the AI for Good Global Summits, “the leading United Nations platform for dialogue on AI.”¹³² Houlin Zhao, Secretary General of the ITU stated, “As the UN specialized agency for information and communication technologies, ITU is well placed to guide AI innovation towards the achievement of the UN Sustainable Development Goals. We are providing a neutral platform for international dialogue aimed at building a common understanding of the capabilities of emerging AI technologies.” The 2018 ITU report *Artificial Intelligence for global good* focused on the relationship between AI and progress towards the United Nations’ Sustainable Development Goals (SDGs).¹³³

UN Special Rapporteur

An extensive 2018 report by a UN Special Rapporteur explored the implications of artificial intelligence technologies for human rights in the information environment, focusing in particular on rights to freedom of opinion and expression, privacy and non-discrimination.¹³⁴ The *Report of the Special Rapporteur on the promotion and protection of the right to*

¹³¹ Human Rights Council, *The right to privacy in the digital age, Report of the United Nations High Commissioner for Human Rights* (Sept. 13, 2021), https://www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session48/Documents/A_HRC_48_31_AdvanceEditedVersion.docx

¹³² ITU, AI for Good Global Summit 2018, <https://www.itu.int/en/ITU-T/AI/2018/Pages/default.aspx>

¹³³ ITU News Magazine, Artificial Intelligence for global good (Jan. 2018), https://www.itu.int/en/itunews/Documents/2018/2018-01/2018_ITUNews01-en.pdf

¹³⁴ UN Special Rapporteur, *Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression*, A/73/348 (Aug. 29, 2018), <https://freedex.org/wp-content/blogs.dir/2015/files/2018/10/AI-and-FOE-GA.pdf>

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freedom of opinion and expression report defines key terms “essential to a human rights discussion about artificial intelligence”; identifies the human rights legal framework relevant to artificial intelligence; and presents preliminary to ensure that human rights are considered as AI systems evolve. The report emphasizes free expression concerns and notes several frameworks, including the International Covenant on Civil and Political Rights and the UN Guiding Principles on Business and Human Rights.

Among the Recommendations, the Special Rapporteur proposed “Companies should make all artificial intelligence code fully auditable and should pursue innovative means for enabling external and independent auditing of artificial intelligence systems, separately from regulatory requirements. The results of artificial intelligence audits should themselves be made public.” The report emphasizes the need for transparency in the administration of public services. “When an artificial intelligence application is being used by a public sector agency, refusal on the part of the vendor to be transparent about the operation of the system would be incompatible with the public body’s own accountability obligations,” the report advises.

UN and Lethal Autonomous Weapons

One of the first AI applications to focus the attention of global policymakers was the use of AI for warfare.¹³⁵ In 2016, the United Nations established the Group of Governmental Experts (GGE) on Lethal Autonomous Weapons Systems (LAWS) following a review of the High Contracting Parties to the Convention on Certain Conventional Weapons (CCW).¹³⁶ In November 2019,¹³⁷ the CCW High Contracting Parties endorsed 11 Guiding Principles for LAWS.¹³⁸ But concerns about future of

¹³⁵ The Computer Professionals for Social Responsibility (CPSR), a network of computer scientists based in Palo Alto, California, undertook early work on this topic in the 1980s. CPSR History, <http://cpsr.org/about/history/>. See also David Bellin and Gary Chapman, *Computers in Battle Will They Work?* (1987).

¹³⁶ United Nations, *2018 Group of Governmental Experts on Lethal Autonomous Weapons Systems (LAWS)*, [https://www.unog.ch/80256EE600585943/\(httpPages\)/7C335E71DFCB29D1C1258243003E8724](https://www.unog.ch/80256EE600585943/(httpPages)/7C335E71DFCB29D1C1258243003E8724)

¹³⁷ Meeting of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, *Final Report* (Dec. 13, 2019), <https://undocs.org/Home/Mobile?FinalSymbol=CCW%2FMSP%2F2019%2F9&Language=E&DeviceType=Desktop>

¹³⁸ Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, *Report of the 2019 session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems*

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regulation of lethal autonomous weapons remain. At present, some countries believe that current international law “mostly suffices” while others believe new laws are needed.¹³⁹ Human Rights Watch provided an important overview of country positions on the future of banning fully autonomous weapons in August 2020.¹⁴⁰ Concerns over killer reports also arose at the 75th UN Assembly in October 2020.¹⁴¹ Pope Francis warned that lethal autonomous weapons systems would “irreversibly alter the nature of warfare, detaching it further from human agency.” He called on states to “break with the present climate of distrust” that is leading to “an erosion of multilateralism, which is all the more serious in light of the development of new forms of military technology.”¹⁴² The Permanent Representative of the Holy See to the UN called for a ban on autonomous weapons in 2014.¹⁴³

The Vatican

Pope Francis has emerged as a leading figure the world of AI policy. In addition to his statements on autonomous weapons, in November 2020 the Pope warned that AI could exacerbate economic inequalities around the world if a common good is not pursued. “Artificial intelligence is at the

(Sept. 25, 2019), [https://documents-dds-](https://documents-dds-ny.un.org/doc/UNDOC/GEN/G19/285/69/PDF/G1928569.pdf?OpenElement)

[ny.un.org/doc/UNDOC/GEN/G19/285/69/PDF/G1928569.pdf?OpenElement](https://documents-dds-ny.un.org/doc/UNDOC/GEN/G19/285/69/PDF/G1928569.pdf?OpenElement)

¹³⁹ Dustin Lewis, *An Enduring Impasse on Autonomous Weapons*, Just Security (Sept. 28, 2020), <https://www.justsecurity.org/72610/an-enduring-impasse-on-autonomous-weapons/>

¹⁴⁰ Human Rights Watch, *Stopping Killer Robots: Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control* (Aug. 10, 2020), <https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and#>

¹⁴¹ Stop Killer Robots, *75th UN Assembly* (Oct. 30, 2020), <https://www.stopkillerrobots.org/2020/10/un-diplomacy/>

¹⁴² Address of His Holiness Pope Francis to the Seventy-fifth Meeting of the General Assembly of the United Nations, *The Future We Want, the United Nations We Need: Reaffirming our Joint Commitment through Multilateralism* (Sept. 25, 2020), https://reachingcriticalwill.org/images/documents/Disarmament-fora/unga/2020/25Sept_HolySee.pdf

¹⁴³ Statement by H.E. Archbishop Silvano M. Tomasi, Permanent Representative of the Holy See to the United Nations and Other International Organizations in Geneva at the meeting of Experts on Lethal Autonomous weapons systems of the High Contracting Parties to the Convention, *On Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effect* (May 13, 2014), [https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/D51A968CB2A8D115C1257CD8002552F5/\\$file/Holy+See+MX+LAWS.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/D51A968CB2A8D115C1257CD8002552F5/$file/Holy+See+MX+LAWS.pdf)

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heart of the epochal change we are experiencing. Robotics can make a better world possible if it is joined to the common good. Indeed, if technological progress increases inequalities, it is not true progress. Future advances should be oriented towards respecting the dignity of the person and of Creation.”¹⁴⁴

Earlier in 2020, the Pope endorsed the Rome Call for AI Ethics.¹⁴⁵ The goal of the Rome Call is to “support an ethical approach to Artificial Intelligence and promote a sense of responsibility among organizations, governments and institutions.” The Pope said, “The Call’s intention is to create a movement that will widen and involve other players: public institutions, NGOs, industries and groups to set a course for developing and using technologies derived from AI.” The Pope also said that the Rome Call for Ethics is the “first attempt to formulate a set of ethical criteria with common reference points and values, offering a contribution to the development of a common language to interpret what is human.”¹⁴⁶

The key principles of the Rome Call are 1) Transparency: AI systems must be explainable; 2) Inclusion: the needs of all human beings must be taken into consideration so that everyone can benefit and all individuals can be offered the best possible conditions to express themselves and develop; 3) Responsibility: those who design and deploy the use of AI must proceed with responsibility and transparency; 4) Impartiality: do not create or act according to bias, thus safeguarding fairness and human dignity; 5) Reliability: AI systems must be able to work reliably; 6) Security and privacy: AI systems must work securely and respect the privacy of users. These principles are described as “fundamental elements of good innovation.”

Technical Societies

Technical societies have also played a leading role in the articulation of AI principles. The IEEE led several initiatives, often in cooperation with government policymakers, to develop and promote Ethically Aligned Design (EAD).¹⁴⁷ The initial report *A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems* was published in 2015. The

¹⁴⁴ Vatican News, *Pope’s November prayer intention: that progress in robotics and AI “be human”* (Nov. 2020), <https://www.vaticannews.va/en/pope/news/2020-11/pope-francis-november-prayer-intention-robotics-ai-human.html>

¹⁴⁵ *Rome Call AI Ethics*, <https://romecall.org>

¹⁴⁶ Pontifical Academy for Life, *Rome Call for Ethics* (Feb. 28, 2020), <http://www.academyforlife.va/content/pav/en/events/intelligenza-artificiale.html>

¹⁴⁷ IEEE Ethics in Action in Autonomous and Intelligent Systems, <https://ethicsinaction.ieee.org>

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IEEE published the second edition in 2017.¹⁴⁸ In 2019 the IEEE issued a Positions Statement on Artificial Intelligence, concluding that “AI systems hold great promise to benefit society, but also present serious social, legal and ethical challenges, with corresponding new requirements to address issues of systemic risk, diminishing trust, privacy challenges and issues of data transparency, ownership and agency.”¹⁴⁹

ACM, an international society of computer scientists and professionals, has also contributed to the global AI policy landscape.¹⁵⁰ In 2017 ACM released a Statement on Algorithmic Transparency and Accountability, identifying key principles to minimize bias and risks in algorithmic decision-making systems, including transparency, accountability, explainability, auditability, and validation.¹⁵¹ In 2020, in response to growing concerns about the use of facial recognition technologies in public spaces, ACM released another statement addressing the unique issues of biometric data systems and the potential bias and inaccuracies that have significant consequences for violation of human rights.¹⁵²

Civil Society

Latin America

In Latin America, NGOs have been active in AI-related aspects, particularly in connection with the use of facial recognition technology. In Argentina, the Association for Civil Rights (*Asociación por los Derechos Civiles*), a very-well known Argentinian human rights organization has criticized the increasing and unaccountable use of facial recognition technology. These efforts have led to the creation of a national campaign using the slogan “Con mi Cara No” (“No with my face”). The organization

¹⁴⁸ IEEE Standards Association, *IEEE Releases Ethically Aligned Design, Version 2 to show "Ethics in Action" for the Development of Autonomous and Intelligent Systems (A/IS)* (Dec. 12, 2017), https://standards.ieee.org/news/2017/ead_v2.html

¹⁴⁹ IEEE, *Artificial Intelligence* (June 24, 2019), <https://globalpolicy.ieee.org/wp-content/uploads/2019/06/IEEE18029.pdf>

¹⁵⁰ Association for Computing Machinery, www.acm.org/public-policy

¹⁵¹ ACM, US Public Policy Council, *Statement on Algorithmic Transparency and Accountability*, (Jan. 12, 2017), https://www.acm.org/binaries/content/assets/publicpolicy/2017_usacm_statement_algorithmics.pdf.

¹⁵² ACM, US Technology Policy Committee, *Statement on Principles and Prerequisites for the Development, Evaluation and Use of Unbiased Facial Recognition Technologies* (June 30, 2020), <https://www.acm.org/binaries/content/assets/public-policy/ustpc-facial-recognition-tech-statement.pdf>

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aims to raise awareness about the dangers of facial recognition technology, particularly when their data is included within opaque and unaccountable systems.¹⁵³ Furthermore, during 2020, the Association made contributions to *Future City: AI Strategy (Ciudad Futuro: Plan Estratégico Inteligencia Artificial)* of the Autonomous City of Buenos Aires.¹⁵⁴ It also participates in the Trustworthy Artificial Intelligence (TAI) program organized by Mozfest, and the working group “Making use of the Civic Voice in AI Impact Assessment” with more than thirty members of different civil society organizations around the world.

The Igarape Institute, an independent Brazilian think tank, also publishes AI-related research: in 2019, the Institute published a study on Future Crime providing an overview of the opportunities and pitfalls of new technologies to fight crime and stated recommendations to ensure transparency and accountability.¹⁵⁵ The emphasis was on predictive analytics and the Institute recommended that enforcement agencies are informed about the challenges and caveats associate applying these new crime prediction platforms. The principles of transparency and accountability were also highlighted, as well as the need to ensure the safety, dignity and rights of people in the crime forecasting process, including when advanced software packages are deployed. Predictive tools need not replace the intuition and experience of law enforcement officers, but rather complement them in an agile and auditable manner.

Furthermore, in relation to the São Paulo Metro operator, ViaQuatro, that installed and used an AI crowd analytics system that claims to predict the emotion, age, and gender of metro passengers without processing personal data, Access Now filed an expert opinion criticizing this initiative.¹⁵⁶

Fundación Karisma, another civil society organization dedicated to supporting the responsible use of tech highlights the pitfalls of these systems. In their report titled *Discreet Cameras*, they point out that surveillance technology and biometric identification systems in Colombia only take into consideration the technical and impact considerations while assessing systems. There is no analysis using necessity, proportionality or

¹⁵³ Asociación por los Derechos Civiles, <https://conmicarano.adc.org.ar/>

¹⁵⁴ Asociación por los Derechos Civiles, *Yearbook 20021* <https://adc.org.ar/wp-content/uploads/2022/01/ADC-Yearbook-2021.pdf>

¹⁵⁵ Igarape Institute, *Future Crime - Assessing twenty first century crime prediction* (Feb. 3, 2019),

<https://igarape.org.br/en/future-crime-assessing-twenty-first-century-crime-prediction/>

¹⁵⁶ Brazilian Institute of Consumer Protection, Autos no.: 1090663-42.2018.8.26.0100, https://www.accessnow.org/cms/assets/uploads/2020/06/Expert_Opinion_Brazil_Facial_Categorization.pdf

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the possible effect of the technology on human rights. Although the government tries to ensure transparency by sharing the location of video surveillance systems that use facial recognition technology, the right to privacy and other fundamental rights of individuals are still ignored.¹⁵⁷

In addition, when Uruguay began developing a facial identification database some civil society organizations warned that “this system was approved using the National Budget Act as an ‘omnibus law,’ thus preventing proper discussion about the issue due to the tight deadlines for approval of this type of law.”¹⁵⁸

More broadly, several civil society organizations under the banner “AI Sur” in Latin America that seeks to strengthen human rights in the digital environment responded to the public consultation on “Ethics and Data Protection in Artificial Intelligence: continuing the debate” promoted by the International Conference of Data Protection and Privacy Commissioners (ICDPPC).¹⁵⁹

Africa

In relation to Africa, research shows more limited engagement with AI-related questions. In relation to Nigeria, Paradigm Initiative, which operates regional offices in Cameroon, Kenya, Nigeria, Senegal, Zambia, and Zimbabwe, has observed that Nigeria conducts surveillance activities without judicial oversight and a comprehensive framework for data protection and recommended the enactment of a comprehensive framework for data protection and privacy and judicial oversight over surveillance.¹⁶⁰ With regard to AI, Paradigm Initiative has published policy briefs and factsheets, providing a series of recommendations, namely: assessment of Nigeria’s strategic priorities, strengths and weaknesses, alignment with supranational AI standards, concerns regarding the use of AI in certain sectors, such as law enforcement, criminal justice, immigration and national

¹⁵⁷ Fundación Karisma, *Discreet Cameras*, (Feb. 2, 2018),

<https://web.karisma.org.co/camaras-indiscretas/>

¹⁵⁸ DATYSOC, *Organizaciones de la sociedad civil y académicas expresan su preocupación por reconocimiento facial en el Proyecto de Ley de Presupuesto de Uruguay* (Nov. 17, 2020), <https://datysoc.org/2020/11/17/organizaciones-de-la-sociedad-civil-y-academicas-expresan-su-preocupacion-por-reconocimiento-facial-en-el-proyecto-de-ley-de-presupuesto-de-uruguay/>

¹⁵⁹ *Ethics and Data Protection in Artificial Intelligence: continuing the debate. A contribution from Latin America & the Caribbean*, <https://web.karisma.org.co/ethics-and-data-protection-in-artificial-intelligence-continuing-the-debate-a-contribution-from-latin-america-the-caribbean/>

¹⁶⁰ https://paradigmhq.org/wp-content/uploads/2021/05/Digital-Rights-and-Privacy-in-Nigeria_0.pdf

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security; a human-centric approach to data governance; reinforcing the responsibility of the Nigerian State to protect citizens human rights, and the responsibility of businesses to respect these rights; prioritizing local AI and ensuring a transparent procurement process for AI systems from abroad: and calling for AI upskilling and reskilling.¹⁶¹

Paradigm Initiative has also published a policy brief on the AI policy of Kenya highlighting the challenges faced in the adoption of AI systems, which include the lack of relevant data for the development of the systems, lack of regulatory framework governing the AI ecosystem in the country, lack of relevant AI skills, connectivity divide in the country, and the lack of investment in research on development of AI systems and protection of human rights.¹⁶² Paradigm Initiative also stressed the risks posed by the use of AI systems on human rights, focusing not only on bias caused by the systems, but also the weaponization of AI systems by the Government which may undermine freedom of expression and association, surveillance through the use of facial recognition technologies, and violation of rights through contents moderation.

In 2019, Witness and the Centre for Human Rights at the University of Pretoria, hosted an expert meeting on deepfakes and other forms of AI-enabled synthetic media.¹⁶³ The Centre for Human Rights also launched the #Tech4Rights initiative to, among several purposes, build stronger regional partnerships for advocacy on the effective use of digital technologies for human rights protection.¹⁶⁴

The African Internet Rights Alliance (AIRA) is made up of nine civil society organizations based in countries across Central, East, Southern and West Africa.¹⁶⁵ The work of AIRA is rooted in four values: accountability, transparency, integrity, and good governance. Using these values as a guide, AIRA undertakes collective interventions and executes strategic campaigns that engage the government, private sector, media and

¹⁶¹ Paradigm Initiative, *Towards A Rights-Respecting Artificial Intelligence Policy for Nigeria*,

(November 2021), <https://paradigmhq.org/wp-content/uploads/2021/11/Towards-A-Rights-Respecting-Artificial-Intelligence-Policy-for-Nigeria.pdf>

¹⁶² Paradigm Initiative, *Artificial Intelligence in Kenya*, (January 2022),

<https://paradigmhq.org/wp-content/uploads/2022/02/Artificial-Intelligence-in-Kenya-1.pdf>

¹⁶³ *Centre for Human Rights and Witness Host Africa's first 'deepfakes' workshop in Pretoria* (Nov. 28, 2019), <https://www.chr.up.ac.za/news-archive/2019/1929-witness-and-centre-for-human-rights-host-africa-s-first-deepfakes-workshop-in-pretoria>

¹⁶⁴ Centre for Human Rights, *#Tech4Rights: Rethinking a human rights-based approach to new technologies in Africa* (Oct. 26, 2021), <https://www.chr.up.ac.za/tech4rights>

¹⁶⁵ Africa Internet Rights Alliance, *About Us*, <https://aira.africa/about-us/>

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civil society to institute and safeguard digital rights. In February 2022, the Alliance hosted a seminar on “Artificial Intelligence in Africa: Opportunities, Challenges, and Ethical Imperatives.”

Furthermore, the Digital Transformation Center, a German-Rwandan innovation hub, among other tasks, organises events about current ICT topics and trends, organizes training and capacity-development, as well as networking opportunities.¹⁶⁶

Moreover, the Rwandan government has engaged Future Society, an independent think tank, to support the development of Rwanda’s national artificial intelligence strategy, along with AI ethical guidelines, and a practical implementation strategy fit for the local context.¹⁶⁷ In 2021, the Future Society also organised workshops for employees working specific banks with branches in Africa regarding the concept of responsible AI, existing corporate guidelines, the ethical challenges raised by the use of algorithmic prediction for credit lending, and potential impact of facial recognition technologies (FRT) in the banking sector.¹⁶⁸ The Future Society has also published a briefing about the opportunities and challenges of AI in Healthcare in Africa, based on research conducted in TFS’ Responsible AI for Development (RAI4D) program.¹⁶⁹

Asia

In China, the Beijing Academy of Artificial Intelligence (BAAI) is a non-profit research institute aimed at promoting collaboration among academia and industries, as well as fostering top talents and a focus on long-term research on the fundamentals of AI technology. In 2019, the BAAI released the Beijing AI Principles for the research and development, use, and governance of AI.¹⁷⁰

¹⁶⁶ For example see Luisa Olaya Hernandez, How Rwanda’s AI policy helps to shape the evolving AI ecosystem, (Oct. 11, 2021), <https://digicenter.rw/how-rwandas-ai-policy-helps-to-shape-the-evolving-ai-ecosystem/>

¹⁶⁷ The Future Society, The Development of Rwanda’s National Artificial Intelligence Policy, (Aug. 31, 2020) <https://thefuturesociety.org/2020/08/31/development-of-rwandas-national-artificial-intelligence-policy/>

¹⁶⁸ The Future Society, Leveraging Responsible AI in the Banking Sector in Africa, (Oct. 21, 2021), <https://thefuturesociety.org/2021/10/21/leveraging-responsible-ai-in-the-banking-sector-in-africa/>

¹⁶⁹ The Future Society, Opportunities & Challenges of AI in Healthcare in Africa, (Jul. 21, 2021), <https://thefuturesociety.org/2021/07/22/opportunities-challenges-of-ai-in-healthcare-in-africa/>

¹⁷⁰ Beijing Principles, <https://www.baai.ac.cn/news/beijing-ai-principles-en.html>

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In India, the Artificial Intelligence Foundation Trust aims to spread and promote the quality education in the area of Artificial Intelligence and concerned engineering streams.¹⁷¹ The trust will also explore the applications of artificial intelligence in the life, i.e. agriculture, healthcare sector, business, social media, navigation and travel, banking and finance, security and surveillances, e-commerce and many other unexplored application areas.

In Indonesia, the Institute for Policy Research and Advocacy (ELSAM) is a civil society organisation that works to enhance the democratic political order by empowering civil society. With regard to Indonesia's national strategy on AI, ELSAM's researcher Alia Yofira Karunian said the national strategy should be centered around human needs and uphold principles of fairness, accountability and transparency as pillars in AI implementation.¹⁷² The Big Data and AI Association (ABDI) is also concerned with AI developments; in relation to the national strategy its Chairman Rudi Rusdiah commented that the government should prioritize trade and industrial affairs in AI development to reap the economic benefits.¹⁷³

Furthermore, the Association for Civil Rights in Israel, which is the oldest and most influential civil and human rights organization advocating across the broad spectrum of human rights and civil liberties, has been active in this field. It was one of the groups that brought before the Israel's Supreme Court a case concerning the Israeli Security Agency tracing the phone location of those who may be infected with Covid-19, eventually banned by the Court.¹⁷⁴

In Russia, the Human Rights Watch and Amnesty International have criticized the expansion of the use of facial recognition and highlighted threats to privacy taking into account Russia's track record of rights violations.¹⁷⁵ Amnesty International has also been critical of Russia's plans to broaden the use of widespread facial-recognition systems, saying their

¹⁷¹ Artificial Intelligence Foundation Trust <https://www.aifoundation.in/index.php>

¹⁷² The Jakarta Post, Indonesia sets sights on artificial intelligence in new national strategy (Aug. 14, 2020), <https://www.thejakartapost.com/news/2020/08/13/indonesia-sets-sights-on-artificial-intelligence-in-new-national-strategy.html>

¹⁷³ *ibid.* See ABID, <https://www.abdi.id/>

¹⁷⁴ BBC News, *Coronavirus: Israeli court bans lawless contact tracing* (Apr. 27, 2020), <https://www.bbc.com/news/technology-52439145>

¹⁷⁵ Human Rights Watch, *Russia Expands Facial Recognition Despite Privacy Concerns - Lack of Accountability, Oversight, Data Protection* (Oct. 2, 2020), <https://www.hrw.org/news/2020/10/02/russia-expands-facial-recognition-despite-privacy-concerns>

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expected deployment during public gatherings will “inevitably have a chilling effect” on protesters.¹⁷⁶

Europe

Civil Society organizations, particularly in Europe, are also shaping national AI policies and practices. Group such as Access Now have published detailed assessment of AI regulatory proposals¹⁷⁷ and a report on “trustworthy AI.”¹⁷⁸ AlgorithmWatch has drawn attention to controversies in the use of AI-based decision-making systems.¹⁷⁹ BEUC, the European consumer organization, has surveyed public attitudes toward AI,¹⁸⁰ and in October 2020 proposed specific AI rights for consumers.¹⁸¹ Privacy International has examined the impact of AI in several context, including advertising, welfare, and migration.¹⁸²

The European Commission’s White Paper on AI provided an opportunity for these groups to express their views on regulatory options. Several European NGOs said that the Commission has moved too slowly to establish a legislative framework and has placed too much emphasis on ethics rather than fundamental rights. Access Now and EDRi said that the Commission’s “risk-based approach” fails to safeguard fundamental rights.¹⁸³ As they explained, “the burden of proof to demonstrate that an AI system does not violate human rights should be on the entity that develops

¹⁷⁶ Radio Free Europe, *Watchdog Warns About 'Chilling Effect' Of Russia's Use Of Facial-Recognition Technology* (Jan. 31, 2020), <https://www.rferl.org/a/watchdog-warns-about-chilling-effect-of-russia-s-use-of-facial-recognition-technology/30410014.html>

¹⁷⁷ AccessNow, *Mapping Regulatory Proposals for Artificial Intelligence in Europe* (Nov. 2018), https://www.accessnow.org/cms/assets/uploads/2018/11/mapping_regulatory_proposals_for_AI_in_EU.pdf

¹⁷⁸ AccessNow, *Europe's Approach to Artificial Intelligence: How AI Strategy is Evolving* (Dec. 7, 2020), <https://www.accessnow.org/eu-trustworthy-ai-strategy-report/>

¹⁷⁹ AlgorithmWatch, *Automating Society Report 2020* (Oct. 2020), <https://automatingsociety.algorithmwatch.org>

¹⁸⁰ BEUC, *Survey: Consumers see potential of artificial intelligence but raise serious concerns* (Sept. 7, 2020), <https://www.beuc.eu/publications/survey-consumers-see-potential-artificial-intelligence-raise-serious-concerns/html>

¹⁸¹ BEUC, *AI Rights for Consumers* (2019), https://www.beuc.eu/publications/beuc-x-2019-063_ai_rights_for_consumers.pdf

¹⁸² Privacy International, *Artificial Intelligence* (“AI has the potential to revolutionise societies, however there is a real risk that the use of new tools by states or corporations will have a negative impact on human rights.”) <https://privacyinternational.org/learn/artificial-intelligence>

¹⁸³ Access Now and EDRi, *Attention EU regulators: we need more than AI “ethics” to keep us safe* (Oct. 21, 2020), <https://edri.org/our-work/attention-eu-regulators-we-need-more-than-ai-ethics-to-keep-us-safe/>

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or deploys the system” and “such proof should be established through a mandatory human rights impact assessment.”

BEUC wrote “a strong regulatory framework is necessary” to “facilitate innovation and guarantee that consumers can fully reap the benefits of the digital transformation of our societies but are protected against the risks posed by AI.”¹⁸⁴ The German consumer association vzbv has also said that the EC recommendation is too narrow.¹⁸⁵ Risky applications that can cause immense harm to consumers’ self-determination would then most likely be out of the scope, such as insurance, e-commerce, and smart personal assistants like Amazon Echo/Alexa. The European Commission’s plan also appears to include only machine-learning applications. This would exclude a range of expert systems, such as the German credit scoring system “Schufa.” According to vzbv, this is not technology neutral as it should be.

In the fall of 2020, more than a dozen NGOs in Europe joined together to ban biometric mass surveillance.¹⁸⁶ The Reclaim Your Face coalition demands “transparency, red lines, and respect for humans,” and has specifically objected to the deployment of facial recognition in Belgrade. According to the organizations, “ReclaimYourFace is a European movement that brings people’s voices into the discussion around biometric data used to monitor the population. We question why these sensitive data are being used and raise the alarm on the impact on our freedoms in public spaces.”¹⁸⁷

In 2021, the Reclaim YourFace campaign continued to gather support. On January 7, 2021, the European Commission formally recognized the campaign as a European Citizen Initiative.¹⁸⁸ As of February 2022, approximately 68,000 signatures in support had been received.¹⁸⁹ Signatures will continue to be gathered until August 2022.

¹⁸⁴ BEUC, *BEUC’s Response to the European Commission’s White Paper on Artificial Intelligence* (June 2020), https://www.beuc.eu/publications/beuc-x-2020-049_response_to_the_ecs_white_paper_on_artificial_intelligence.pdf

¹⁸⁵ Vzbv, *White Paper on Artificial Intelligence: Proposals of the Federation of German Consumer Organisations* (May 11, 2020), https://www.vzbv.de/sites/default/files/downloads/2020/06/18/20_06_11_vzbv_ec_white_paper_ai_comment_final.pdf

¹⁸⁶ Reclaim Your Face, <https://reclaimyourface.eu>

¹⁸⁷ Reclaim Your Face, *The Movement*, <https://reclaimyourface.eu/the-movement/>

¹⁸⁸ European Commission, European Citizen Initiative, *Civil society initiative for a ban on biometric mass surveillance practices*, ECI(2021)000001, https://europa.eu/citizens-initiative/initiatives/details/2021/000001_en

¹⁸⁹ Reclaim Your Face, <https://reclaimyourface.eu> (Accessed Feb. 11, 2022).

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In response to the release of the Commission proposal, Access Now urged stronger action, and called for redline for applications of AI that are incompatible with fundamental rights.¹⁹⁰ Later in the year, Fanny Hidvégi, Europe Policy Manager at Access Now, stated “Access Now’s priority is not to have an EU law on AI, but to have one that is an effective instrument to protect people’s rights,” said Fanny Hidvégi, Europe Policy Manager at Access Now, stated “We’ve laid out the steps needed to boost the proposed regulation’s human rights standards, and are looking forward to working with the Council and Parliament to guarantee they are achieved.”¹⁹¹

United States

In the United States, the AI Now Institute at New York University has organized important conferences¹⁹² and issued expert reports¹⁹³ on several AI topics. The AI Now Institute also recently provided a statement to the New York City Council on discrimination in automated employment decision tools.¹⁹⁴ The Electronic Privacy Information Center (EPIC) has pursued several innovative complaints concerning AI with the US Federal Trade Commission,¹⁹⁵ provided comments on AI to federal agencies,¹⁹⁶ expert statements to Congress,¹⁹⁷ and pursued public release of materials concerning the activities of the National Security Commission on AI.¹⁹⁸ EPIC has also pursued open government cases concerning the use of proprietary forensic techniques in the criminal justice system.

Fight for the Future, an independent NGO, organized a national campaign in the US to ban facial recognition.¹⁹⁹ Amazon also came under

¹⁹⁰ AccessNow, *EU takes minimal steps to regulate harmful AI systems, must go further to protect fundamental right* (Apr. 21, 2021), <https://www.accessnow.org/eu-minimal-steps-to-regulate-harmful-ai-systems/>

¹⁹¹ AccessNow, *The EU needs an Artificial Intelligence Act that protects fundamental rights* (Nov. 30, 2021), <https://www.accessnow.org/eu-artificial-intelligence-act-fundamental-rights/>

¹⁹² AI Now Institute, *Bias*, <https://ainowinstitute.org/symposia.html>

¹⁹³ AI Now Institute, *Reports*, <https://ainowinstitute.org/reports.html>

¹⁹⁴ Dr. Sarah Myers West, AI Now Institute, *Ethical Implications of Using Artificial Intelligence and Automated Decision Systems*, New York City Council (Nov. 13, 2020), <https://ainowinstitute.org/ai-now-city-council-testimony-fair-shot-act.pdf>

¹⁹⁵ EPIC, *In re HireVue*, <https://epic.org/privacy/ftc/hirevue/>

¹⁹⁶ Fight for the Future, *Ban Facial Recognition*, <https://www.banfacialrecognition.com>

¹⁹⁷ EPIC Urges Congress to Regulate AI Techniques, Promotes 'Algorithmic Transparency' (Dec. 12, 2017), <https://epic.org/2017/12/epic-urges-congress-to-regulat.html>

¹⁹⁸ EPIC v. National Security Commission on AI, No. 19-2906 (D.D.C. Dec. 3, 2019), <https://www.epic.org/foia/epic-v-ai-commission/>

¹⁹⁹ Fight for the Future, *Ban Facial Recognition*, <https://www.banfacialrecognition.com>

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widespread criticism from many US NGOs in 2018 about the company’s facial recognition system Rekognition.²⁰⁰ In June 2020, Amazon agreed to “pause” the police use of its facial recognition software.²⁰¹ IBM and Microsoft also agree to halt the development of facial recognition. According to MIT Technology Review, the decision “mark[s] a major milestone for researchers and civil rights advocates in a long and ongoing fight over face recognition in law enforcement.”²⁰²

The Algorithmic Justice League (AJL) has advised the US Congress on AI policy²⁰³ and facial recognition technology.²⁰⁴ The AJL has also proposed the creation of a federal agency, similar to the FDA, to regulate facial recognition technology.²⁰⁵ And the AJL published a landmark report on AI bias - *Gender Shades: Uncovering Gender and skin-Type bias in Commercial AI Products*.²⁰⁶

²⁰⁰ *Letter from Nationwide Coalition to Amazon CEO Jeff Bezos Regarding Rekognition* (June 18, 2018), <https://www.aclu.org/letter-nationwide-coalition-amazon-ceo-jeff-bezos-regarding-rekognition>

²⁰¹ Karen Weise and Natasha Singer, *Amazon Pauses Police Use of Its Facial Recognition Software*, New York Times (June 10, 2020), <https://www.nytimes.com/2020/06/10/technology/amazon-facial-recognition-backlash.html>

²⁰² Karen Hao, *The two-year fight to stop Amazon from selling face recognition to the police*, MIT Technology Review (June 12, 2020), <https://www.technologyreview.com/2020/06/12/1003482/amazon-stopped-selling-police-face-recognition-fight/>

²⁰³ Joy Buolamwini, *Artificial Intelligence; Societal and Ethical Implications*, United States House Committee on Science, Space and Technology (June 26, 2019), <https://science.house.gov/imo/media/doc/Buolamwini%20Testimony.pdf>

²⁰⁴ Joy Buolamwini, *Facial Recognition Technology (Part 1): Its Impact on our Civil Rights and Liberties*, United States House Committee on Oversight and Government Reform (May 22, 2019), <https://docs.house.gov/meetings/GO/GO00/20190522/109521/HHRG-116-GO00-Wstate-BuolamwiniJ-20190522.pdf>

²⁰⁵ AJL, *Federal Recognition Technologies: A Call for a Federal Office* (May 29, 2020), <https://www.ajl.org/federal-office-call>

²⁰⁶ AJL, *Gender Shades: Uncovering Gender and skin-Type bias in Commercial AI Products*, <http://gendershades.org>

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Argentina

National AI Strategy

The Argentinean government published the National Strategy for Artificial Intelligence (*Plan Nacional de Inteligencia Artificial*) in 2019, through the Office of the President (*Presidencia de la Nación*). Known as ARGENIA, for short, the Strategy builds upon pre-existing policies such as the Digital Agenda Argentina 2030 (*Agenda Digital Argentina 2030*) and the National Strategy for Science, Technology, and Innovation, Argentina Innovates 2030 (*Estrategia Nacional de Ciencia, Tecnología e Innovación Argentina Innovadora 2030*).²⁰⁷

With the ultimate goal of positioning Argentina as a regional leader on AI, the ten-year Strategy seeks to transform the country through AI, leveraging the technology in pursuit of developmental objectives built on the UN's sustainable Development Goals (SDGs).

Taking a people-centered approach,²⁰⁸ the Strategy aims to minimize the potential risks of AI development and implementation for the Argentinean society, by protecting personal data and individual privacy through guidelines for the design of AI systems consistent with ethical and legal principles. The Strategy also proposes to analyze the impact in the production scheme, resulting effects on labor forces and prevent automate systems from reproducing or reinforcing discriminatory or exclusionary stereotypes.²⁰⁹ The Strategy addresses the following areas:

- Talent and education
- Data
- Research & Development and Innovation
- Supercomputing infrastructure
- Actions to facilitate job transitions
- Facilitating public-private co-operation on data use

²⁰⁷ Office of the President, <https://www.casarosada.gob.ar/informacion/actividad-oficial/9-noticias/44081-el-gobierno-presento-la-nueva-agenda-digital-2030>

²⁰⁸ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.oecd.org/g20/summits/riyadh/examples-of-ai-national-policies.pdf>

²⁰⁹ OECD.ai, *Artificial Intelligence National Plan (Plan Nacional de Inteligencia Artificial de la República de Argentina)*, <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-24309>

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- Public services and manufacturing (as target sectors for AI development)

The cross-cutting themes in the Strategy are:

- Ethics and regulation
- Communication and awareness building
- International co-operation

As can be seen from the wide range of topics covered, the Strategy requires a whole-of-government effort that brings together different government ministries under the leadership of the Digital Agenda Executive Roundtable (*Mesa Ejecutiva Agenda Digital*). This effort will be supported by twenty different government agencies, as well as a Multi-sectoral Committee of Artificial Intelligence and a Scientific Committee of experts.

While the AI Strategy for Argentina sets out ambitious goals that build upon other national strategies, it should be noted that the Strategy was developed under the former president, Mauricio Macri in 2019.²¹⁰ Although the former Argentinean government set out milestones to meet specific goals,²¹¹ there's no indication as to how the new administration will approach the AI strategy, and most crucially, its implementation efforts going forward.²¹²

Regional/Provincial

The Autonomous City of Buenos Aires launched *Future City: AI Strategy (Ciudad Futuro: Plan Estratégico Inteligencia Artificial)* in August 2021. The Plan outlines the following three objectives:

- Use AI for the city's development
- Use AI for the benefit of the citizens
- Use cross-cutting tools to ensure the city's sustainability

Under this strategy, the Buenos Aires government has established Buenos Aires AI Lab (*BA Laboratorio IA*), which provides opportunities for training and professional development to the youth and serves as a hub for

²¹⁰ Jasmine Kendall, *Oxford Insights' AI Strategy Series: Argentina and Uruguay* (Jan. 13 2021), <https://www.oxfordinsights.com/insights/2021/1/8/oxford-insights-ai-strategy-series-argentina-and-uruguay>

²¹¹ Presidencia de la Nación, *Plan Nacional de Inteligencia Artificial* (Aug. 2018), <https://uai.edu.ar/ciiti/2019/buenos-aires/downloads/B1/JA-Plan-Nacional-IA.pdf>

²¹² TMG Telecom, *Repaso de las Políticas y Desarrollos Latinoamericanos sobre Inteligencia Artificial* 21 (Feb. 2020); OECD, *State of Implementation of the OECD AI Principles* 16 (June 2021); OECD G20 Digital Economy Task Force, *Examples of AI National Policies* 9 (2020).

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facilitating R&D and application of AI.²¹³ As with the National Plan, one of the key aspects of the Buenos Aires strategy is that it aims to foster mechanisms and tools for a development and use of AI technology that respect fundamental values and human rights.²¹⁴

Public Participation

To define the specific risks and opportunities that the AI plan should address, the government organized several meetings to gather the perspectives of people from different disciplines and sectors. Through the 32 working tables that were assembled, experts from the government, the private sector, the scientific community, the academia, civil society and international organizations collaborated actively in this effort of priorities definition. The outcomes provided the basis for the strategic objectives and lines of action reflected in the plan. Several creative workshops and “unconferences” were held as well. However, mechanisms for ordinary citizens to express their views regarding AI were not identified.

Privacy

Article 43 of Argentina’s Constitution guarantees an individual’s access to personal data in private and public registries, and exercise agency over how that data is used. The current data protection act of Argentina, Law 25,326 (Personal Data Protection Law), follows international standards on basic personal data rules, and has even been deemed adequate by the European Commission under the former Directive 95/46/EC.²¹⁵ A new proposal has been put forward by the former administration to reform Law 25,326 and auxiliary legislation. Since 2018 a legislative draft has been under consideration by the Argentinean National Congress, with no formal decision made in that regard as of this date. The purpose of this reform effort aims not only that the country keeps its international status as a jurisdiction that provides an adequate level of protection, particularly after the passing of the European General Data Protection Regulation, but also to keep its data protection regime up to date to the technological and legal developments that have taken place in recent years. As expressed by the former President: [“t]he objective of the proposed regime is to provide our

²¹³ Buenos Aires Ciudad, *Plan de Inteligencia Artificial*
<https://www.buenosaires.gob.ar/jefaturadegabinete/innovacion/plan-de-inteligencia-artificial>

²¹⁴ Buenos Aires Ciudad,
https://www.buenosaires.gob.ar/sites/gcaba/files/plan_de_inteligencia_artificial_de_la_ciudad.pdf

²¹⁵ DLA Piper, *Data Protection Laws of the World – Argentina* (Jan. 24, 2022),
<https://www.dlapiperdataprotection.com/index.html?t=law&c=AR>

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country with a more modern legislation that respects the rights and guarantees established by our National Constitution and that, at the same time, adapts to new technologies and regulatory changes that have occurred in comparative law.”²¹⁶

The Agencia de Acceso a la Información Pública was a cosponsor of both the 2018 Global Privacy Assembly on AI and Ethics and the 2020 Resolution on AI and Accountability.

Algorithmic Transparency

The current Argentinean data protection law does not contain formal legal prescriptions that recognizes the right of citizens to receive information about automated-decision system or to object to a decision based solely on automatic data processing methods, among other protections. Nevertheless, the Argentinean data protection agency, *Agencia de Acceso a la Información Pública* (AAIP) has provided guidance through a resolution issued on 2019,²¹⁷ in which it recognizes that, under the right of access enshrined in the current data protection law, data subjects have the right to request from data controllers an explanation about the logic used by any system that reaches decisions solely based on automated processing of data and which can affect citizens or have pernicious legal effects on them.²¹⁸ In fact, and in the absence of a formal AI oversight agency both under the current legal framework as well as in the National Strategy, it seems apparent that the AAIP is poised to fill this vacuum, at least with regard to AI uses with data protection implications.²¹⁹ Although the AAIP enjoys functional autonomy by law, the agency remains under the National Executive Branch from a structural perspective; an aspect that, along with the absence of proper mechanisms in place, has led civil society groups to question the impartiality and independence of the appointment process of its Executive Director.²²⁰ The proposed reform act includes the right of citizens to get information about “the existence of automated decision systems, including those that create digital profiles, as well as “meaningful

²¹⁶ Letter 147/2018 sent by the former Argentinean President to the National Congress through which was submitted the draft of the new data protection act from the Executive Branch to the Legislative Branch (Sept. 19, 2018).

²¹⁷ Resolución 4/2019, RESOL-2019-4-APN-AAIP (Sept. 13, 2019).

²¹⁸ Anex I of Resolution 4/2019 (IF-2019-01967621-APN-AAIP).

²¹⁹ Gustavo P. Giay, Diego Fernández and Manuela Adrogué, “Argentina: The Use of Artificial Intelligence”, *DataGuidance* (Mar. 2021), <https://www.dataguidance.com/opinion/argentina-use-artificial-intelligence>

²²⁰ La Asociación por los Derechos Civiles, *Observaciones de la ADC a la candidatura propuesta para la Dirección de la Agencia de Acceso a la Información Pública* (Mar. 17, 2021, <https://adc.org.ar/2021/03/17/observaciones-de-la-adc-a-la-candidatura-propuesta-para-la-direccion-de-la-agencia-de-acceso-a-la-informacion-publica/>)

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information” about the logic applied by those systems.²²¹ A formal right to object to a decision based solely on automatic processing methods it is also included in the proposal.²²²

Human Rights

According to Freedom House, Argentina is considered a “free” country under the organization’s Global Freedom Scores, receiving overall a score of 84/100.²²³ There are concerns about the independence of the Argentinean judiciary. In the international arena, Argentina has shown a strong commitment to the protection of human rights, including international and regional initiatives that pertain to AI. Argentina has participated (through the AAIP), as part of the Ibero-American Network of Data Protection Authorities (RIPD), in the drafting of two key guidelines: the General Recommendations for the Processing of Personal Data in Artificial Intelligence, and in the Specific Guidelines for Compliance with the Principles and Rights that Govern the Protection of Personal Data in Artificial Intelligence Projects. As the country’s Data protection Agency, the AAIP is co-sponsor of both the 2018 Global Privacy Assembly Declaration on Ethics and Data Protection in Artificial Intelligence and the 2020 Resolution on Accountability in the Development and Use of Artificial Intelligence.

OECD/G20 AI Principles

As part of the G20 and as a prospective member to the OECD, Argentina has endorsed the OECD/G20 AI Principles. In fact, according to an OECD report, several policies of Argentina’s national AI strategy align with the G20 AI principles. These include the comprehensive, human-centered and human rights-focus nature, which aligns with the Principles for Responsible Stewardship of Trustworthy AI (Section 1); while Argentina’s investment initiatives, the focus on conditions for AI development, educational plans and international engagements implement Section 2 of the G20 AI Principles (National Policies and International Cooperation for Trustworthy AI).²²⁴

²²¹ Article 28 (h) of the draft bill.

²²² Article 32 of the draft bill.

²²³ Freedom House, *Global Freedom Scores*, <https://freedomhouse.org/countries/freedom-world/scores>

²²⁴ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), page 66 (Table A).

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Facial Recognition

Several documented cases of facial recognition technology use have been reported in various cities and localities as well as at the provincial level in the country. Facial recognition systems being deployed, according to authorities, for the identification and capture of fugitives (in the Autonomous City of Buenos Aires);²²⁵ for the identification of missing persons and people with criminal backgrounds (town of Tigre, Buenos Aires province)²²⁶; for the use of the police to surveil massive gatherings (Mendoza province);²²⁷ or for the prevention and persecution of crimes (Salta province).²²⁸ The program in the City of Buenos Aires in particular was denounced by the Special Rapporteur from the United Nations for the Right of Privacy when visiting the city, as a technology whose “proportionality” was questionable when compared to the “serious privacy implications” for people not related to any crime and for not carefully updating and checking for accuracy.²²⁹ Human Rights Watch also denounced the system, noting the illegal exposure of minor’s personal information.²³⁰ The City legislature approved a bill in 2020 to authorized use for the purpose of capturing fugitives.²³¹ But it has been alleged that this fact does not alter the unconstitutional character of the Buenos Aires

²²⁵ Al Sur, “Facial Recognition in Latin America: Trends in the Implementation of a Perverse Technology” (2021), page 11, https://www.alsur.lat/sites/default/files/2021-11/ALSUR_Reconocimiento_facial_en_Latam_ES.pdf

²²⁶ Ambito, *Tigre lanzó un nuevo sistema de reconocimiento facial* (May 10, 2019), <https://www.ambito.com/municipios/municipios/tigre-lanzo-un-nuevo-sistema-reconocimiento-facial-n5030978>

²²⁷ El Sol, *Reconocimiento facial: hallaron a más de 100 personas con pedido de captura* (May 20, 2019), <https://www.elsol.com.ar/reconocimiento-facial-hallaron-a-mas-de-100-personas-con-pedido-de-captura>

²²⁸ *Las cámaras de reconocimiento facial permitieron detener a una persona con pedido de captura* (June 19, 2019),

<https://salta.gob.ar/prensa/noticias/las-camaras-de-reconocimiento-facial-permitieron-detener-a-una-persona-con-pedido-de-captura-64939>

²²⁹ OHCHR, *OHCHR | Statement to the media by the United Nations Special Rapporteur on the right to privacy, on the conclusion of his official visit to Argentina, 6-17 May 2019* (May 17, 2019),

<https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=24639&LangID=E>

²³⁰ Human Rights Watch, *Argentina publica en línea datos personales de niños y niñas acusados de cometer delitos* (Oct 9, 2020),

<http://www.hrw.org/es/news/2020/10/09/argentina-publica-en-linea-datos-personales-de-ninos-y-ninas-acusados-de-cometer>

²³¹ Asociación por los Derechos Civiles, *La Legislatura porteña debe rechazar el uso de la tecnología de reconocimiento facial para la vigilancia del espacio público* (Oct. 21, 2020), <https://adc.org.ar/2020/10/21/la-legislatura-portena-debe-rechazar-el-uso-de-la-tecnologia-de-reconocimiento-facial-para-la-vigilancia-del-espacio-publico/>

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program.²³² The increasing and unaccountable use of this technology led to the creation of a national campaign by Association for Civil Rights (*Asociación por los Derechos Civiles*), a very well-known Argentinean human rights organization. With the slogan: “Con mi Cara No” (“No with my face”), the organization aims to raise awareness about the dangers facial recognition technologies poses to citizens, particularly when their data is included within opaque and unaccountable systems.²³³

Lethal Autonomous Weapon Systems

Argentina has been very critical about the development and use of lethal autonomous weapons systems, particularly those without significant human involvement. Argentina has set out a strong position in public statements as well as within international organizations, including the U.N. Human Rights Council as part of the meetings regarding the Convention on Conventional Weapons. Within the framework of those meetings, Argentina stressed the need “to preserve meaningful human control at all phases of the development and use” of weapons systems.²³⁴ On behalf of the Group of Latin American and Caribbean Countries, Argentina raised several concerns over fully autonomous weapons, including the risks of reprisal, retaliation and terrorism.²³⁵ And Argentina has called for a “preemptive prohibition of the development of lethal autonomous systems.”²³⁶

Evaluation

Argentina’s comprehensive, ambitious and human-centered national strategy reflects the country’s interest in matching socioeconomic development with strong human rights commitments in the design and development of AI. Despite the initial enthusiasm that surrounded the launching of the Plan, there’s no clear indication about the direction that the Government will provide in the short and middle term. Recent incidents of human rights and democratic violations, such as the deployment of facial

²³² iProfessional, ¿Ahora vienen por tu cara?: este experto advierte sobre los peligros del reconocimiento facial (May 10, 2020), <https://www.iprofesional.com/tecnologia/338236-reconocimiento-facial-advierten-sobre-peligros-en-argentina>

²³³ Asociación por los Derechos Civiles, <https://conmicarano.adc.org.ar/>

²³⁴ Government of Argentina, Statement to the Convention on Conventional Weapons Group of Governmental Experts on lethal autonomous weapons systems, March 26, 2019.

²³⁵ Government of Argentina, Statement to the UN Human Rights Council (May 30, 2013),

²³⁶ Government of Argentina, Statement to the Convention on Conventional Weapons Fifth Review Conference, December 12, 2016.

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recognition systems, has raised widespread concern that AI could be used for other pernicious purposes. Argentina has the resources and the infrastructure to pursue regional leadership. Argentina has also shown a strong commitment to global AI ethics principles as well as an active involvement in international and regional AI initiatives. The question remains about the feasibility of implementing these ambitious objectives with the economic, political, and social challenges that the country faces.

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Australia

National AI Strategy

In November 2019, the Australia government published a Roadmap for AI, to “help develop a national AI capability to boost the productivity of Australian industry, create jobs and economic growth, and improve the quality of life for current and future generations.”²³⁷ Australia’s AI Technology Roadmap is intended to help guide future investment in AI and provide a pathway to ensure Australia captures the full potential of AI.²³⁸ As well as identifying three high potential areas of AI specialization, the Roadmap elaborates the foundations needed in terms of skills, data governance, trust research, infrastructure and ethics, underscoring the mutual complementarity of the OECD AI Principles.

The Roadmap identifies three domains of AI development and application where AI could transform Australian industry, based on existing strengths and comparative advantages, opportunities to solve Australian problems, and opportunities to export solutions to the rest of the world. These domains are Health, Aging and Disability; Cities, Town and Infrastructure (including connected and automated vehicle technology); and National Resources and Environment (especially building on strengths related to mining and agriculture).

CSIRO, the national science agency, has said that AI “represents a significant opportunity to boost productivity and improve the national economy.”²³⁹ The agency is deploying AI for gene sequencing in crops, sustainable fishing, to predict the failure of infrastructure, and in hospitals to forecast demand to ensure access to emergency care.

Standards Australia also launched Australia’s AI Standards Roadmap in March 2020 to support the implementation of the OECD AI principles. The roadmap provides a framework for Australians to shape the development of standards for AI internationally. It explores standards that can promote and develop the opportunities of responsible AI, delivering business growth, improving services and protecting consumers.²⁴⁰

²³⁷ Data61, *Artificial Intelligence Roadmap: Australia’s artificial intelligence roadmap*, developed by CSIRO’s Data61 for the Australian Government.

<https://data61.csiro.au/en/Our-Research/Our-Work/AI-Roadmap>

²³⁸ Australian Government, CSIRO, and Data 61, *Artificial Intelligence: Solving problems, growing the economy and improving our quality of life* (2019),

https://data61.csiro.au/~media/D61/AI-Roadmap-assets/19-00346_DATA61_REPORT_AI-Roadmap_WEB_191111.pdf

²³⁹ CSIRO, *Artificial Intelligence*, <https://www.csiro.au/en/Research/AI>

²⁴⁰ Standards Australia (2020), *An Artificial Intelligence Standard Roadmap: Making Australia’s Voice, Heard (Final Report)*, Standards Australia, Sydney,

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Australia has also published an AI Ethics Framework to “help guide businesses and governments looking to design, develop, and implement AI in Australia.”²⁴¹ Key goals are to achieve better outcomes, reduce the risk of negative impact, and practice the highest standards of ethical business and good governance. The eight AI Ethics Principles are Human, social and environmental wellbeing, Human-centered values, Fairness, Privacy protection and security, Reliability and safety, Transparency and Explainability, Contestability, and Accountability.²⁴² The Australian government notes that the principles are derived from the Ethically Aligned Design report by IEEE.

The Roadmap and the Ethics Framework were put forward at the AI Technology Summit in 2019.²⁴³ Over 100 leaders and experts in artificial intelligence (AI) technology gathered at the public summit to “help shape Australia’s AI future.”

Public Participation

Standards Australia is embarking on a consultation process with Australian representatives of industry, government, civil society and academia to examine how technical specifications and related material can support artificial intelligence in Australia.²⁴⁴ In March 2020, Standards Australia published *Artificial Intelligence Standards Roadmap: Making Australia’s Voice Heard*.²⁴⁵

The development of Australia’s AI Ethics Framework followed a public consultation. The Minister for Industry, Science and Technology Karen Andrews released a discussion paper to encourage conversations on

https://www.standards.org.au/getmedia/ede81912-55a2-4d8e-849f-9844993c3b9d/O_1515-

[An-Artificial-Intelligence-Standards-Roadmap-soft_1.pdf.aspx](https://www.standards.org.au/getmedia/ede81912-55a2-4d8e-849f-9844993c3b9d/O_1515-An-Artificial-Intelligence-Standards-Roadmap-soft_1.pdf.aspx)

²⁴¹ Australian Government, Department of Industry, Science, Energy and Resources, *AI Ethics Framework*, <https://www.industry.gov.au/strategies-for-the-future/artificial-intelligence>

²⁴² Australian Government, Department of Industry, Science, Energy and Resources, *AI Ethics Principles*, <https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework/ai-ethics-principles>

²⁴³ Australian Government, Department of Industry, Science, Energy and Resources, *Tectonic: Shaping Australia’s AI Future* (Nov. 27, 2019),

<https://www.industry.gov.au/news-media/tectonic-shaping-australias-ai-future>

²⁴⁴ Standards Australia, *Standards Australia sets priorities for Artificial Intelligence* (Mar. 2020), <https://www.standards.org.au/news/standards-australia-sets-priorities-for-artificial-intelligence>

²⁴⁵ Standards Australia, *FINAL REPORT: An Artificial Intelligence Standards Roadmap: Making Australia’s Voice Heard* (Mar. 2020),

https://www.standards.org.au/getmedia/ede81912-55a2-4d8e-849f-9844993c3b9d/R_1515-An-Artificial-Intelligence-Standards-Roadmap-soft.pdf.aspx

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how to design, develop, deploy and operate AI in Australia.²⁴⁶ In particular, the Australian government sought feedback on the draft AI Ethics Principles presented in the discussion paper. The Minister received more than 130 submissions from government, business, academia, non-government organizations and individuals. According to the Minister, the submissions generally supported a principles-based framework to guide the design, development, deployment and operation of AI in Australia. There were questions about how the draft principles can be applied in practice. The Law Council of Australia provided extensive comments on the Ethics Framework. The Council expressed concerns about the administrative law implications of AI, “an AI involved in a government decision should be able to explain its decision-making process.”²⁴⁷

Noted Australian AI ethics researcher Roger Clarke published a critical assessment of the AI Ethics Principles. In 2019 Clarke undertook an extensive survey of AI policy frameworks and identified 10 themes and 50 principles.²⁴⁸ Clarke concluded that the AI Ethics Principles for Australia adequately addressed only 13 of the 50 Principles.²⁴⁹ “An additional 19 are partly or weakly addressed, and 18 are not addressed at all.” Clarke states that “the key to achieving trust is to ensure trustworthiness of the technologies and of organisations' uses of the technologies. That requires a comprehensive set of principles of real substance; articulation of them for each stage of the supply chain; educational processes; means of encouraging their application and discouraging behaviour in breach of the principles; a credible regulatory framework; and the enforcement of at least baseline standards.”

A 2020 survey of Australian attitudes toward AI found high levels of support for the use of AI to address social, humanitarian and environmental challenges.²⁵⁰ The survey also found high levels of support

²⁴⁶ The Hon Karen Andrews MP, Minister for Industry, Science and Technology, *Seeking feedback on ethics of artificial intelligence* (Apr. 5, 2019), <https://www.minister.industry.gov.au/ministers/karenandrews/media-releases/seeking-feedback-ethics-artificial-intelligence>

²⁴⁷ Law Council of Australia, *Artificial Intelligence: Australia's Ethics Framework* (June 28, 2019), <https://www.lawcouncil.asn.au/docs/b3ebc52d-afa6-e911-93fe-005056be13b5/3639%20-%20AI%20ethics.pdf>

²⁴⁸ Roger Clarke, *Responsible AI Technologies, Artefacts, Systems and Applications: The 50 Principles*, <http://www.rogerclarke.com/EC/AIP.html#App1>

²⁴⁹ Roger Clarke, *The Australian Department of Industry's 'AI Ethics Principles' of September / November 2019: Evaluation against a Consolidated Set of 50 Principles* (Nov. 12, 2019), <http://www.rogerclarke.com/EC/AI-Aust19.html>

²⁵⁰ Monash Data Futures Institute, *AI FOR SOCIAL GOOD? Australian public attitudes toward AI and society* (Aug. 2020),

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for legislation to ban the use of lethal autonomous weapons, ensure the safety of autonomous vehicles, and protect data privacy.

There is currently a public consultation on “Mapping Australia's Artificial Intelligence and Autonomous Systems Capability.”²⁵¹ Part A of the survey seeks information at an organizational level about Australia’s national artificial intelligence and autonomous systems capabilities. Part B of the survey focusses on unique, world-leading and significant Australian case studies and projects.

Data Protection

The Online Privacy Bill, released in 2021 as an exposure draft, would enable a binding online privacy code for social media and certain other online platforms. Once passed, the industry has 12 months to develop a code or Australia’s data protection authority, the Office of the Australian Information Commissioner, can step in to develop it. The “other measures” in the bill will substantially increase the civil penalties for breaches of the Privacy Act and improve the extraterritorial reach of the Privacy Act to protect the information collected from individuals in Australia, regardless of where the collecting entity is located or incorporated. We can expect to see the introduction of the Privacy Legislation Amendment (Enhancing Online Privacy and Other Measures) Bill and further progress on the Australian government’s review of the Privacy Act.

In October 2021, the government released a discussion paper containing proposals and options to modernize the Privacy Act. Some proposals and options have been inspired by other jurisdictions such as the EU, including introducing individual rights to object and to erasure. The government will now consider the feedback and consult with stakeholders on specific issues before concluding its review report, which it intends to make public after consideration. The release of an exposure draft of Privacy Act amendments will then follow the review report, likely in the second half of 2022 or into 2023.²⁵²

https://www.monash.edu/data/assets/pdf_file/0019/2313262/MDFI_AI_for_Social_Go_od_report_Final.pdf

²⁵¹ Australian Government, *Department of Industry, Science, Energy and Resources, Mapping Australia's Artificial Intelligence and Autonomous Systems Capability* (Oct. 2, 2020) (closes Nov. 29, 2020), <https://consult.industry.gov.au/digital-economy/mapping-australias-ai-capability/>

²⁵² The International Association of Privacy Professionals (IAPP), *2022 Global Legislative Predictions*, https://iapp.org/media/pdf/resource_center/2022_iapp_global_legislative_predictions.pdf.

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Australia is a cosponsor of the 2020 GPA Resolution on Accountability in the Development and Use of Artificial Intelligence.²⁵³

Global Partnership on AI

Australia joined the Global Partnership on AI as a founding member in June 2020.²⁵⁴ Minister Andrews stated, “Australia is committed to responsible and ethical use of AI. Membership of the GPAI will allow Australia to showcase our key achievements in AI and provide international partnership opportunities which will enhance our domestic capability.” Andrews further stated, “Membership of the GPAI will build on the work the Government started at last year’s National AI Summit, which brought together 100 AI experts to discuss the challenges and opportunities which AI will present for the Australian economy.”

Australia and Singapore, building on their pre-existing trade agreement, also signed the Singapore-Australia Digital Economy Agreement (SADEA) in the same year, where Parties agreed to advance their cooperation on AI.²⁵⁵

Algorithmic Transparency

The concept of Algorithmic Transparency is briefly addressed in the AI Ethics Framework. The Victorian Information Commissioner warns of risks associated with “corporate cooption” of transparency and accountability mechanisms.²⁵⁶ The paper argues that “significant resources must be invested in developing the necessary skills in the public sector for deciding whether a machine learning system is useful and desirable, and how it might be made as accountable and transparent as possible.”

²⁵³ International Conference of Data Protection and Privacy Commissioners, Resolution on Accountability in the Development and Use of Artificial Intelligence (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>

²⁵⁴ The Hon Karen Andrews MP, Minister for Industry, Science and Technology, *Australia joins global partnership on artificial intelligence* (June 16, 2019), <https://www.minister.industry.gov.au/ministers/karenandrews/articles/australia-joins-global-partnership-artificial-intelligence>

²⁵⁵ The Government of the Republic of Singapore and the Government of Australia, *Memorandum of Understanding between the Government of the Republic of Singapore and the Government of Australia on Cooperation on Artificial Intelligence*, <https://www.mti.gov.sg/-/media/MTI/Microsites/DEAs/Singapore-Australia-Digital-Economy-Agreement/MOUs/MOU-on-Cooperation-on-Artificial-Intelligence.pdf>.

²⁵⁶ Goldenfein, Jake, *Algorithmic Transparency and Decision-Making Accountability: Thoughts for Buying Machine Learning Algorithms* (Aug. 31, 2019), <https://ssrn.com/abstract=3445873>

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In early 2019, the Australian Human Rights Commission called for an AI Policy Council to guide companies and regulators as artificial intelligence technology. "When companies use AI decision-making systems, they must build them in a way that allows a person to understand the basis of decisions that affect them. This is fundamental to ensuring accountability and will be really important for all companies that use AI," Human Rights Commissioner Ed Santow said.²⁵⁷

In a 2020 paper, Santow called on the Australian government to modernize privacy and human rights laws to take into account the rise of artificial intelligence.²⁵⁸ "We need to apply the foundational principles of our democracy, such as accountability and the rule of law, more effectively to the use and development of AI," he said.

OECD/G20 AI Principles

Australia has endorsed the OECD and the G20 AI Principles. Regarding implementation of the AI Principles, the OECD notes the Australia Roadmap for AI, the AI Ethics Framework, and the Australia's AI Standards Roadmap, "currently under development and intended to identify priority areas for AI standards development and a pathway for Australian leadership on international standardisation activities for AI."²⁵⁹ The OECD also notes the work of Australia on trustworthy AI for health.

Human Rights

Australia is a signatory to many international human rights treaties and conventions. Freedom House ranked Australia very highly (97/100) in 2020 and 2021 and reported that, "Australia has a strong record of advancing and protecting political rights and civil liberties. Challenges to these freedoms include the threat of foreign political influence, harsh

²⁵⁷ James Eyers, *Call for 'AI policy council' to govern how algorithms use personal information*, Financial Review (Mar. 15, 2020), <https://www.afr.com/technology/call-for-ai-policy-council-to-govern-how-algorithms-use-personal-information-20190315-h1cejl>

²⁵⁸ Australian Human Rights Commission, *Human Rights and Technology: Discussion Paper* (Dec. 2019), https://tech.humanrights.gov.au/sites/default/files/2019-12/TechRights2019_DiscussionPaper.pdf

²⁵⁹ OECD, G20 Digital Economy Task Force, *Examples of National AI Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>; OECD (2021), *State of implementation of the OECD AI Principles: Insights from national AI policies* (Jun 18, 2021), <https://doi.org/10.1787/1cd40c44-en>; OECD (2021), *An overview of national AI strategies and policies* (August 2021), https://goingdigital.oecd.org/data/notes/No14_ToolkitNote_AIstrategies.pdf.

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policies toward asylum seekers, and ongoing difficulties ensuring the equal rights of indigenous Australians.”²⁶⁰

Evaluation

Australia has set out an AI Roadmap and an AI Ethics Framework. Australia has encouraged public participation in the development of AI policy, joined the Global Partnership on AI and has a strong record on human rights. Australia has independent agencies, including a national regulator for privacy and freedom of information²⁶¹ and a human rights commission that is engaged in AI oversight. Australia was also a cosponsor of the GOA resolution on Accountability in the development and use of AI. While there is no express support for the Universal Guidelines for AI, Australia’s adopted policies are similar to those recommended in the UGAI. Questions have also been raised about the adequacy of the Ethics Framework.

²⁶⁰ Freedom House, *Freedom in the World 2020 – Australia* (2020), <https://freedomhouse.org/country/australia/freedom-world/2020>; Freedom House, *Freedom in the World 2020 – Australia* (2021), <https://freedomhouse.org/country/australia/freedom-world/2021>.

²⁶¹ Australian Government, Office of the Australian Information Commission, *Human Rights and Technology Discussion Paper* (Dec. 2019), https://tech.humanrights.gov.au/sites/default/files/2019-12/TechRights2019_DiscussionPaper.pdf

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Austria

National AI Strategy

The Austrian Government presented the national AI strategy in August 2021.²⁶² The objectives are:

- “a broad use of AI oriented to the common good.
- Positioning Austria as an innovation location for AI in key areas and fields of strength.
- The development and use of AI is intended to secure the competitiveness of Austria as a location for technology and business.”

The Austrian strategy is oriented towards the two cornerstones of the European AI strategy (ecosystem for trust and ecosystem for excellence) and applies these to the future use of AI in Austria. Austria thus not only supports increased cooperation at the European level, as proposed in the White Paper²⁶³ and the latest AI package,²⁶⁴ but also intends to shape national AI ecosystems in line with European goals.²⁶⁵

The Austrian government emphasized a human-centered approach to ensure that resources are used for the benefit of fundamental European values and respecting and guaranteeing fundamental and human rights, such as privacy and the principle of equality. To this end, the Federal Government plans to initiate and promote the involvement of citizens.²⁶⁶ Furthermore, the Austrian government intends to define ethical principles.²⁶⁷ For this purpose, Austria developed guidelines for the ethical

²⁶² Federal Ministry of the Republic of Austria, Digital and Economic Affairs, *Strategy of the Austrian Federal Government for Artificial Intelligence "AIM AT 2030"*

<https://www.bmdw.gv.at/en/Topics/Digitalisation/Strategy/Artificial-Intelligence.html>.

²⁶³ European Commission, White Paper on Artificial Intelligence: a European approach to excellence and trust, COM(2020) 65 final, (Feb. 19, 2020),

https://ec.europa.eu/info/sites/default/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf.

²⁶⁴ European Commission, *Proposal for an AI Regulation laying down harmonised rules on artificial intelligence*, COM/2021/206 final (Apr. 21, 2021), <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1623335154975&uri=CELEX%3A52021PC0206>.

²⁶⁵ *AIM AT 2030*, at 20.

²⁶⁶ *Id.* at 22.

²⁶⁷ Whereas the Council for Robotics and Artificial Intelligence [Rat für Robotik und Künstliche Intelligenz (ACRAI)] laid the foundation to this discussion in the 2018 white paper “*Die Zukunft Österreichs mit Robotik und Künstlicher Intelligenz positiv gestalten*”: https://www.acrai.at/wp-content/uploads/2019/04/ACRAI_whitebook_online_2018.pdf

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use of trustworthy AI.²⁶⁸ According to these, AI systems must fulfil three basic principles to be considered trustworthy. They must:

- “be lawful by respecting all existing laws and regulations;
- respect ethical principles and values such as equality and fairness; and
- be robust, both in a technical sense and from a societal perspective.”

A further pinpoint for the Austrian government is to implement a legal framework for AI. The goal is a human-centered use of AI that serves the common good while at the same time promoting competitiveness and innovation. To achieve this, a clear legal framework shall be created that releases the innovation in science and economy, reduces uncertainties and at the same time guarantees legal certainty. The Austrian Federal Government supports the creation of a Europe-wide legal framework for AI applications to avoid isolated national solutions.

In conclusion, an interministerial working group chaired by the Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology and Federal Ministry of Science, Research and Economy is to be set up to accompany the implementation of the strategy and to promote regular updates. In addition, the ongoing involvement of the relevant stakeholders and the public will be ensured. This is to be done in part through 64 defined measures.²⁶⁹

Public Participation

Experts and other stakeholders were involved in the development of the national AI strategy.²⁷⁰ The strategy also provides for broad participation of civil society organizations, intermediaries, and citizens in the implementation of the measures. Furthermore, the Federal Government endeavors to formulate its target provisions in close coordination and comprehensive agreement with the fundamental values and objectives of the European Union and the Community measures. With this strategy, Austria is thus also contributing to the promotion of Europe's industrial and technical performance and supporting the spread of AI throughout the European Union's economy.

²⁶⁸ High-Level Expert Group on Artificial Intelligence (2018): Ethik-Leitlinien für eine vertrauenswürdige KI. ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai

²⁶⁹ AIM AT 2030, at 62.

²⁷⁰ The Austrian Council on Robotics and AI (ACRAI) served as an advisor to the Government and its departments until Oct. 23,2021, <https://www.acrai.at/en/home/>

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Facial Recognition

After a one-year test phase, facial recognition for law enforcement has been in regular operation in Austria since August 2020.²⁷¹ The use of the software is regulated by the Security Police Act (SPG) and the Code of Criminal Procedure (StPO). According to these, the police can only use digital image comparison if there is a suspicion of the commission of an intentional judicially punishable act in the case of unknown perpetrators. The Ministry of the Interior published information about the use of the software after parliamentary inquiries. According to the report, the Federal Criminal Police Office may use the system to investigate intentional acts, authorized by the judiciary, regardless of the level of punishment for an offense. The EDE database includes about 600,000 persons.

Predictive Policing

Efforts to base police work on computer-assisted forecasts have existed in Austria since 2004.²⁷² Due to the increasing importance of big data and AI, an increase and expansion of predictive policing methods is to be expected in the next few years. Most of the predictive policing methods developed or applied in Austria do not affect the scope of protection of the right to respect for privacy (Art 8 ECHR, Art 7 GRC) or the fundamental right to data protection (Art 1 § 1 Abs 1 DSG, Art 8 GRC), and are intended in particular to support the patrol service and burglary prevention.²⁷³ The situation was different with the project called INDECT, where an Austrian university, the FH Technikum Wien, was also involved.²⁷⁴ In this project, personal data from social media was to be combined with retained data and video recordings in order to be able to identify "abnormal behaviour" at an early stage. The project was funded by the European Commission during its term from 2009 to 2014.²⁷⁵ Neither the official project website, nor the

²⁷¹ Federal Ministry of the Interior, Query Response Parliamentary Question No. 2648/J: "Findings from the Test Operation of the Face Recognition System (2662/AB)," (Sept. 4, 2020) https://www.parlament.gv.at/PAKT/VHG/XXVII/AB/AB_02662/index.shtml#] (accessed 25 November 2021).

²⁷² Adensamer/Klausner, *Ich weiss, was du nächsten Sommer getan haben wirst: Predictive Policing in Österreich*, in: *juridikum, Zeitschrift für Kritik | Recht | Gesellschaft*, 2019, 419, <https://doi.org/10.33196/juridikum201903041901>

²⁷³ *Id.*

²⁷⁴ Laub, INDECT: Anonymous macht gegen totale Überwachung mobil, in: *derStandard.at*, (July 20, 2012) [<https://derstandard.at/1342139631592/INDECT-Totale-Ueberwachung-als-EU-Projekt>].

²⁷⁵ Tajani, Answer to a written question - Indect project, data protection breach - E-1332/2010 and E-1385/2010, (May 3, 2020) https://www.europarl.europa.eu/doceo/document/E-7-2010-1332-ASW_EN.html

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official project website of the FH Technikum Wien show further information on this project.²⁷⁶

AI Oversight

The Federal Ministry Republic of Austria Climate Action, Environment, Energy, Mobility, Innovation and Technology is tasked with AI oversight. Under the broad topic of innovation, the Ministry oversees topics such as digital, human resources, international/EU, future mobility, research technology and innovation policy in Austria, production of the future, publications, Austrian Registry for Space Objects, Space Technology, Technologies for Sustainable Development, Technology Transfer.²⁷⁷

The Austrian Council on Robotics and Artificial Intelligence (ACRAI) which consisted of experts on robotics, and artificial intelligence from industry, research and teaching advised the Federal Ministry Republic of Austria Climate Action, Environment, Energy, Mobility, Innovation and Technology on top priorities, topical issues, challenges, risks, on the use of artificial intelligence as well as robotics and autonomous systems. The Robots Council also commissioned a survey of 1,000 Austrians where two-thirds asked that a strategy be developed for AI and for handling robots in the country. On the usage of robots in Austria, Minister Leichtfried states that “we decide where the journey goes, the human being must always be the centre of attention.”²⁷⁸

Austria was not a signatory to either the 2018 GPA Declaration on Ethics and Data Protection in Artificial Intelligence or the 2020 Resolution on Accountability in the Development and Use of Artificial Intelligence.

Algorithmic Transparency

Austria is subject to the transparency obligation in the GDPR for the processing of personal data. Austria is a member of the Council of Europe but has not yet ratified the modernized Privacy Convention (“108+), which includes a provision on algorithmic transparency

²⁷⁶ Adensamer/Klausner, *Ich weiss, was du nächsten Sommer getan haben wirst: Predictive Policing in Österreich*, p. 8-10, in: *juridikum, Zeitschrift für Kritik | Recht | Gesellschaft*, 2019, 419, <https://doi.org/10.33196/juridikum201903041901>.

²⁷⁷ Federal Ministry Republic of Austria Climate Action, Environment, Energy, Mobility, Innovation and Technology “Innovation”
<https://www.bmk.gv.at/en/topics/innovation.html>

²⁷⁸ Die Zukunft Österreichs mit Robotik und Künstlicher Intelligenz positiv gestalten
White Paper des Österreichischen Rats für Robotik und Künstliche Intelligenz
https://www.acrai.at/wp-content/uploads/2020/04/ACRAI_White_Paper_DE_.pdf.

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Research show that the Public Employment Service Austria (AMS) makes use of algorithmic profiling of job seekers, and there have been concerns about notable discrimination and bias.²⁷⁹ Algorithm Watch also disclosed that the sorting algorithm used in Austria for employment gives lower scores to the disabled and women, and women with children are given even more negative weight.²⁸⁰

OECD AI Principles

Austria endorsed the G20 AI Principles. Regarding implementation of the AI Principles, the OECD notes Austria's active involvement in relevant international organisations, the EU and other processes and the specific addressing of "human-centred values and fairness, robustness, security and safety, inclusive growth, sustainable development and well-being, investing in AI R&D and providing an enabling policy environment for AI" within the AI strategy.²⁸¹

Human Rights

Human Rights are defined in the context of this report as the rights that accrue to every human being by reason of their being human. This in line with the definition of the United Nations who define "Human rights are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status. Human rights include the right to life and liberty, freedom from slavery and torture, freedom of opinion and expression, the right to work and education, and many more. Everyone is entitled to these rights, without discrimination."²⁸²

These rights are usually contained in international human rights law, regionally and locally and the starting point here is usually the United Nations Universal Declaration of Human rights.²⁸³ According to Freedom House, Austria scores highly for political rights and civil liberties (93/100), and is designated as "Free."²⁸⁴ Austria was the 70th country that joined the United Nations and actively participates in its activities and serves

²⁷⁹ *Austria's employment agency rolls out discriminatory algorithm, sees no problem* Nicolas Kayser-Bril <https://algorithmwatch.org/en/austrias-employment-agency-ams-rolls-out-discriminatory-algorithm/>.

²⁸⁰ *Id.*

²⁸¹ OECD AI Observatory, *AI Mission Austria 2030*, <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-24233>.

²⁸² United Nations, *Human Rights* <https://www.un.org/en/global-issues/human-rights>.

²⁸³ United Nations, Universal Declaration of Human Rights (1948), <https://www.un.org/en/about-us/universal-declaration-of-human-rights>] (accessed 1 November 2021).

²⁸⁴ Freedom House, *Freedom in the World 2021 – Austria*, <https://freedomhouse.org/country/austria/freedom-world/2021>

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alongside New York, Nairobi and Geneva as one of the four headquarters of the United Nations.²⁸⁵ It further regards the policies of the United Nations as centrally relevant to its foreign policy.²⁸⁶

With regards to AI policy, as part of the objectives contained in its AI Strategy, Austria states that it will deploy AI responsibly targeting the common good relying on the fundamental human rights.²⁸⁷ Austria intends to apply AI in sectors such as health care, education and in addressing climate change. If harnessed properly, this can be useful in supporting human rights such as the right to healthcare, education and a safe and healthy environment.

The strategy further stipulates that a secure framework is created in partnership with its European partners ensuring that issues and challenges that would arise on the basis of fundamental human rights including the prohibition of discrimination, data protection and the right to equality is developed. It will achieve this by leaning into international human rights and humanitarian law framework ensuring the AI, their digital space and standards are ethical as illustrated by the image below.

Lethal Autonomous Weapons

Austria supports a legally binding instrument that would ban autonomous weapons and systems that are not meaningfully controlled by humans.²⁸⁸ At the virtual conference, “Safeguarding Human Control over Autonomous Weapon Systems” held in September 2021,²⁸⁹ the Austrian Ministry for European and International Affairs through the Federal Minister for European and International Affairs of Austria, situated themselves as the vanguard of many disarmaments, non-proliferation, and arms control issues. They also talked about the challenges of AI, and questioned algorithms which make death or life decisions based on ethics,

²⁸⁵ United Nations, *The United Nations in Vienna*, <https://www.unvienna.org/>

²⁸⁶ Permanent Mission of Austria to the United Nations, *Austria at the UN*, <https://www.bmeia.gv.at/oev-wien/austria-at-the-un/>

²⁸⁷ *AIM AT 2030*.

²⁸⁸ DW Akademie “Austria wants ethical rules on battlefield killer robots”

<https://www.dw.com/en/austria-wants-ethical-rules-on-battlefield-killer-robots/a-55610965> accessed 01/11/2021

²⁸⁹ Austrian Ministry for European and International Affairs

<https://www.reachingcriticalwill.org/resources/calendar/event/15378-safeguarding-human-control-over-autonomous-weapon-systems> accessed 20/11/2021

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morality and law and called for a legal norm in the form of a treaty to ensure human control.²⁹⁰

Evaluation

The Austrian AI strategy, released in late 2021, follows the larger goals of the EU strategy, emphasizing both excellence and the protection of fundamental rights. Austria has emphasized public participation in the development of the national AI strategy and receives expert advice from the Austrian Council on Robotics and Artificial Intelligence, which has emphasized the importance of human-centric AI. Austria ranks highly for traditional human rights and is active at the OECD. However, Austria is not a member of the Global Partnership on AI and has not ratified the modernized privacy convention of the Council of Europe which includes an important provision on algorithmic transparency. And concerns have emerged about the use of AI techniques for facial surveillance and predictive policing.

²⁹⁰ Austrian Ministry for European and International Affairs
<https://www.reachingcriticalwill.org/resources/calendar/event/15378-safeguarding-human-control-over-autonomous-weapon-systems> accessed 20/11/2021

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Bangladesh

National AI Strategy

Bangladesh published its National Strategy on Artificial Intelligence in March 2020.²⁹¹ The goal is to make Bangladesh a “technologically advanced nation by the next decade.” The National AI Strategy for Bangladesh is driven by the slogan- “AI for Innovative Bangladesh”. The AI Strategy identified seven national priority sectors, which are:

- 1) public service delivery
- 2) manufacturing
- 3) agriculture
- 4) smart mobility and transportation
- 5) skill & education
- 6) finance & trade
- 7) health

To create a “sustainable AI Ecosystem,” the report proposes six strategic pillars, namely:

- 1) research and development,
- 2) skilling and reskilling of AI workforce
- 3) data and digital infrastructure
- 4) ethics, data privacy, security & regulations
- 5) funding and accelerating AI startups
- 6) industrialization for AI technologies

Each pillar consists of a strategic brief, a roadmap, action plan, related stakeholders and lead ministries. Finally, a summary roadmap in the report includes steps for the development of AI over the next five years.

Public Participation

The National AI Strategy of Bangladesh identified engagement with media and civil societies for creating a “robust ethics, data privacy, security and regulations guideline” for emerging technologies.²⁹² In March 2020 as part of its National Internet of Things (IoT) Strategy, the Bangladesh

²⁹¹ Information and Communication Technology Division Government of the People’s Republic of Bangladesh, *National AI Strategy* (March 2020), https://ictd.portal.gov.bd/sites/default/files/files/ictd.portal.gov.bd/policies/e57f1366_a62c_4d1a_8369_a9d3bc156cd5/National%20Strategy%20for%20Artificial%20Intelligence%20-%20Bangladesh%20.pdf

²⁹² *Bangladesh National AI Strategy* 40-41 (2021), https://ictd.portal.gov.bd/sites/default/files/files/ictd.portal.gov.bd/policies/e57f1366_a62c_4d1a_8369_a9d3bc156cd5/National%20Strategy%20for%20Artificial%20Intelligence%20-%20Bangladesh%20.pdf

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government proposed to establish “An Advisory Committee (AC) including representatives from Government, industry, academia and community” to provide ongoing guidance in the emerging areas of IoT.²⁹³

Data Privacy Law

The Bangladeshi data protection regime comprises several laws, however, there is no general law on data protection yet.²⁹⁴ Although the Constitution of Bangladesh does not explicitly grant the fundamental right to privacy, Article 43 of the constitution with certain restrictions recognises this right under certain restrictions and states that, “every citizen shall have the right, subject to any reasonable restrictions imposed by law in the interests of the security of the State, public order, public morality or public health – (a) to be secured in his home against entry, search and seizure; and b) to the privacy of his correspondence and other means of communication.”²⁹⁵

The Telecommunications Act (2000) is a law “for the purpose of development and efficient regulation of telecommunication system and telecommunication services in Bangladesh.”²⁹⁶ Under Section 67 (b) of the Act no person can “intercept any radio communication or telecommunication nor shall utilize or divulge the intercepted communication, unless the originator of the communication or the person to whom the originator intends to send it has consented to or approved the interception or divulgence.” Under Section 97 (Ka) of the Act the government may ask the telecommunication operator to maintain records relating to the communications of a specific user under the broad definition of National Security and Public Interest.

The Information Communication Technology Act (2006) imposes responsibility on any individual or body corporate handling personal or sensitive data and requires them to maintain and implement reasonable

²⁹³ Bangladesh National AI Strategy 11 (2021),

https://bcc.portal.gov.bd/sites/default/files/files/bcc.portal.gov.bd/page/bdb0a706_e674_4a40_a8a8_7cfccf7e9d9b//2020-10-19-15-04-9807d52e24da56e66f7ec89f7eb540ec.pdf

²⁹⁴ UNCTAD, *Cyberlaw Tracker: The case of Bangladesh* (Apr. 2020),

<https://unctad.org/page/cyberlaw-tracker-country-detail?country=bd>

²⁹⁵ Silvee, Sadiya S. and Hasan, Sabrina and Hasan, Sabrina, *The Right to Privacy in Bangladesh in the Context of Technological Advancement* (Dec. 8, 2018). *International and Comparative Law Journal* 1(2), Available at SSRN:

<https://ssrn.com/abstract=3298069> or <http://dx.doi.org/10.2139/ssrn.3298069>

²⁹⁶ Bangladesh Telecommunication Regulatory Commission, *The Bangladesh Telecommunications Act 2001*,

http://www.btrc.gov.bd/sites/default/files/telecommunication_act_english_2001.pdf

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security practices for this.²⁹⁷ But Section 46 of the Act states that the state can intercept, monitor or decrypt data if it is in the interest of:

- 1) “the sovereignty, integrity, or security of the state;
- 2) friendly relations with foreign states;
- 3) public order;
- 4) for preventing incitement to the commission of any cognisable offence relating to the above;
- 5) for investigation of any offence”.

The Digital Security Act (2018) came into force in full on 8 October 2018 and pertains to “offences committed through digital device.”²⁹⁸ Section 26 of the Act “Punishment for unauthorized collection, use etc. of identity information.” Under the Digital Security Act (2018) two entities have been formed: The National Data Security Council (NDSC) and the Digital Security Agency (DSA) “to carry out the purposes of the Act”. The NDSC under Section 13 of the Act “shall provide necessary direction and advice to the Agency” and the DSA shall have the power to “remove or block some data-information.”

The government is working on the draft data protection law.²⁹⁹

Biometric Recognition

Since 2008, the Election Commission of Bangladesh has issued a National Identity Card (NID) which is compulsory for every Bangladeshi citizen above the age of 18 for voting and for availing 22 types of services, including banking, taxpayer identity number (TIN), driving license and passport. In 2016, the government started issuing a machine readable ‘smart NID card’ with a chip that can store encrypted data such as biometric and identification data for enhancing security and reducing forgery.³⁰⁰

Algorithmic Transparency

Under Strategy 04 of the AI national roadmap: *Ethics, Data Privacy, Security & Regulations*, the Bangladeshi government will create a new set

²⁹⁷ Bangladesh Computer Council, ICT Act 2006,

<https://bcc.portal.gov.bd/site/page/8a843dba-4055-49af-83f5-58b5669c770d/>

²⁹⁸ Bangladesh e-Government Computer Incident Response Team, Digital Security Act 2020 <https://www.cirt.gov.bd/wp-content/uploads/2020/02/Digital-Security-Act-2020.pdf>

²⁹⁹ Islam, Zyma, “Bangladesh’s New Personal Data Protection: Door Ajar for Misuse” (15 Sep 2021) <https://www.theweek.in/news/sci-tech/2021/09/15/personal-data-protection-law-door-ajar-for-misuse.html>

³⁰⁰ Mizan Rahman, *Bangladesh launches smart national ID cards*, Gulf Times (Oct. 16, 2016), <https://web.archive.org/web/20180517001739/http://www.gulf-times.com/story/515953/Bangladesh-launches-smart-national-ID-cards>

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of AI ethics guidelines to address issues such as fairness, safety, cybersecurity, and transparency. By 2023-2024, its ICT Division and Ministry of Law, Justice and Parliamentary Affairs intend to formulate RTE (Right To Explanation) Guideline For AI Algorithm.³⁰¹

While there is no public declaration of adapting the Human Rights framework for AI policy in Bangladesh as of 2021, its government acknowledged the lack of transparency of machine learning. The national AI strategy explicitly stated³⁰² that:

- 1) The EU General Data Protection Regulation (GDPR) can be a good solution to the challenge on rules about who will be responsible for an unwanted inversion.
- 2) There should be a rule of ‘right to get an explanation’ in each and every process.
- 3) The impacts AI will bring to human physiology, dignity and autonomy is a core challenge.
- 4) A strong legal and ethical framework on how AI would be implemented in applications is a must.
- 5) AI ethics should be righteous, fundamentally sound, assessable, reversible and inclusive.

Human Rights

According to the Freedom House report, Bangladesh has received a score of 39/100 for political and civil rights and is considered “partly free.”³⁰³ The report states that, “The ruling Awami League (AL) has consolidated political power through sustained harassment of the opposition and those perceived to be allied with it, as well as of critical media and voices in civil society. Corruption is a serious problem, and anticorruption efforts have been weakened by politicized enforcement. Due process guarantees are poorly upheld and security forces carry out a range of human right abuses with near impunity.”³⁰⁴

Lethal Autonomous Weapons

Bangladesh expressed its support for multilateral talks on lethal autonomous weapons systems at the UN General Assembly in October

³⁰¹ *Bangladesh National AI Strategy* 40-41 (2021),

https://ictd.portal.gov.bd/sites/default/files/files/ictd.portal.gov.bd/policies/e57f1366_a62c_4d1a_8369_a9d3bc156cd5/National%20Strategy%20for%20Artificial%20Intelligence%20-%20Bangladesh%20.pdf

³⁰² *Id.* At 47-48.

³⁰³ Freedom House, *Freedom in the World 2021 – Bangladesh*,

<https://freedomhouse.org/country/bangladesh/freedom-world/2021>

³⁰⁴ *Id.*

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2016.³⁰⁵ The country participated for the first time in CCW³⁰⁶ meetings on lethal autonomous weapons systems in 2019, but did not make any statements. As of 2020, it has never expressed its views on calls to ban them through a new international treaty.³⁰⁷

Evaluation

Bangladesh has set out an ambitious national strategy for AI that recognizes the importance of AI ethics. Although Bangladesh does not have a comprehensive data protection law, there is support in the national AI strategy for a GDPR-style law and also for an explicit right of explanation. Biometric identification is in widespread use though at present there is little deployment of facial recognition for mass surveillance.

³⁰⁵ Human Rights Watch, *Stopping Killer Robots: Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control* (Apr. 2021), https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and#_ftn34

³⁰⁶ *Certain Conventional Weapons*

³⁰⁷ Id.

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Belgium

National AI Strategy

In October 2020, the Belgium government, along with thirteen other countries, published a position paper on innovative and trustworthy AI.³⁰⁸ This paper sets out two visions for the EU's development of AI: (1) Promoting innovation, while managing risks through a clear framework and (2) Establishing trustworthy AI as a competitive advantage.

The countries call for a borderless single market for AI in the EU. They state that “The main aim must be to create a common framework where trustworthy and human-centric AI goes hand in hand with innovation, economic growth and competitiveness in order to protect our society, maintain our high-quality public service and benefit our citizens and businesses. This can help the EU to protect and empower their citizens, underpin innovation and progress in society and ensure that their values are protected.”

The 2020 Position Paper follows the 2019 AI4Belgium policy recommendation. The AI4Belgium strategy was commissioned by the Minister of Digital Affairs and written by the AI4Belgium coalition in cooperation with 40 technology experts. The AI4Belgium strategy aims to position Belgium as a leader in the European AI landscape.³⁰⁹ The strategy lays out five areas of implementation:

- Set up a new learning deal
- Develop a responsible data strategy
- Support private sector AI adoption
- Innovate and radiate”
- Improve public service and boost the ecosystem

The Responsible Data Strategy specifically targets the ethical use of AI and proposes to:

- Share guidelines and best practices on how to address ethical topics in business and public institutions
- Demand from the private and public sectors to communicate and be transparent about their AI ethics policies

³⁰⁸ Position Paper on Behalf of Denmark, Belgium, the Czech Republic, Finland, France Estonia, Ireland, Latvia, Luxembourg, the Netherlands, Poland, Portugal, Spain and Sweden, *Innovative and Trustworthy AI: Two Sides to the Same Coin* (Oct. 8, 2020), <https://www.permanentrepresentations.nl/binaries/nlatio/documents/publications/2020/10/8/non-paper---innovative-and-trustworthy-ai/Non-paper+-+Innovative+and+trustworthy+AI+-+Two+side+of+the+same+coin.pdf>

³⁰⁹ AI4Belgium, *AI4Belgium Strategy*, https://www.ai4belgium.be/wp-content/uploads/2019/04/report_en.pdf

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- Create a Belgian ethical committee to provide industry, authorities and society with guidance on ethical and regulatory topics

In the introduction on the AI4Belgium website, the president of Belgium, Alexander De Croo and Philippe De Backer, the Minister of Administrative Simplification, Digital Agenda, Postal Services and Telecom write: “This is an initial step towards an ambitious and official Belgian AI strategy. We will start implementing some of the coalition’s recommendations. It will also be up to our next government to uphold this ambition and put recommendations into practice, together.”³¹⁰ The AI4Belgium coalition also encouraged the federal government to commission a National AI strategy.³¹¹

In 2019 the “Information Report on the necessary cooperation between the Federal State and the federated entities regarding the impact, opportunities, possibilities and risks of the digital “smart society” was released by a working group created by the Belgian Senate that has been meeting since 2018.³¹² Their findings are grouped in six chapters:

- 1) Governance, ethics and human rights, and legislation
- 2) Economy, labour market and taxation
- 3) Education and training
- 4) Attention economy: impact on people
- 5) Privacy and Cybersecurity
- 6) Research and development

Further, recommendations are made for each of these areas. The report states: “The development and use of artificial intelligence shall be based on the following guiding principles: prudence, vigilance (3), loyalty (4), reliability, justification and transparency, accountability, limited autonomy, humanity (5), human integrity (6), and balancing of individual and collective interests.” and “Fundamental rights, in particular human dignity and freedom, and privacy, must be the basis and starting point for all actions and legislation in the field of artificial intelligence.”³¹³

³¹⁰ AI4Belgium, *About: Introduction*, <https://www.ai4belgium.be/introduction/>

³¹¹ European Commission, *Belgium AI Strategy Report*, August 2020, https://ec.europa.eu/knowledge4policy/ai-watch/belgium-ai-strategy-report_en

³¹² US Library of Congress, *Regulation of Artificial Intelligence: Europe and Central Asia: Belgium* (July 2020) [DT], <https://www.loc.gov/law/help/artificial-intelligence/europe-asia.php#belgium>

³¹³ Sénat de Belgique, *Rapport d’information relatif à la nécessaire collaboration entre l’État fédéral et les entités fédérées en ce qui concerne les retombées, les opportunités, les potentialités et les risques de la « société intelligente » numérique* (Mar. 2019) <https://www.senate.be/www/webdriver?MItabObj=pdf&MIcolObj=pdf&MInamObj=pdfi&MItypeObj=application/pdf&MIvalObj=100664119>

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The Chamber of Representatives also formed the Working Group on a Robo-Digital Agenda in Parliament which was tasked with designing an agenda for the establishment of an “inclusive and sustainable robo-digital agenda.”³¹⁴³¹⁵ This Working Group held its first meeting in 2018.³¹⁶

Regional/Community Strategies

Belgium is a federal government. This means that there are many different levels of government. Belgium has three regions as well as three communities, all of which have their own governments and many of which have also developed strategies and initiatives on digitalization or AI. The German, French and Flemish-speaking communities are language based. They are responsible for language, culture, education, audiovisual things and aid to people in need. The regions, Flemish, Brussels Capital and Wallon-region, are territory based. They are responsible for economy, employment, housing, public works, energy transportation, environmental and spatial planning and have some things to say concerning international affairs. The federal government is responsible for foreign affairs, defense, justice, finance, social security, healthcare and internal affairs.³¹⁷

The Flemish region released the Vlaanderen Radicaal Digitaal in 2019 which is an action plan to foster AI which also includes supporting awareness and training skills needed for new technology. This also entailed 5 million euros for initiatives specifically related to AI ethics and education.³¹⁸ The Walloon government published a the “Digital Wallonia 2019-2024” strategy “based on values including a cross-disciplinary approach, transparency, coherence, openness and flexibility.”³¹⁹ The

³¹⁴ US Library of Congress, *Regulation of Artificial Intelligence: Europe and Central Asia: Belgium* (July 2020), <https://www.loc.gov/law/help/artificial-intelligence/europe-asia.php#belgium>

³¹⁵ Chambres des Représentants de Belgique, *Proposition de Résolution relative à la création d'un agenda robonumérique inclusif et durable* (July 2020), <https://www.lachambre.be/doc/flwb/pdf/54/2643/54k2643001.pdf#search%3D%22intelligence%20artificielle%20%2054%20%3Cin%3E%20keywords%22>

³¹⁶ Gilles van den Burre, *Première réunion du groupe de travail sur l'agenda robonumérique au Parlementn* (Jan. 2018) <https://gillevandenburre.be/2018/01/18/premiere-reunion-groupe-de-travail-lagenda-robonumerique-parlement/>

³¹⁷ Wikipedia, *Communities, regions and language areas of Belgium*, https://en.wikipedia.org/wiki/Communities,_regions_and_language_areas_of_Belgium

³¹⁸ Flanders: Department for Economy, Science and Innovation, *Vlaams actieplan Artificiële Intelligentie gelanceerd* (Mar. 22, 2019), <https://www.ewi-vlaanderen.be/nieuws/vlaams-actieplan-artificiele-intelligentie-gelanceerd>

³¹⁹ Digitalwallonia.be, *Digital Wallonia 2019-2024* (June 2018), <https://www.digitalwallonia.be/en/posts/digital-wallonia-2019-2024>

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government also launched DigitalWallonia4.ai which, amongst other things, calls for “awareness-raising and training initiatives” and “it includes practical actions to support companies that want to incorporate artificial intelligence into their business through to developing prototypes.”³²⁰ The Brussels region also funds several awareness and educational programs through its regional innovation funding body, Innoviris.³²¹³²² Finally, the Federation Wallonie Bruxelles, which is the French community of Belgium, has appointed a digital ethics coordinator and is also planning to set up an ethics board.³²³

Public Opinion

A 2019 opinion survey by AI4Belgium examined the public perception of AI, the perceived impact, and the role the government should play in AI implementation.³²⁴ According to the survey, 76% of the respondents hold a positive attitude towards technological developments, while only 6% hold a negative attitude. Most respondents were worried about the loss of privacy, security and integrity of their personal information (85%), less use of human common sense (85%), less human interaction (83%) and the loss of trust and control over robots and artificial intelligence (77%).

When asked which activity to prioritize, the highest priority was "The management of ethical risks around AI. For example, discrimination, privacy, etc." (74%). This was followed by "supporting employees and employers in the transition to AI in the workplace" (65%), "improving public service through AI" (58%), "supporting research and development (R & D) and innovation in the field of AI" (52%), "facilitating and supporting enterprise access to AI technologies" (48%), and "supporting start-ups engaged in AI" (45%). The majority of citizens suspect that AI will increase inequality between highly educated and low- or unskilled people (66%) and between persons with a privileged background and persons without a privileged background (60%).

³²⁰ Digitalwallonia.be, *DigitalWallonia4.ai*, <https://www.digitalwallonia.be/en/projects/digitalwallonia4-ai#contacts>

³²¹ Innoviris.brussels, *Get funded*, <https://innoviris.brussels/get-funded>

³²² European Commission, *Belgium AI Strategy Report* (Aug. 2020), https://ec.europa.eu/knowledge4policy/ai-watch/belgium-ai-strategy-report_en

³²³ OECD.ai, *Approach of the Federation Wallonie Bruxelles* (Oct. 2019), <https://www.oecd.ai/dashboards/policy-initiatives/2019-data-policyInitiatives-24911/>

³²⁴ AI4Belgium, *Perceptie Artificiële Intelligentie* (Feb. 2019), https://www.ai4belgium.be/wp-content/uploads/2019/04/enquete_en.pdf

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Independent AI oversight

The Belgium Privacy Commission was reformed in 2018 due to the implementation of GDPR. It is now called the Belgian Data Protection Authority and has direct sanctioning powers as well as extended enforcement competencies. It also completely restructured the entire entity into six bodies.³²⁵³²⁶

As a further result of GDPR, the Supervisory Body for Police Information, “the oversight body which looks at how the police use information (Controleorgaan op politionele informatie, COC) was reformed to function as an independent data protection body.” This body is intended to oversee how the police use data.³²⁷³²⁸

Furthermore, in 2019 the Parliament established the National Human Rights Institution (NHRI). This step was welcomed by the UN and many human rights organizations, as there were gaps in human rights oversight on a national level. The Institution’s main goal is to facilitate cooperation between the existing human right oversight mechanisms and fill the gaps in the existing landscape.³²⁹³³⁰³³¹

Belgium was not a signatory to either the 2018 GPA Declaration on Ethics and Data Protection in Artificial Intelligence or the 2020 Resolution on Accountability in the Development and Use of Artificial Intelligence.

Public Participation

AI4Belgium.be not only provides information on the national AI strategy but also offers information on AI implementation. The section “News” lists news articles on the latest happenings related to AI policy and

³²⁵ PWC Legal, *The new Belgian Data Protection Authority: who’s who and how will it work* (Jan. 23, 2019), <https://www.pwclegal.be/en/news/the-new-belgian-data-protection-authority---whos-who-and-how-wil.html>

³²⁶ Hunton Andrews Kurth, *Belgium Adopts Law Reforming the Belgian Privacy Commission* (Jan. 18, 2018), <https://www.huntonprivacyblog.com/2018/01/18/belgium-adopts-law-reforming-belgian-privacy-commission/>

³²⁷ Algorithm Watch, *Automating Society Report 2020: Belgium*, 2020, <https://automatingsociety.algorithmwatch.org/report2020/belgium/>

³²⁸ Supervisory Body for Police Information, <https://www.contreleorgaan.be/en/>

³²⁹ LibertiesEU, *Belgium Approves Law Creating Long Overdue Human Rights Institution* (June 15, 2020), <https://www.liberties.eu/en/news/civicus-monitor-belgium-update-june-2019/18043>

³³⁰ European Networks of National Human Rights Institutions, *ENNHRI welcomes new law adopted on National Human Rights Institution in Belgium* (May 9, 2019), <http://ennhri.org/news-and-blog/ennhri-welcomes-new-law-adopted-on-national-human-rights-institution-in-belgium/>

³³¹ Amnesty International, *Belgium 2019*, <https://www.amnesty.org/en/countries/europe-and-central-asia/belgium/report-belgium/>

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industry.³³² Further, there is a form to contact the coalition as well as an opportunity to join the coalition.³³³³³⁴ Anyone can join, including organizations, technology experts, policy makers as well as civil society are encouraged to join. According to Alexander De Croo and Philippe De Backer: “This is a coalition open to anyone who wants to build a better Belgium.”³³⁵

Further, several regional websites, such as [digitalwallonia.be](https://www.digitalwallonia.be), provide information on the region’s specific initiatives and projects.³³⁶

Facial Recognition

According to AlgorithmWatch, the Belgian government is using AI for facial recognition at the Brussels Airport, at school registrations, football matches, and for healthcare.³³⁷ A “smart” video surveillance system is also in use to locate criminals, solve theft cases and collect statistical information. According to AlgorithmWatch, there is no legal framework governing this activity by police. The Belgian Oversight Body for Police Information (COC) has criticized the use of facial recognition at the Brussels airport, stating that there is “too little information about the implementation and risks of the technology as there was no clear policy or data protection impact assessment conducted to come to a conclusion or offer advice.” They are asking for a temporary ban of the pilot project.³³⁸

Algorithmic Transparency

Belgium is subject to the General Data Protection Regulation which established rights to “meaningful information about the logic involved” as well as about “the significance and the envisaged consequences.”³³⁹ The scope of protection in Belgium is wide, meaning that “any “significant effect” can trigger the protection of Article 22.” Further, only one of several safeguards is mentioned, namely: the right to obtain human intervention.

³³² AI4Belgium, *News*, <https://www.ai4belgium.be/news/>

³³³ AI4Belgium, *Join*, <https://www.ai4belgium.be/join-ai4belgium/>

³³⁴ AI4Belgium, *Contact*, <https://www.ai4belgium.be/contact/>

³³⁵ AI4Belgium, *About: Introduction*, <https://www.ai4belgium.be/introduction/>

³³⁶ Digitalwallonia.be, <https://www.digitalwallonia.be/fr/projets>

³³⁷ AlgorithmWatch, *Automating Society 2020*, (Oct. 2020), <https://automatingsociety.algorithmwatch.org/report2020/belgium/>

³³⁸ COC, *Visitatie-Toezichtrapport Executive Summary Publieke Versie*, 2020, https://www.controleorgaan.be/files/DIO19005_Onderzoek_LPABRUNAT_Gezichtsherkenning_Publiek_N.PDF

³³⁹ GDPR Art. 22, Art. 13.2.f.

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The right to contest, express his/her view, or receive information/explanation is not mentioned.³⁴⁰

Lethal Autonomous Weapons Systems

In 2018, the Belgian Parliament passed the “Resolution to prohibit use, by the Belgian Defense, of killer robots and armed drone.”³⁴¹ In this resolution the Parliament states that Belgium should:

- 1) Participate in international working groups within the framework of the United Nations and the Convention on Certain Conventional Weapons (CCW) in particular to work towards an internationally recognized definition of killer robots and to determine which types of weapons will fall into this category in the future;
- 2) Advocate in international fora, together with like-minded countries, for a global ban on the use of killer robots and fully automated armed drones;
- 3) Ensure that the Belgian Defense never deploys killer robots in military operations; and
- 4) Support the development and use of robotic technology for civilian purposes.

However, on an international level, the Belgian government has opposed a ban on killer robots and the creation of new international law on killer robots.³⁴²

OECD/G20 AI Principles

Belgium has endorsed the OECD/G20 AI Principles. In the 2021 survey, the OECD noted several example of implementation of the AI Principles by Belgium, including the establishment of an AI Observatory, providing financial and non-financial support to retrain and attract top AI

³⁴⁰ Malgieri, Gianclaudio, *Automated decision-making in the EU Member States: The right to explanation and other “suitable safeguards” in the national legislations*, *Computer Law & Security Review*, 35(5), October 2019, <https://www.sciencedirect.com/science/article/pii/S0267364918303753#sec0005>

³⁴¹ *Chambre des représentants de Belgique [Belgian Chamber of Representatives], Proposition de résolution relative à la création d’un agenda robonumérique inclusif et durable [Proposal for a Resolution Regarding the Creation of an Inclusive and Sustainable Robo-Digital Agenda] (July 27, 2017) [DT]*, <http://www.lachambre.be/doc/flwb/pdf/54/2643/54k2643001.pdf>,

³⁴² US Library of Congress, *Regulation of Artificial Intelligence in Selected Jurisdictions* (Jan. 2019), <https://www.loc.gov/law/help/artificial-intelligence/regulation-artificial-intelligence.pdf> (Campaign to Stop Killer Robots, Report on Activities, April 2018, <https://perma.cc/2M7K-SLGD>)

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talent, development of an AI self-assessment tool, and the resolution to prohibit the use of lethal autonomous weapons by local armed forces.³⁴³

Human Rights

Belgium is a signatory to many international human rights treaties and conventions. Belgium typically ranks among the top nations in the world for the protection of human rights and transparency. For 2021, Freedom House gave Belgium a rating of 96/100, and reported “Belgium is a stable electoral democracy with a long record of peaceful transfers of power. Political rights and civil liberties are legally guaranteed and largely respected.”³⁴⁴

Evaluation

Belgium does not yet have a full-fledged official national AI strategy and AI ethics is not a central topic in any other national strategy. However, the regions and communities work in this area and the AI4Belgium recommendation is a promising start. There is, at the moment, no express support for the Universal Guidelines for AI.

³⁴³ OECD, *State of Implementation of the OECD AI Principles: Insights from National AI Policies* 10, 14, 29, 30 (June 2021), <https://www.oecd.org/digital/state-of-implementation-of-the-oecd-ai-principles-1cd40c44-en.htm>

³⁴⁴ Freedom House, *Freedom in the World 2021 – Belgium*, <https://freedomhouse.org/country/belgium/freedom-world/2021>

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Brazil

National AI Strategy

Brazil is “open for the development of state-of-the-art technology and innovation efforts, such as 4.0 Industry, artificial intelligence, nanotechnology and 5G technology, with all partners who respect our sovereignty and cherish freedom and data protection” said President Jair Bolsonaro before the United Nations General Assembly in September 2020.³⁴⁵

In April 2021, following on the Digital Transformation Strategy (E-Digital),³⁴⁶ the Brazilian government adopted a national AI strategy, “*Estratégia Brasileira de Inteligência Artificial*” (EBIA).³⁴⁷ The EBIA was devised following a public participation process which gathered over 1,000 contributions for consultation between December 2019 and March 2020.³⁴⁸

The EBIA sets out six key objectives: develop ethical principles that guide responsible use of AI; remove barriers to innovation; improve collaboration between government, the private sector and researchers; develop AI skills; promote investment in technologies; and advance Brazilian technological innovation and involvement at the international level.³⁴⁹

³⁴⁵ President Jair Bolsonaro, *Remarks at the General Debate of the 75th Session of the United Nations General Assembly* (Sept. 22, 2020), <http://www.itamaraty.gov.br/en/speeches-articles-and-interviews/president-of-the-federative-republic-of-brazil-speeches/21770-remarks-by-president-jair-bolsonaro-at-the-general-debate-of-the-75th-session-of-the-united-nations-general-assembly-september-22-2020>

³⁴⁶ The 2018 *Estratégia Brasileira para a Transformação Digital (E-Digital)* includes a specific action “to evaluate potential economic and social impact of (...) artificial intelligence and big data, and to propose policies that mitigate negative effects and maximize positive results”. <https://oecd.ai/dashboards/policyinitiatives?conceptUris=http:%2F%2Fkim.oecd.org%2FTaxonomy%2FGeographicalAreas%23Brazil>

³⁴⁷ Government of Brazil, *Estratégia Brasileira para a Transformação Digital, 2021*, https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ia_estrategia_portaria_mcti_4-979_2021_anexo1.pdf

³⁴⁸ Government of Brazil, *Estratégia Brasileira para a Transformação Digital - CONTRIBUIÇÕES ADICIONAIS RECEBIDAS NA CONSULTA PÚBLICA, 2020*, <http://participa.br/estrategia-brasileira-de-inteligencia-artificial/estrategia-brasileira-de-inteligencia-artificial-aplicacao-nos-setores-produtivos>

³⁴⁹ Government of Brazil, *Estratégia Brasileira para a Transformação Digital* (pgs. 3-4), 2021, https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ia_estrategia_portaria_mcti_4-979_2021_anexo1.pdf

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Brazil suggests concrete policies can enable the development of an AI ecosystem, including opening government data, establishing regulatory sandboxes, fostering startups in this field, as well as directing R&D investment funds to this area. Additionally, Brazil has said it is essential that nations cooperate in relevant international organizations to achieve a common understanding and develop principles of ethics and responsibility in the use of AI.³⁵⁰

The development of the Artificial Intelligence strategy in Brazil was delayed due to the Ministerial change in Brazil - the Ministry of Science, Technology, Information and Communications (MCTIC) was split into two: a Ministry of Science, Technology and Information (MCTI) and a Ministry of Communication (MCom). Artificial Intelligence is now the responsibility of a broad Directorate on Science, and Digital Innovation (under the Secretary of Entrepreneurship and Innovation of MCTI).³⁵¹

In February 2022 the Brazilian Senate is scheduled to vote on a Legal Framework for Artificial Intelligence (*Marco Legal da Inteligência Artificial*, PL 21/2020). The bill creates a legal framework for the development and use of Artificial Intelligence (AI) by the government, companies, various entities and individuals.³⁵² AI agents, those who develop, deploy or use an AI system, will have a series of duties, such as answering legally for decisions made by an artificial intelligence system and ensuring that the data used respects the General Data Protection Law (LGPD). The standard regulates the processing of personal data of customers and users of companies in the public and private sector.

However, academics and NGOs have criticized Bill 21/2020, warning that the bill “may help perpetuate recent cases of algorithmic discrimination through provisions that hinder the accountability for AI-induced errors and restrict the scope of rights established in Brazil’s General Data Protection Legislation and in the Brazilian Constitution.”³⁵³ A group of jurists wrote that proposal privileges the regime of subjective

³⁵⁰ OECD G20 Digital Economy Task Force, Examples of AI National Policies 10 (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

³⁵¹ Ministério da Ciência, Tecnologia e Inovações, Organization Chart, <https://www.gov.br/mcti/pt-br/imagens/organograma/sempi.pdf>

³⁵² Câmara dos Deputados, *Projeto cria marco legal para uso de inteligência artificial no Brasil: Texto determina que a inteligência artificial deverá respeitar os direitos humanos e os valores democráticos* (Mar. 4, 2020), <https://www.camara.leg.br/noticias/641927-projeto-cria-marco-legal-para-uso-de-inteligencia-artificial-no-brasil/>

³⁵³ José Renato Laranjeira de Pereira and Thiago Guimarães Moraes, *Promoting irresponsible AI: lessons from a Brazilian bill*, Heinrich Böll Stiftung (Feb. 14, 2022), <https://eu.boell.org/en/2022/02/14/promoting-irresponsible-ai-lessons-brazilian-bill>.

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responsibility [requiring proof of fault] not only imposing the costs of developing Artificial Intelligence applications to the citizen – “in a patent inversion of the constitutional values” - but also does not establish the necessary incentives for the appropriate measures of precautions for Ai.³⁵⁴ The advocates also warned that the non-discrimination principle “merely *mitigates* the possibility of applying systems for illicit or abusive discriminatory purposes.” A related point is that the “pursuit of neutrality principle” creates no binding obligation. According to the NGOs, “These provisions reduce the application scope of the non-discrimination principle in the Brazilian Data Protection Legislation (LGPD), which prohibits personal data processing for illicit or abusive discriminatory purposes.” They warn that the Brazilian AI Bill, as it is currently drafted, “gravely undermines the exercise of fundamental rights such as data protection, freedom of expression and equality.”

Public Participation

The Ministry of Science, Technology, Innovations and Communications (MCTIC) organized an online public consultation between December 2019 and February 2020 to gather inputs for “a National Artificial Intelligence Strategy that allows to enhance the benefits of AI for the country, mitigating any negative impacts.”³⁵⁵ According to the terms of the public consultation, “the objective of the strategy is to solve concrete problems in the country, identifying priority areas in the development and use of AI-related technologies in which there is greater potential for obtaining benefits. It is envisaged that AI can bring gains in promoting competitiveness and increasing Brazilian productivity, in providing public services, in improving people's quality of life and in reducing social inequalities, among others.”

The consultation presented discussion keys in thematic areas related to AI, focusing on the government's role regarding the impact of such technologies in society. Relevant documents to artificial intelligence were made available on the consultation website. The consultation collected

³⁵⁴ *Open letter from jurists to the Federal Senate against article 6, item VI of PL 21-A/2020*, change.org, <https://www.change.org/p/senado-federal-carta-aberta-de-juristas-ao-senado-federal-contra-o-artigo-6o-inciso-vi-do-pl-21-a-2020>

³⁵⁵ Participate Brazil, Ministério da Ciência, Tecnologia, Inovações e Comunicações, *Brazilian Artificial Intelligence Strategy - Qualifications for a Digital Future*, <http://participa.br/estrategia-brasileira-de-inteligencia-artificial/blog/apresentacao-e-instrucoes>

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about 1,000 contributions in total, which were taken into account for the development of the strategy proposal.³⁵⁶

However, academics and NGOs have stated that the debate on the Legal Framework for Artificial Intelligence lacked public participation. “The debate on the bill ignored the claims of experts and civil society organisations to address the high risks of the technology regarding fundamental rights. In contrast, Members of Congress delivered fervorous speeches on the positive impacts of AI in society, especially as a tool for efficiency and innovation,” wrote José Renato Laranjeira de Pereira and Thiago Guimarães Moraes.³⁵⁷

Research & Development

Brazil plans to establish eight AI research centres in 2020 in four focus areas: health, agriculture, industry, and smart cities. Aimed to conduct research, to foster an AI ecosystem and stimulate start-ups, and to build human capacity in related technologies, these centers will bring together governmental, academic, and private sector entities to benefit the private and public sectors and the workforce.³⁵⁸

Brazil's largest public/private AI research facility, the Artificial Intelligence Center (C4AI), was launched in October 2020 to tackle five major challenges related to health, the environment, the food production chain, the future of work and the development of Natural Language Processing technologies in Portuguese, as well as projects relating to human wellbeing improvement as well as initiatives focused on diversity and inclusion.³⁵⁹

In May 2021, the State of São Paulo Research Foundation (FAPESP), the MCTI, and the Brazilian Internet Steering Committee (CGI.br) announced the results of a call for proposals to establish Applied Research Centers (ARCs) on artificial intelligence focusing on health, agriculture, manufacturing and smart cities. During the launch, FAPESP,

³⁵⁶ OECD AI Policy Observatory, *Policy Initiatives for Brazil*, <https://oecd.ai/dashboards/policy-initiatives?conceptUris=http%3A%2F%2Fkim.oecd.org%2FTaxonomy%2FGeographicalAreas%23Brazil>

³⁵⁷ José Renato Laranjeira de Pereira and Thiago Guimarães Moraes, *Promoting irresponsible AI: lessons from a Brazilian bill*, Heinrich Böll Stiftung (Feb. 14, 2022), <https://eu.boell.org/en/2022/02/14/promoting-irresponsible-ai-lessons-brazilian-bill>.

³⁵⁸ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* 10 (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

³⁵⁹ Angelica Mari, *Brazil launches artificial intelligence center*, Brazil Tech (Oct. 14, 2020)

<https://www.zdnet.com/article/brazil-launches-artificial-intelligence-center/>

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MCTI and CGI.br announced that they will collectively invest BRL 1 million per year in each of the new ARCs for a period of up to ten years. This investment will be matched by partner firms, totaling BRL 20 million per ARC.³⁶⁰

Privacy

In September 2020, Brazil's President signed the new Brazilian data protection law, *Lei Geral de Proteção de Dados Pessoais* (LGPD).³⁶¹ The LGPD is the first comprehensive data protection law in Brazil and mirrors the European Union's GDPR.³⁶² Before the LGPD, data privacy regulations in Brazil consisted of various provisions spread across Brazilian legislation.³⁶³

Seven principles underpin the protection of personal data in the LGPD: (1) respect for privacy; (2) informative self-determination; (3) freedom of expression, information, communication and opinion; (4) the inviolability of intimacy, honor and image; (5) economic and technological development and innovation; (6) free enterprise, free competition and consumer protection; and (7) human rights, the free development of personality, dignity and the exercise of citizenship by natural persons.

The LGPD is relevant to the processing of personal data in relation to AI applications.³⁶⁴ In October 2021, the Brazilian Senate Plenary approved a constitutional amendment which makes personal data protection (including digital data) a fundamental human right. This amendment strengthens the foundations of the LGPD and the data protection authority which it established by grounding it in the constitution.³⁶⁵

³⁶⁰ Ministério da Ciência, Tecnologia e Inovações, Lançamento dos Centros de Inteligência Artificial do MCTI com a FAPESP, May 4 2021, <https://www.youtube.com/watch?v=nrqargMxmX8>

³⁶¹ Presidency of the Republic Sub-General Secretariat for Legal Affairs, General Law on Protection of Personal Data (LGPD) (Aug. 14, 2020) (GT) http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2018/Lei/L13709.htm; Katitza Rodriguez, Veridiana Alimonti, *A Look-Back and Ahead on Data Protection in Latin America and Spain* (Sept. 21, 2020), <https://www.eff.org/deeplinks/2020/09/look-back-and-ahead-data-protection-latin-america-and-spain>

³⁶² Hogan Lovells Engage, *Brazil creates a Data Protection Authority* (Jan. 11, 2019), <https://www.engage.hoganlovells.com/knowledgeservices/news/brazil-creates-a-data-protection-authority>

³⁶³ DLA Piper, *Data Protection Laws of the World: Brazil*, <https://www.dlapiperdataprotection.com/index.html?t=law&c=BR>

³⁶⁴ Lexology, *An interview with Demarest Advogados discussing artificial intelligence in Brazil* (Nov. 27, 2020), <https://www.lexology.com/library/detail.aspx?g=70705701-b4c6-4aa7-8a8a-344dd757f578>

³⁶⁵ Proposta de Emenda à Constituição n° 17, de 2019 (fase 2), 2021, <https://www25.senado.leg.br/web/atividade/materias/-/materia/149723>

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Data Protection Authority

The LGPD establishes a national data protection authority in Brazil *Autoridade Nacional de Proteção de Dados (ANPD)* as an agency of the federal government linked to the office of the President of Brazil.³⁶⁶ From a subject matter perspective, the ANPD is guaranteed technical and decision-making autonomy,³⁶⁷ and is given important attributions related to the LGPD interpretation, application and enforcement.³⁶⁸

Among other powers, the National Data Protection Authority (1) regulates the General Data Protection Law; (2) supervises compliance with personal data protection legislation, with a view to protecting the fundamental rights of freedom, privacy and the free development of the natural person's personality; (3) develops the guidelines of the National Data Protection Plan in order to protect the fundamental rights of freedom, privacy and the free development of the personality of the natural person; and (4) applies administrative sanctions, after the respective provisions come into force in August 2021 and the matter is regulated, considering the public consultation contributions.³⁶⁹

In September 2020, the Federal Government published the regulatory structure of the ANPD with the objective of giving effect to the LGPD and enabling sanctions for non-compliance.³⁷⁰

There is concern that the ANPD lacks independent authority. Of the five members of the ANPD Board of Directors appointed by the President, three were military, including the ANPD's president.³⁷¹ The OECD stated in

³⁶⁶ LGPD, Art. 55-A.

³⁶⁷ LGPD, Art. 55-B.

³⁶⁸ LGPD, Art. 55-J. Centre for Information Policy Leadership (CIPL) and Centro de Direito, Internet e Sociedade of Instituto Brasiliense de Direito Público (CEDIS-IDP), *The Role of the Brazilian Data Protection Authority (ANPD) under Brazil's New Data Protection Law (LGPD)* (Apr. 17, 2020), https://www.huntonprivacyblog.com/wp-content/uploads/sites/28/2020/08/en_cipl-idp_paper_on_the_role_of_the_anpd_under_the_lgpd_04.16.pdf

³⁶⁹ LGPD, Art. 55-J [GT], <https://www.gov.br/secretariageral/pt-br/noticias/2020/agosto/governo-federal-publica-a-estrutura-regimental-da-autoridade-nacional-de-protecao-de-dados>.

³⁷⁰ Government of Brazil, *Federal Government publishes the regulatory structure of the National Data Protection Authority: Measure complies with the General Personal Data Protection Law and provides conditions for the operationalization of personal data protection in Brazil* (Sept. 2, 2020) [GT], <https://www.gov.br/secretariageral/pt-br/noticias/2020/agosto/governo-federal-publica-a-estrutura-regimental-da-autoridade-nacional-de-protecao-de-dados>.

³⁷¹ Paula Pagani, Rafael Szmíd, *Brazil's Senate approves Presidential appointees for Brazilian Data Protection Authority* (Oct. 23, 2020), <https://www.jdsupra.com/legalnews/brazil-s-senate-approves-presidential-63220/>

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October 2020, “administrative and legal frameworks that leave open even a small possibility of a privacy enforcement authority being instructed by another administrative body on how to exercise its functions do not satisfy the independence criterion.”³⁷² The OECD recommended that Brazil amend the law establishing the National Data Protection Authority; ensure that the rules for appointing the ANPD’s Board of Directors and the National Council for the Protection of Personal Data are transparent, fair and based on technical expertise; and guarantee an adequate and predictable budget to the ANPD through a transparent process”

Medical Data

According to another OECD report for the G20, Brazil is in the process of establishing regulation in the area of privacy and personal data protection in health systems, consistent with existing legislation, including the LGPD. To this end, the country is developing a national electronic health records system, which aims to provide a robust database for current medical use, as well as for technology development and innovation.³⁷³

Algorithmic Transparency

Article 20 of the LGPD establishes the right of individuals “to request the review of decisions taken solely on the basis of automated processing of personal data that affect his interests, including decisions designed to define his personal, professional, consumer and credit profile or aspects of your personality.”

As a result, “the controller must provide, whenever requested, clear and adequate information regarding the criteria and procedures used for the automated decision, observing the commercial and industrial secrets.” Where the information is not provided due to the observance of commercial and industrial secrecy, the national data protection authority “may perform an audit to verify discriminatory aspects in automated processing of personal data.”³⁷⁴

Brazilian researchers, such as Prof. Renato Leite Monteiro, understand that a comprehensive interpretation of LGPD, in conjunction with the Constitution, consumer law and other legal provisions, guarantees

³⁷² OECD, *Going Digital in Brazil* 127 (Oct. 26, 2020), <https://www.oecd-ilibrary.org/docserver/e9bf7f8a-en.pdf>

³⁷³ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* 10 (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

³⁷⁴ LGPD, Art. 20 [GT].

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the existence of a right to explanation in Brazil. However, this position demands greater jurisprudential consolidation.³⁷⁵

The EBIA heavily features algorithmic transparency as a goal for the development of AI capabilities and policies in Brazil. One of the critical strategic actions delineated in the EBIA is ‘Encouraging transparency and responsible disclosure actions regarding the use of AI systems, and promote compliance by such systems with human rights, democratic values and diversity.’³⁷⁶ The EBIA also outlined algorithmic transparency as a critical theme to be pursued in AI research. The strategy outlined transparency as a critical element of AI governance both regarding explainability of decisions taken by autonomous systems and the transparency of methodologies used in the development of AI systems, including data sources and project procedures.³⁷⁷

AI and the Judiciary

With a current backlog of 78 million lawsuits, the Brazilian judicial system operates with substantial challenges in case flow management and a lack of resources to meet this demand³⁷⁸ has led to numerous initiatives³⁷⁹ involving Artificial Intelligence.

Against this background, the President of the National Council of Justice, *Conselho Nacional de Justiça (CNJ)*, a judicial agency responsible for the administrative and financial control of the judiciary and the

³⁷⁵ Institute for Research on Internet and Society, *Automated decisions and algorithmic transparency* (Nov. 16, 2019), <https://irisbh.com.br/en/automated-decisions-and-algorithmic-transparency/>

³⁷⁶ Ministério da Ciência, Tecnologia e Inovações, *Estratégia Brasileira de Inteligência Artificial* pg.23, 2021, https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ia_estrategia_diagramacao_4-979_2021.pdf

³⁷⁷ Ministério da Ciência, Tecnologia e Inovações, *Estratégia Brasileira de Inteligência Artificial* pg.25, 2021, https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/transformacaodigital/arquivosinteligenciaartificial/ia_estrategia_diagramacao_4-979_2021.pdf

³⁷⁸ SIPA, *The Future of AI in the Brazilian Judicial System: AI Mapping, Integration and Governance*, <https://itsrio.org/wp-content/uploads/2020/06/SIPA-Capstone-The-Future-of-AI-in-the-Brazilian-Judicial-System-1.pdf>. (The study presents an overview of the current uses of AI in the Brazilian Judiciary and suggests the adoption of a collaborative governance structure that allows courts to achieve greater collaboration and cooperation using the Electronic Judicial Process (PJE). In addition, it presents an analysis of the principles, processes, incentives and internal regulations that govern the PJE and suggests ways of improving and expanding the current management model, in accordance with international best practices).

³⁷⁹ AI devices (called “robots”), tested in the Brazilian Judiciary include Leia, Poti, Jerimun, Clara, Radar, Elis, Sinapse, Victor, each with a specific function.

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supervision of judges,³⁸⁰ has published in August 2020 a Resolution on ethics, transparency and governance in the production and use of Artificial Intelligence in the Judiciary.³⁸¹ The National Council of Justice Resolution addresses AI related requirements such as respect for human rights, preservation of equality, non-discrimination, plurality and solidarity, transparency (from disclosure to explainability), data security, user control and accountability.

The Public Prosecutor's Office³⁸² of the State of Rio de Janeiro has reportedly invested in data science and AI to expedite investigations and prevent crimes.³⁸³ The system allowed information from different sources and bodies to be collected and also real-time data to be collected from suspected criminals.³⁸⁴ Likewise, Brazil's federal and state police are using AI applications such as military drones³⁸⁵ and crime prediction software.³⁸⁶

It is worth recalling that, like the EU GDPR, the LGPD (Art. 4) excludes "the processing of data for the purposes of public security" from

³⁸⁰ US Law Library of Congress, *Brazil, Legal Research Guide – The Judicial Branch* (2011), https://www.loc.gov/law/help/legal-research-guide/brazil-judicial-branch2_2011-005662_RPT.pdf

³⁸¹ National Council of Justice, Resolution No. 332, *Provides for ethics, transparency and governance in the production and use of Artificial Intelligence in the Judiciary and provides other measures* (Aug. 21, 2020), <https://www.jusbrasil.com.br/diarios/documentos/917269827/resolucao-n-332-25-08-2020-do-cnj>.

³⁸² In Brazil, the Prosecution Service is not part of the Executive, Legislative or Judicial branches, being totally independent. It cannot be terminated and its duties cannot be transferred to other government agencies. Prosecutors have their independence guaranteed by the Brazilian Constitution. Therefore, they are subordinated to an authority for administrative purposes only, but each member of the Prosecution Service is free to act according to their conscience and convictions under the law. Brazilian Prosecution Service, <http://www.prrj.mpf.mp.br/english>

³⁸³ *MPRJ Aposta em Inteligência Artificial para Agilizar Investigações no Rio*, G1 (Oct. 1, 2018), <https://g1.globo.com/rj/rio-de-janeiro/noticia/2018/10/01/mp-aposta-em-inteligencia-artificial-para-agilizar-investigacoes-no-rj.ghtml>, archived at <https://perma.cc/MYB5-99TW>

³⁸⁴ https://www.loc.gov/law/help/artificial-intelligence/americas.php#_ftnref2 -

³⁸⁵ ISTOE, *Against organized crime, PF puts unmanned aerial vehicle in the Amazon* (Aug. 20, 2016), <https://istoe.com.br/contra-o-crime-organizado-pf-poe-veiculo-aereo-nao-tripulado-na-amazonia/>

³⁸⁶ Sarah Griffiths, *CrimeRadar is using machine learning to predict crime in Rio*, Wired UK (Aug. 18, 2016), <https://www.wired.co.uk/article/crimeradar-rio-app-predict-crime>. See also United for Smart Sustainable Cities, *Crime prediction for more agile policing in cities – Rio de Janeiro, Brazil: Case study of the U4SSC City Science Application Framework* (Oct. 2019), https://igarape.org.br/wp-content/uploads/2019/10/460154_Case-study-Crime-prediction-for-more-agile-policing-in-cities.pdf

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its scope and states that such processing “shall be governed by specific legislation, which shall provide proportional and strictly necessary measures in order to serve the public interest.” However, such specific legislation does not yet exist in Brazil.³⁸⁷

Facial recognition

Facial Recognition is implemented by both the public and private sectors in Brazil. According to *Instituto Igarapé*, a Brazilian think tank, there were at least 48 facial recognition applications throughout 16 Federal States between 2011 to 2019.³⁸⁸ The main use sectors are (i) public security, (ii) border control, (iii) transportation and (iv) education.³⁸⁹

In August 2018, the Brazilian Institute of Consumer Protection (IDEC) filed a public civil action³⁹⁰ for breach of privacy and consumer legislation against the São Paulo Metro operator, regarding an AI crowd analytics system that claimed to predict the emotion, age, and gender of metro passengers without processing personal data.³⁹¹ The operator was ordered to stop collecting data and remove the cameras, but the case moved forward, and a decision is now expected to be made soon.

Another monitoring system with facial recognition to be installed in the São Paulo subway network is being challenged in Court. Early 2020, the operating company was requested to provide clarifications on risk and impact assessment expected with the implementation of the new technology, on how personal data will be processed, on technical databases and security systems issues, and on actions to mitigate the potential risk of a data breach.³⁹²

³⁸⁷ Mariana Canto, *Submission to the UN Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression: The Surveillance Industry* (Feb. 2019),

<https://ohchr.org/Documents/Issues/Opinion/Surveillance/MARIANA%20CANTO.pdf>

³⁸⁸ Instituto Igarapé, *Facial Recognition in Brazil*, <https://igarape.org.br/infografico-reconhecimento-facial-no-brasil/> (“Facial recognition became especially popular in 2019. The year began with the announcement of a PSL delegation to China to acquire the technology.”)

³⁸⁹ Thiago Moraes, *Facial Recognition in Brazil*, *Wired* (Nov. 20, 2019), <https://medium.com/@lapinbr/face-recognition-in-brazil-f2a23217f5f7>

³⁹⁰ Instituto Brasileiro de Defesa do Consumidor (Aug. 30, 2018), https://idec.org.br/sites/default/files/acp_viaquatro.pdf.

³⁹¹ AccessNow, *Facial recognition on trial: emotion and gender “detection” under scrutiny in a court case in Brazil* (June 29, 2020), <https://www.accessnow.org/facial-recognition-on-trial-emotion-and-gender-detection-under-scrutiny-in-a-court-case-in-brazil/>

³⁹² Tozzini Freire, *Facial Recognition is Disputed in Court* (Feb. 14, 2020), <https://tozzinifreire.com.br/en/boletins/facial-recognition-is-disputed-in-court>

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The Brazilian police has also been using live facial recognition for Carnival with now plans to use the technology in events involving crowds to find wanted criminals. In 2020, police forces rolled out facial recognition in six capitals across the country. When announcing the use of live facial recognition, the São Paulo police said a "situation room" would monitor the images from the cameras, which are then compared with a database managed by a biometrics lab. According to the police, the aim is to reduce the likelihood of mistakes, such as wrongly arresting people.³⁹³

In 2021, Brazil rolled out end-to-end biometric identification technologies by IDEMIA for use in passenger identification at several airports, including domestic airports in São Paulo and Rio de Janeiro.³⁹⁴ Many have voiced concern at the government's embrace of facial recognition technology, especially surrounding issues of racial bias, given that the LGPD does not address these technologies.³⁹⁵

OECD/G20 AI Principles

Brazil has endorsed the OECD and the G20 AI Principles and referred to the OECD Principles as important guidance for the development of its national AI strategy. Brazil has also joined the Global Partnership on AI.³⁹⁶

Human Rights

Brazil is a signatory to many international human rights treaties and conventions and is considered as a free country in the world for the

³⁹³ Angelica Mari, *Brazilian police introduces live facial recognition for Carnival*, Brazil Tech (Feb. 25, 2020), <https://www.zdnet.com/article/brazilian-police-introduces-live-facial-recognition-for-carnival/>

³⁹⁴ Angelica Mari, *Brazilian airports expand facial recognition trials*, ZDNet (Nov. 22, 2021), <https://www.zdnet.com/article/brazilian-airports-expand-facial-recognition-trials/>; Chris Burt, *Brazil's Pilot of IDEMIA Face Biometrics Advances to Simultaneous Operation at Capital Airports*, Biometric Update (June 16, 2021), <https://www.biometricupdate.com/202106/brazils-pilot-of-idemia-face-biometrics-advances-to-simultaneous-operation-at-capital-airports>

³⁹⁵ Charlotte Peet, *Brazil's embrace of facial recognition worries Black communities*, Rest of World (Oct. 22, 2021), <https://restofworld.org/2021/brazil-facial-recognition-surveillance-black-communities/>; Leaders League *The controversial use of facial recognition in Brazil and Europe*, Aug. 12, 2021, <https://www.leadersleague.com/fr/news/the-controversial-use-of-facial-recognition-in-brazil-and-europe>

³⁹⁶ Government of Canada, *Canada concludes inaugural plenary of the Global Partnership on Artificial Intelligence with international counterparts in Montreal* (Dec. 4, 2020), <https://www.globalprivacyblog.com/legislative-regulatory-developments/uae-publishes-first-federal-data-protection-law/>

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protection of human rights and transparency.^{397 398} Freedom House gives Brazil a “free” (74/100) rating for political rights and civil liberties. According to Freedom House, Brazil is ‘a democracy that holds competitive elections, and the political arena, though polarized, is characterized by vibrant public debate. However, independent journalists and civil society activists risk harassment and violent attack, and the government has struggled to address high rates of violent crime and disproportionate violence against and economic exclusion of minorities.’³⁹⁹

Lethal Autonomous Weapons

During the 2018 discussions of the Group of Governmental Experts (GGE) on lethal autonomous weapons (LAWS),⁴⁰⁰ Brazil issued a joint statement along with Austria and Chile, which proposed to establish an open-ended GGE to negotiate a legally binding instrument to ensure meaningful human control over critical functions in LAWS.⁴⁰¹

Evaluation

Brazil has developed a robust national strategy for AI. Brazil has endorsed the OECD/G20 AI Principles and has promoted public participation in the development of AI policy. Brazil has established a comprehensive law for data protection and has a fairly good record on human rights. But the growing use of facial recognition and the absence of new safeguards for AI systems are matters of concern. Consumer groups have objected to the use of AI crowd analytics on metro passengers.

³⁹⁷ Freedom House, *Freedom in the World 2020 – Brazil* (2020),

<https://freedomhouse.org/country/brazil/freedom-world/2020>

³⁹⁸ Human Rights Watch, *World Report 2020: Brazil* (2020), <https://www.hrw.org/world-report/2020/country-chapters/brazil>

³⁹⁹ Freedom House, *Freedom in the World 2021 – Brazil* (2021),

<https://freedomhouse.org/country/brazil/freedom-world/2021>

⁴⁰⁰ Group of Governmental Experts on emerging technologies in the area of lethal autonomous weapons systems (GGE LAWS) of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects.

⁴⁰¹ Proposal for a Mandate to Negotiate a Legally-binding Instrument that Addresses the Legal, Humanitarian and Ethical Concerns Posed by Emerging Technologies in the Area of Lethal Autonomous Weapons Systems (LAWS), U.N. Doc. CCW/ GGE.2/2018/WP.7 (Aug. 30, 2018)

[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/3BDD5F681113EECEC12582FE0038B22F/\\$file/2018_GGE+LAWS_August_Working+paper_Austria_Brazil_Chile.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/3BDD5F681113EECEC12582FE0038B22F/$file/2018_GGE+LAWS_August_Working+paper_Austria_Brazil_Chile.pdf),

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Canada

National AI Strategy

The Canadian government has stated “Artificial intelligence (AI) technologies offer promise for improving how the Government of Canada serves Canadians. As we explore the use of AI in government programs and services, we are ensuring it is governed by clear values, ethics, and laws.”⁴⁰² Canada has set out five Guiding Principles to “ensure the effective and ethical use of AI.” The government has committed to “understand and measure” impacts, be transparent about use, “provide meaningful explanations” for AI decision-making, “be as open as we can be,” and provide sufficient training.”

The government of Canada and the government of Quebec have announced a joint undertaking to “advance the responsible development of AI.”⁴⁰³ The Center of Excellence, established in Montreal, will “will enable Quebec to highlight the important role of its AI ecosystem, specifically in the area of responsible development of AI, and to take its place internationally as an essential partner and subject-matter expert.”

In 2017, the Canadian Institute for Advanced Research (CIFAR) launched the Pan-Canadian Artificial Intelligence Strategy that includes the AI and Society Program and AI Policy Initiatives.⁴⁰⁴ The Pan-Canadian AI Strategy hosted the AICan Symposium virtually in March 2021. The work is funded by the Government of Canada, Facebook, and the RBC Foundation.⁴⁰⁵ Canada’s federal and provincial governments have dedicated over USD 227 million (CAD 300 million) to AI research over 2017- 22, anchored in the three AI institutes created under the CIFAR Pan-Canadian AI Strategy.⁴⁰⁶

⁴⁰² Government of Canada, *Responsible use of artificial intelligence (AI)*, <https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai.html>

⁴⁰³ Government of Canada, *The governments of Canada and Quebec and the international community join forces to advance the responsible development of artificial intelligence* (June 15, 2020), <https://www.canada.ca/en/innovation-science-economic-development/news/2020/06/the-governments-of-canada-and-quebec-and-the-international-community-join-forces-to-advance-the-responsible-development-of-artificial-intelligence.html>

⁴⁰⁴ CIFAR, *Pan-Canadian Artificial Intelligence Strategy*, <https://www.cifar.ca/ai/pan-canadian-artificial-intelligence-strategy>

⁴⁰⁵ CIFAR, *AICan2019: Annual Report of the CIFAR Pan-Canadian AI Strategy*, https://www.cifar.ca/docs/default-source/ai-reports/ai_annualreport2019_web.pdf

⁴⁰⁶ OECD (2021), *State of implementation of the OECD AI Principles: Insights from national AI policies* (Jun. 18, 2021), <https://doi.org/10.1787/1cd40c44-en>.

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In October 2020, CIFAR released the Pan-Canadian AI Strategy Impact Assessment Report (CIFAR, 2020[65]). This report highlights the strategy's impact on the following domains and Canadian regions:

- Commercialization and adoption of AI: 50% growth in foreign direct investment in ICTs from 2017 to 2019.
- Research & development: 109 leading researchers recruited and retained in Canada through the Canada CIFAR AI Chairs program. In 2019, Canadians Yoshua Bengio and Geoffrey Hinton (along with their colleague Yann LeCun), won the ACM A.M. Turing Award, widely considered the “Nobel Prize of Computing”.
- Talent and job creation: The strategy helped create a Canadian ecosystem that attracts and retains highly skilled talent.
- Education: enrolment in math, computer and information science postsecondary programmes grew by 26% since 2015/16, compared to 3% growth for all topics. Social: Canadian research institutes CIFAR, Amii, Mila and the Vector Institute prioritize AI for Good across societal causes including health, education, and the environment through a portfolio of programs.
- Responsible AI: Canada and France founded the Global Partnership on AI (GPAI) focusing on responsible AI.
- Regional Impact Evaluation: The establishment of three AI institutes, Amii, Mila, and the Vector Institute, created a collaborative network across Canada, enabling regions to deepen their respective specialized strengths while building cross-regional synergies.⁴⁰⁷

Directive on Automated Decision-making

Canada's Treasury Board Secretariat (TBS) has established a Directive on Automated Decision-making and the Pre-qualified AI Vendor Procurement Program to ensure that administrative decisions are “compatible with core administrative law principles such as transparency, accountability, legality, and procedural fairness.”⁴⁰⁸ Canada has developed a questionnaire for an Algorithmic Impact Assessment to “assess and mitigate the risks associated with deploying an automated decision system”

⁴⁰⁷ CIFAR (2020), *Pan-Canadian AI Strategy Impact Assessment Report*, <https://cifar.ca/wp-content/uploads/2020/11/Pan-Canadian-AI-Strategy-Impact-Assessment-Report.pdf>.

⁴⁰⁸ Government of Canada, *Directive on Automated Decision-Making*, May 2, 2019, <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32592>

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and to comply with the Directive on Automated Decision-making.⁴⁰⁹ A timeline indicates progress from an initial White Paper on AI in October 2016 through an AI Day in early 2019. No subsequent information is posted.

Canada has also developed a questionnaire for an Algorithmic Impact Assessment to “assess and mitigate the risks associated with deploying an automated decision system” and to comply with the Directive on Automated Decision-making.²²⁴ A timeline indicates progress from an initial White Paper on AI in October 2016 through an AI Day in early 2019. No subsequent information is posted.

In a parallel effort to support the Directive, TBS worked with Public Services and Procurement Canada to establish a Pre-qualified AI Vendor Procurement Program to streamline the procurement of AI solutions and services in the government. This new AI public procurement programme was used to help government departments and agencies build awareness of the solutions offered by AI. It also provided small and medium AI companies with an opportunity to provide their services to the government. In practice, the initiative did not yet gain traction.⁴¹⁰

Predicting Homelessness

A new AI project in the city of London, Canada proposes to predict and prevent homelessness. According to a news report, “the Chronic Homelessness Artificial Intelligence (CHAI) model uses machine learning to forecast the probability of an individual in the city’s shelter system becoming chronically homeless within the next six months – that is, remaining in the shelter system for more than 180 days in a year.”⁴¹¹ According to the development team, ‘Explainable AI’ is an important aspect of the CHAI system. The team designed the model around the principles of the General Data Protection Regulation (GDPR), as well as the Canadian government’s Directive on Automated Decision-Making.

Public Participation

In 2019 Canada established an Advisory Council on Artificial Intelligence to “inform the long-term vision for Canada on AI both

⁴⁰⁹ Government of Canada, *Algorithmic Impact Assessment (AIA)*, July 28, 2020, <https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai/algorithmic-impact-assessment.html>

⁴¹⁰ OECD (2021), *State of implementation of the OECD AI Principles: Insights from national AI policies* (Jun 18, 2021), <https://doi.org/10.1787/1cd40c44-en>

⁴¹¹ CitiesToday, ‘*Explainable AI predicts homelessness in Ontario city*’ (Aug, 25, 2020), <https://cities-today.com/explainable-ai-predicts-homelessness-in-ontario-city/>

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domestically and internationally.”⁴¹² It is unclear whether the Advisory Council has held meetings or issued reports. Comprised of researchers, academics, and business leaders, the Council advises the Government of Canada on how to build on Canada’s AI strengths to support entrepreneurship, drive economic growth and job creation and build public trust in AI. The Council has created two working groups to date, one on Commercialization and another on Public Awareness (OECD.AI forthcoming). Public awareness is a key area for the Council that emphasized that policy design, including sectoral priorities, require the trust and support of the public to succeed.

Canada’s AI Advisory Council created its public engagement and consultation processes using both consultation and deliberation. The national survey elicited an array of citizens’ input on AI use in different sectors. The results will shape deliberative workshops that take place online due to the pandemic. The workshops aim to find ways to address ethical concerns raised by citizens via the survey. Among the goals of the deliberative process is to shape a new set of guidelines and recommendations for the development of AI.⁴¹³

Data Protection

The Office of the Privacy Commissioner of Canada provides advice and information for individuals about protecting personal information.⁴¹⁴ The agency also enforces two federal privacy laws that set out the rules for how federal government institutions and certain businesses must handle personal information. The Privacy Act regulates the collection and use of personal data by the federal government.⁴¹⁵ The Personal Information Protection and Electronic Documents Act (PIPEDA) applies to personal data collected by private companies.⁴¹⁶

⁴¹² Government of Canada, *Protecting and Promoting Privacy Rights*, <https://www.priv.gc.ca/en>

⁴¹³ OECD (2021), *State of implementation of the OECD AI Principles: Insights from national AI policies* (Jun 18, 2021), <https://doi.org/10.1787/1cd40c44-en>; OECD, *AI Policy Observatory* (2020), <https://oecd.ai/dashboards/countries/Canada>.

⁴¹⁴ Office of the Privacy Commissioner of Canada, *The Privacy Act in brief* (Aug. 2019), https://www.priv.gc.ca/en/privacy-topics/privacy-laws-in-canada/the-privacy-act/pa_brief/

⁴¹⁵ Office of the Privacy Commissioner of Canada, *The Privacy Act in brief* (Aug. 2019), https://www.priv.gc.ca/en/privacy-topics/privacy-laws-in-canada/the-privacy-act/pa_brief/

⁴¹⁶ Office of the Privacy Commissioner of Canada, *PIPEDA in brief* (May 2019), https://www.priv.gc.ca/en/privacy-topics/privacy-laws-in-canada/the-personal-information-protection-and-electronic-documents-act-pipeda/pipeda_brief/

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In November 2020, the Privacy Commissioner issued proposals on regulating artificial intelligence.⁴¹⁷ The recommendations “aim to allow for responsible AI innovation and socially beneficial uses while protecting human rights.” The Commissioner recommend amending PIPEDA to:

- allow personal information to be used for new purposes towards responsible AI innovation and for societal benefits
- authorize these uses within a rights-based framework that would entrench privacy as a human right and a necessary element for the exercise of other fundamental rights
- create a right to meaningful explanation for automated decisions and a right to contest those decisions to ensure they are made fairly and accurately
- strengthen accountability by requiring a demonstration of privacy compliance upon request by the regulator
- empower the OPC to issue binding orders and proportional financial penalties to incentivize compliance with the law
- require organizations to design AI systems from their conception in a way that protects privacy and human rights

The Commissioner also highlighted a public consultation, initiated by the OPC, that received 86 comments from industry, academia, civil society, and the legal community, among others. Those inputs were incorporated in separate report which informs the recommendations for law reform.⁴¹⁸

Algorithmic Transparency

The PIPEDA includes strong rights for individual access concerning automated decisions.⁴¹⁹ The PIPEDA Reform Report for AI build on public consultations and propose to “Provide individuals with a right to explanation and increased transparency when they interact with, or are

⁴¹⁷ Office of the Privacy Commissioner of Canada, *Commissioner issues proposals on regulating artificial intelligence* (Nov. 2020), Commissioner issues proposals on regulating artificial intelligence

⁴¹⁸ Ignacio Cofone, Office of the Privacy Commissioner of Canada, *Policy Proposals for PIPEDA Reform to Address Artificial Intelligence Report (Nov. 2020)*, https://www.priv.gc.ca/en/about-the-opc/what-we-do/consultations/completed-consultations/consultation-ai/pol-ai_202011/

⁴¹⁹ Office of the Privacy Commissioner, Canada, *PIPEDA Fair Information Principle 9 – Individual Access* (Aug. 2020), https://www.priv.gc.ca/en/privacy-topics/privacy-laws-in-canada/the-personal-information-protection-and-electronic-documents-act-pipeda/p_principle/principles/p_access/

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subject to, automated processing.”⁴²⁰ The Cofone Report also explains that “the right to explanation is connected to the principles of privacy, accountability, fairness, non-discrimination, safety, security, and transparency. The effort to guarantee these rights supports the need for a right to explanation.”

Canada was a signatory to both the 2018 GPA Declaration on Ethics and Data Protection in Artificial Intelligence or the 2020 Resolution on Accountability in the Development and Use of Artificial Intelligence.⁴²¹

Facial Recognition

In early 2021, an investigation found that Clearview AI’s scraping of billions of images of people from across the Internet represented mass surveillance and was a clear violation of the privacy rights of Canadians.⁴²² Clearview AI’s scraping of billions of images of people from across the Internet represented mass surveillance and was a clear violation of the privacy rights of Canadians. “Clearview AI’s technology allowed law enforcement and commercial organizations to match photographs of unknown people against the company’s databank of more than 3 billion images, including of Canadians and children, for investigation purposes. Commissioners found that this creates the risk of significant harm to individuals, the vast majority of whom have never been and will never be implicated in a crime.” Clearview AI’s technology allowed law enforcement and commercial organizations to match photographs of unknown people against the company’s databank of more than 3 billion images, including of Canadians and children, for investigation purposes. Commissioners found that this creates the risk of significant harm to individuals, the vast majority of whom have never been and will never be implicated in a crime. A related investigation by the Office of the Privacy

⁴²⁰ Professor Ignacio Cofone, *Policy Proposals for PIPEDA Reform to Address Artificial Intelligence Report* (Nov. 2020), https://www.priv.gc.ca/en/about-the-opc/what-we-do/consultations/completed-consultations/consultation-ai/pol-ai_202011/

⁴²¹ International Conference on Data Protection and Privacy Commissioners, *Declaration on Ethics and Data Protection in Artificial Intelligence* (Oct. 23, 2018), https://globalprivacyassembly.org/wp-content/uploads/2018/10/20180922_ICDPPC-40th_AI-Declaration_ADOPTED.pdf; Global Privacy Assembly, *Resolution on Accountability in the Development and Use of Artificial Intelligence* (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>

⁴²² Government of Canada, office of the Privacy Commissioner, *Clearview AI’s unlawful practices represented mass surveillance of Canadians, commissioners say* (Feb. 3, 2021), https://www.priv.gc.ca/en/opc-news/news-and-announcements/2021/nr-c_210203/?=february-2-2021

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Commissioner of Canada into the RCMP’s use of Clearview AI’s facial recognition technology remains ongoing.⁴²³

Global Partnership on AI

In 2020, Canada and France, and a dozen other countries announced the Global Partnership on Artificial Intelligence to support “support the responsible and human-centric development and use of AI in a manner consistent with human rights, fundamental freedoms, and our shared democratic values . . .”⁴²⁴ According to the statement, the “GPAI will be supported by a Secretariat, to be hosted by the OECD in Paris, as well as by two Centres of Expertise – one each in Montréal and Paris.” As the 2020-2021 GPAI Chair, Canada hosted the inaugural GPAI Summit in December 2020.

Canada and the European Union recently announced that they are collaborating to leverage artificial intelligence (AI) to help the international community respond to COVID-19. The initiatives include the GPAI’s group on AI and Pandemic Response and the annual EU-Canada Digital Dialogue.⁴²⁵

Canada and Germany are working together to advance AI industrialization by organising joint R&D projects on the application of AI technologies in manufacturing, as applied to manufacturing, supply chain and other fields.⁴²⁶

OECD/G20 AI Principles

Canada endorsed the OECD and the G20 AI Principles.

⁴²³ Government of Canada, office of the Privacy Commissioner, *OPC launches investigation into RCMP’s use of facial recognition technology* (Feb. 28, 2020), https://www.priv.gc.ca/en/opc-news/news-and-announcements/2020/an_200228/

⁴²⁴ Government of Canada, *Joint Statement from founding members of the Global Partnership on Artificial Intelligence* (June 15, 2020), <https://www.canada.ca/en/innovation-science-economic-development/news/2020/06/joint-statement-from-founding-members-of-the-global-partnership-on-artificial-intelligence.html>

⁴²⁵ European Union, *Joint press release following the European Union-Canada Ministerial Meeting* (Sept. 9, 2020), https://eeas.europa.eu/headquarters/headquarters-homepage/84921/joint-press-release-following-european-union-canada-ministerial-meeting_en

⁴²⁶ Canada (2020), *Canada – Germany 3+2 collaborative call for proposals on Innovative Artificial Intelligence Solutions for Industrial Production*, National Research Council Canada, <https://nrc.canada.ca/en/irap/about/international/?action=view&id=62>.

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Lethal Autonomous Weapons

In 2017 Canadian academics urged Prime Minister Trudeau to oppose Autonomous Weapon Systems, as part of the #BanKillerAI campaign.⁴²⁷

Human Rights

Canada is a signatory to many international human rights treaties and conventions. Canada typically ranks among the top ten nations in the world for the protection of human rights and transparency (98/100 in 2021).⁴²⁸ Freedom House reported that, “Canada has a strong history of respect for political rights and civil liberties, though in recent years citizens have been concerned about fair elections and transparent governance; humane treatment of prisoners; citizens’ right to privacy; and religious and journalistic freedom. While Indigenous peoples and other vulnerable populations still face discrimination and other economic, social, and political challenges, the federal government has acknowledged and made some moves to address these issues.”⁴²⁹

Evaluation

Canada is among the leaders in national AI policies. In addition to endorsing the OECD/G20 AI Principles and establishing the GPAI with France, Canada has also taken steps to establish model practices for the use of AI across government agencies. Canada has an admirable record on human rights and is now working to update its national privacy law to address the challenges of AI. In 2021, Canada took decisive action against ClearviewAI and continued to lead, with France, the Global Partnership on AI. There is, at the moment, no express support for the Universal Guidelines for AI, but Canada’s AI policies are similar to those recommended in the UGAI.

⁴²⁷ Ian Kerr, *Weaponized AI would have deadly, catastrophic consequences. Where will Canada side?* The Globe and Mail, Nov. 6, 2017,

<https://www.theglobeandmail.com/opinion/weaponized-ai-would-have-deadly-catastrophic-consequences-where-will-canada-side/article36841036/>

⁴²⁸ Freedom House, *Freedom in the World 2021 – Canada* (2021),

<https://freedomhouse.org/country/canada/freedom-world/2021>

⁴²⁹ Freedom House, *Freedom in the World 2020 – Canada* (2020),

<https://freedomhouse.org/country/canada/freedom-world/2020>; Freedom House, *Freedom in the World 2021 –Canada* (2021), <https://freedomhouse.org/country/canada/freedom-world/2021>.

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China

National AI Strategy

Since 2013, the Chinese government has published several national-level policies, guidelines, and action plans, which reflect the intention to develop, deploy, and integrate AI in various sectors. In 2015, Prime Minister Li Keqiang launched the “Made in China” (MIC 2025) initiative aimed at turning the country into a production hub for high-tech products within the next few decades. In the same year, the State Council released guidelines on China’s Internet +Action plan. It sought to integrate the internet into all elements of the economy and society. The document emphasized the importance of cultivating emerging AI industries and investing in research and development. The Central Committee of the Communist Party of China’s 13th 5-year plan is another notable example. The document mentioned AI as one of the six critical areas for developing the country’s emerging industries and as an essential factor in stimulating economic growth. Robot Industry Development Plan,⁴³⁰ Special Action of Innovation and Development of Smart Hardware Industry,⁴³¹ and Artificial Intelligence Innovation Action Plan for Higher Institutions⁴³² illustrate detailed action plans and guidelines concerning specific sectors.

Most notable of all is the New Generation Artificial Intelligence Development Plan (AIDP) – an ambitious strategy to make China the world leader in AI by 2030 and the most transparent and influential indication of China’s AI strategy’s driving forces. China’s State Council issued the AIDP in 2017. According to the plan, AI should be used in a broad range of sectors, including defense and social welfare. The AIDP also indicates the need to develop standards and ethical norms for the use of AI. Remarkably, the actual innovation and transformation are expected to be driven by the private sector and local governments.⁴³³ The Chinese government has handpicked three major tech giants to focus on developing specific sectors

⁴³⁰ 机器人产业发展规划（2016-2020年）

https://www.ndrc.gov.cn/xxgk/zcfb/ghwb/201604/t20160427_962181.html

⁴³¹ 智能硬件产业创新发展专项行动（2016-2018年）http://www.gov.cn/xinwen/2016-09/21/content_5110439.htm

⁴³² 高等学校人工智能创新行动计划

http://www.moe.gov.cn/jyb_xwfb/xw_fbh/moe_2069/xwfbh_2018n/xwfb_20180608/201806/t20180608_338911.html

⁴³³ 3-year plan promoting the AIDP (2018–2020) emphasizes coordination between provinces and local governments.

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of AI, Baidu, Alibaba and Tencent.⁴³⁴ In return, these companies receive preferential contract bidding, preferential contract bidding, more convenient access to finance, and sometimes market share protection.

With regard to local governments, there is a system of incentives for fulfilling national government policy aims. For this reason, local governments often become a testing ground for the central government's policies. A clear example of this are the surveillance technologies that were first tested in Xinjiang⁴³⁵ to research into "ethnic" aspects of AI-enabled facial recognition templates distinguishing "Uyghur" features.⁴³⁶ Chinese cities and provinces, regional administrations compete for the new AI incentives. While large metropolises, such as Tianjin and Shanghai, have already launched multi-billion-dollar AI city Venture Capital funds and converted entire districts and islands for new AI companies. Other provinces are still in the process of learning and development.

AI Core Values

International Competition & National Security

The AIDP strategy document states that "the development of AI [is] ... a major strategy to enhance national competitiveness and protect national security" and that China will "[p]romote all kinds of AI technology to become quickly embedded in the field of national defense innovation."

At the 8th Beijing Xiangshan Forum (BXF),⁴³⁷ China's major platform for international security and defense dialogue, Major General Ding Xiangrong, Deputy Director of the General Office of China's Central Military Commission, gave a major speech in which he stated that China's military goals are to use AI to advance Chinese military.⁴³⁸ Another speaker

⁴³⁴ Meng Jing and Sarah Dai, *China recruits Baidu, Alibaba and Tencent to AI 'national team'*, South China Morning Post (Nov. 21, 2017), <https://www.scmp.com/tech/china-tech/article/2120913/china-recruits-baidu-alibaba-and-tencent-ai-national-team>.

⁴³⁵ Angela Dely, *Algorithmic oppression with Chinese characteristics: AI against Xinjiang's Uyghurs*, Global Information Society Watch (2019), https://www.giswatch.org/node/6165#_ftn33

⁴³⁶ Zuo, H., Wang, L., & Qin, J. (2017). XJU1: A Chinese Ethnic Minorities Face Database. Paper presented at IEEE International Conference on Machine Vision and Information Technology (CMVIT). <https://ieeexplore.ieee.org/abstract/document/7878646>

⁴³⁷ Rajeev Ranjan Chaturvedy, *Beijing Xiangshan Forum and the new global security landscape*, EastAsiaForum (Dec. 1, 2018), <https://www.eastasiaforum.org/2018/12/01/beijing-xiangshan-forum-and-the-new-global-security-landscape/>

⁴³⁸ Elsa Kania, "AlphaGo and Beyond: The Chinese Military Looks to Future 'Intelligentized' Warfare." Lawfare (June 5,

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Zeng Yi, a senior executive at China's third largest defense company, predicted that by 2025 lethal autonomous weapons, military command decision-making would be commonplace and said that ever-increasing military use of AI is "inevitable." Notably, he emphasized that military AI would replace the human brain and exercise independent judgment by stating that "AI may completely change the current command structure, which is dominated by humans" to one that is dominated by an "AI cluster." These sentiments are shared by academics from the People's Liberation Army (PLA) who believe that AI will be used to predict battlefield situations and outpace human decision-making.⁴³⁹

China's Ministry of National Defense has established two major new research organizations focused on AI and unmanned systems: the Unmanned Systems Research Center (USRC) and the Artificial Intelligence Research Center (AIRC).⁴⁴⁰ According to some experts, China is pursuing the most aggressive strategy for developing AI for military uses among the major military powers.⁴⁴¹ In the spring of 2017, a civilian Chinese university with ties to the military demonstrated an AI-enabled swarm of 1,000 uninhabited aerial vehicles at an airshow. A media report released after the fact showed a computer simulation of a similar swarm formation finding and destroying a missile launcher.^[1] Open-source publications indicate that China is also developing a suite of AI tools for cyber operations.^{[1] [12]}

Economic Development

The AIDP promotes and highlights the reconstruction of economic activities using AI as the driving force behind a new round of industrial transformation, which will "inject new kinetic energy into China's economic development."⁴⁴² Guiding Opinions on Promoting on Promoting

2017), <https://www.lawfareblog.com/alphago-and-beyond-chinese-military-looks-future-intelligentized-warfare>.

⁴³⁹ Kania EB (2017a) 杀手锏和跨越发展: trump cards and leapfrogging. Strategy Bridge. <https://thestrategybridge.org/the-bridge/2017/9/5/-and-trump-cards-and-leapfrogging>

⁴⁴⁰ Gregory C. Allen, *Understanding China's AI Strategy: Clues to Chinese Strategic Thinking on Artificial Intelligence and National Security* 4-9, Center for a New American Security (Feb. 6, 2019), <https://www.cnas.org/publications/reports/understanding-chinas-ai-strategy>

⁴⁴¹ Adrian Pecotic, *Whoever Predicts the Future Will Win the AI Arms Race*, Foreign Policy (Mar. 5, 2019), <https://foreignpolicy.com/2019/03/05/whoever-predicts-the-future-correctly-will-win-the-ai-arms-race-russia-china-united-states-artificial-intelligence-defense/>

⁴⁴² New America, *China's 'New Generation Artificial Intelligence Development Plan'* (English translation) (2017), <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/>

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Integration of AI and Real Economy further specifies that with high integration and strong empowerment, AI is expected to boost the transition of China's economy from high-speed development to high-quality development.⁴⁴³ Moreover, President Xi has frequently spoken of the centrality of AI to the country's overall economic development.⁴⁴⁴

Notably, the Chinese government is better prepared than many other countries when it comes to the longer-term challenges of automation.⁴⁴⁵ For instance, there are higher education courses that address the shortage in AI skills and support the skilled labor required in the information age.⁴⁴⁶ China has oriented its education system to prioritize high-proficiency in science, technology, and engineering⁴⁴⁷ and has issued several policy directives toward this end.⁴⁴⁸ According to China's New Generation of AI Development Report 2020, in 2019, 180 Chinese universities added AI, undergraduate majors. Among them, 11 universities, including Peking University, established new academic institutes designated for AI research.

Social Governance and Welfare

Social governance is another area in which AI is promoted as a strategic opportunity for China. The Chinese authorities focus on AI as a way of overcoming social problems and improving the welfare of citizens.⁴⁴⁹

⁴⁴³ Xi Jinping presided over the seventh meeting of the Central Committee for deepening reform in an all-round way.

Keep a stable direction, highlight actual results, make all efforts to tackle difficulties, and unwaveringly promote the implementation of major reform measures People's Daily, http://paper.people.com.cn/rmrb/html/2019-03/20/nw.D110000renmrb_20190320_2-01.htm

⁴⁴⁴ Jeffrey Ding, *Deciphering China's AI dream*. Centre for Governance of AI, Future of Humanity Institute, University of Oxford, Oxford, https://www.fhi.ox.ac.uk/wp-content/uploads/Deciphering_Chinas_AI-Dream.pdf. Elsa B Kania, *China's embrace of AI: Enthusiasm and challenges*, European Council on Foreign Relations (Nov. 6, 2018), https://ecfr.eu/article/commentary_chinas_embrace_of_ai_enthusiasm_and_challenges/

⁴⁴⁵ The Automation Readiness Index: *Who is Ready for the Coming Wave of Automation?* (2018) The Economist Intelligence Unit.

<https://www.automationreadiness.eiu.com/static/download/PDF.pdf>

⁴⁴⁶ Fang A (2019) *Chinese colleges to offer AI major in challenge to US*. Nikkei Asian Review. <https://asia.nikkei.com/Business/China-tech/Chinese-colleges-to-offer-AI-major-in-challenge-to-US>

⁴⁴⁷ *Is China ready for intelligent automation?* (2018) China Power, Center for Strategic and International Studies. <https://chinapower.csis.org/china-intelligent-automation/>

⁴⁴⁸ the National Medium- and Long-term Education Reform and Development Plan (2010-2020)

⁴⁴⁹ Heilmann S (2017) *Big data reshapes China's approach to governance*. Financial Times <https://www.ft.com/content/43170fd2-a46d-11e7-b797-b61809486fe2>

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Specifically, in the healthcare reform,⁴⁵⁰ environmental protection⁴⁵¹, the administration of justice,⁴⁵² and Social Credit System or Social Score.⁴⁵³ Another concrete example of how China is using AI in social governance can be seen in the sphere of internal security and policing. China has been at the forefront of the development of smart cities equipped with surveillance technologies, such as facial recognition and cloud computing. A recent proposal for the southwestern Chinese city of Chongqing would put “AI in charge.”⁴⁵⁴ Today’s half of the world’s smart cities are located within China. Thus, these ambitious goals exemplify the Chinese government’s intent to rely on AI technology for social governance and also for control of the behavior of its citizens.

Facial Recognition

There are many reports on China’s use of facial recognition technology against ethnic minorities.⁴⁵⁵ The discriminatory ways in which state organs, companies and academics have researched, developed and implemented facial recognition in China would seem not to comply with the OECD AI Principles or as the Governance Principles for the New Generation Artificial Intelligence. The deployment of facial recognition has also provoked opposition within China.⁴⁵⁶ This gap between stated ethical principles and on-the-ground applications of AI demonstrate the weakness

⁴⁵⁰ Ho A (2018) AI can solve China’s doctor shortage. Here’s how. World Economic Forum. <https://www.weforum.org/agenda/2018/09/ai-can-solve-china-s-doctor-shortage-here-s-how/>.

⁴⁵¹ Kostka G, Zhang C (2018) Tightening the grip: environmental governance under Xi Jinping. *Environ Politics* 27(5):769–781. <https://doi.org/10.1080/09644016.2018.1491116>; AI-powered waste management underway in China (2019) People’s Daily Online. <https://en.people.cn/n3/2019/0226/c98649-9549956.html>

⁴⁵² Finder S (2015) China’s master plan for remaking its courts. *The Diplomat*. <https://thediplomat.com/2015/03/chinas-master-plan-forremaking-its-courts/>; Li A (2016) Centralization of power in the pursuit of law-based governance: legal reform in China under the Xi Administration. *China Prospect* 2016:2

⁴⁵³ Severine Arsene, *China’s Social Credit System: A Chimera with Real Claws*, Asia Visions, 2019 https://www.ifri.org/sites/default/files/atoms/files/arsene_china_social_credit_system_2019.pdf

⁴⁵⁴ Umberto Bacchi, *‘I know your favorite drink’: Chinese smart city to put AI in charge*, Reuters (Dec. 5, 2020), <https://news.trust.org/item/20201203131328-4n7on>

⁴⁵⁵ Joi Ito, *My talk at the MIT-Harvard Conference on the Uyghur Human Rights Crisis* (May 2, 2019), <https://joi.ito.com/weblog/2019/05/02/my-talk-at-the-.html>.

⁴⁵⁶ Seungha Lee, *Coming into Focus: China’s Facial Recognition Regulations*, Center for Strategic and International Studies (May 4, 2020), <https://www.csis.org/blogs/trustee-china-hand/coming-focus-chinas-facial-recognition-regulations>

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of unenforceable ethics statements. (See section below regarding AI and Surveillance).

Medical AI

In China, the ultimate ambition of AI is to liberate data for public health purposes. The AIDP, outlines the ambition to use AI to “strengthen epidemic intelligence monitoring, prevention and control,” and to “achieve breakthroughs in big data analysis, Internet of Things, and other key technologies” for the purpose of strengthening intelligent health management. The State Council’s 2016 official notice on the development and use of big data in the healthcare sector, also explicitly states that health and medical big data sets are a national resource and that their development should be seen as a national priority to improve the nation’s health.⁴⁵⁷ However, there is a rising concern that relaxed privacy rules and the transfer of personal data between government bodies will promote the collection and aggregation of health data without the need for individual consent.⁴⁵⁸ Some experts warn that this concept of public health and social welfare in China will diminish already weak safeguards for personal data.

Use of AI in Covid-19 Response

In June 2020, the State Council released a White Paper, entitled “Fighting COVID-19: China in Action,” which provides that China has “fully utilized” artificial intelligence to not only research, analyze, and forecast COVID-19 trends and developments, but also to track infected persons, identify risk groups, and facilitate the resumption of normal business operations.”⁴⁵⁹ During the pandemic, China has used AI for surveillance of infected individuals and medical imaging. China also sought to reduce human interaction by using computers and robots for various purposes and have proven to be very effective in reducing exposure, providing necessary services such as assistance for healthcare professionals,

⁴⁵⁷ Zhang Zhihao, China to focus on innovation to boost economy, lives, China Daily (Sept. 1, 2018),

<https://www.chinadaily.com.cn/a/201801/09/WS5a543bd5a31008cf16da5fa9.html>

⁴⁵⁸ Huw Roberts, Josh Cows, Jessica Morley, Mariarosaria Taddeo, Vincent Wang, Luciano Floridi, *The Chinese approach to artificial intelligence: an analysis of policy, ethics, and regulation*, AI and Society (June 17, 2020),

<https://link.springer.com/article/10.1007/s00146-020-00992-2>

⁴⁵⁹ “Full Text: Fighting COVID-19: China in Action,” Xinhua News via the State Council, June 7, 2020, <https://archive.vn/NYJQg>.

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improving efficiency in hospitals, and precautionary measures for returning to normal business operations.⁴⁶⁰

AI Ethics

Despite widely reported cases of unethical use of AI in China, the Chinese authorities, private companies and academia have been active in the global trend towards formulating and issuing statements on AI ethics. The AIDP goes as far as to outline a specific desire for China to become a world leader in defining ethical norms and standards for AI.⁴⁶¹ There has been a recent wave of attempts to define ethical standards by both government bodies and private companies.

In 2017, China's Artificial Intelligence Industry Alliance (AIIA), released a draft "joint pledge" on self-discipline in the artificial intelligence (AI) industry - emphasizing AI ethics, safety, standardization, and international engagement.⁴⁶²

In 2019, the Beijing Academy of Artificial Intelligence (BAAI) released the Beijing AI Principles⁴⁶³ to be followed for the research and development, use, and governance of AI. The Beijing Principles are centered around doing good for humanity, using AI "properly," and having the foresight to predict and adapt to future threats. But just like other principles presented, they are still very vague.

In line with these principles, Governance Principles for Developing Responsible Artificial Intelligence⁴⁶⁴ prepared in 2019, by the National New Generation Artificial Intelligence Governance Expert Committee that was established by China's Ministry of Science and Technology. This document outlines eight principles for the governance of AI: harmony and friendliness, fairness and justice, inclusivity and sharing, respect for human rights and privacy, security, shared responsibility, open collaboration and

⁴⁶⁰ Emily Weinstain, *China's use of AI in its Covid-19 Response*, the Center for Security and Emerging Technology (Aug. 2020), <https://cset.georgetown.edu/research/chinas-use-of-ai-in-its-covid-19-response/>

⁴⁶¹ *China's 'New Generation Artificial Intelligence Development Plan'* (July 20, 2017) (English translation), <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/>

⁴⁶² *Chinese AI Alliance Drafts Self-Discipline 'Joint Pledge'* (June 17, 2019) (English translation) <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/translation-chinese-ai-alliance-drafts-self-discipline-joint-pledge/>

⁴⁶³ Beijing Principles, <https://www.baai.ac.cn/news/beijing-ai-principles-en.html>

⁴⁶⁴ *Chinese Expert Group Offers 'Governance Principles' for 'Responsible AI'* (June 17, 2019) (English translation), <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/translation-chinese-expert-group-offers-governance-principles-responsible-ai/>

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agility to deal with new and emerging risks. Above all else, AI development should begin from enhancing the common well-being of humanity, states the document.

Another important document is a white paper on AI standards⁴⁶⁵ released in 2018 by the Standardization Administration of the People's Republic of China, the national level body responsible for developing technical standards. Three key principles for setting the ethical requirements of AI technologies are (1) the ultimate goal of AI is to benefit human welfare; (2) transparency and the need to establish accountability as a requirement for both the development and the deployment of AI systems and solutions; (3) protection of intellectual property.

It is apparent that these principles bear some similarity to the OECD AI Principles. Nevertheless, the principles established in China place a greater emphasis on social responsibility, community relations, national security and economic growth, with relatively less focus on individual rights. However, establishing ethical AI principles can be viewed as a first step and a signal that China wishes to become engaged in a dialogue with international partners.

AI and Surveillance

As early as the 2008 Beijing Olympics, China began to deploy new technologies for mass surveillance.⁴⁶⁶ China put in place more than two million CCTV cameras in Shenzhen, making it the most watched city in the world.⁴⁶⁷ In recent years the techniques for mass surveillance have expanded rapidly, most notably in Shenzhen, also to oversee the Muslim minority group the Uyghurs, and in Hong Kong. Modern systems for mass surveillance rely on AI techniques for such as activities as facial recognition, communications analysis and location tracking. As one industry publication has reported, "In the world of surveillance, no country invests more in its AI-fueled startups and growth-stage businesses than China. And no technology epitomises this investment more than facial

⁴⁶⁵ Jeffrey Ding and Paul Triolo, *Translation: excerpts from China's 'White Paper on Artificial Intelligence Standardization'*, New America (June 20, 2018), <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/translation-excerpts-chinas-white-paper-artificial-intelligence-standardization/>

⁴⁶⁶ EPIC/Privacy International, *Privacy and Human Rights: An International Survey of Privacy Laws and Developments* (2006) (Report on People's Republic of China), http://www.worldlii.org/int/journals/EPICPrivHR/2006/PHR2006-People_s.html;

⁴⁶⁷ Naomi Wolf, *China's All-Seeing Eye With the help of U.S. defense contractors, China is building the prototype for a high-tech police state. It is ready for export*, Rolling Stone (May 15, 2018), <https://www.commondreams.org/views/2008/05/15/chinas-all-seeing-eye>.

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recognition—a technology that courts more controversy than almost any other.”⁴⁶⁸ Forbes continues, “But a thriving domestic tech base has done nothing to quell the concerns of citizens. China is held up as a Big Brother example of what should be avoided by campaigners in the West, but that doesn't help people living in China.”

In September 2019, China's information-technology ministry announced that telecom carriers must scan the face of anyone applying for mobile and internet service.⁴⁶⁹ There are over 850 million mobile Internet users in China. Meanwhile, the Hong Kong government invoked emergency powers in October 2019 to ban demonstrators from wearing face masks.⁴⁷⁰

Protests in Hong Kong over the use of facial surveillance are widespread. Umbrellas once used to deflect pepper spray, are now deployed to shield protester activities from the digital eyes of cameras.⁴⁷¹ It is notable that the battle over the use of facial surveillance in Hong Kong began with widespread public protests about a national security law that extended police authority over the semi-autonomous region.⁴⁷² According to the AP, “Young Hong Kong residents protesting a proposed extradition law that would allow suspects to be sent to China for trial are seeking to safeguard their identities from potential retaliation by authorities employing mass data collection and sophisticated facial recognition technology.”⁴⁷³

China is also exporting the model of mass surveillance by facial recognition to other parts of the world. A detailed report, published in *The Atlantic* in September 2020, stated that “Xi Jinping is using artificial intelligence to enhance his government's totalitarian control—and he's

⁴⁶⁸ Zak Doffman, *Hong Kong Exposes Both Sides Of China's Relentless Facial Recognition Machine* (Aug. 26, 2019),

<https://www.forbes.com/sites/zakdoffman/2019/08/26/hong-kong-exposes-both-sides-of-chinas-relentless-facial-recognition-machine/>

⁴⁶⁹ Jane Li, Getting a new mobile number in China will involve a facial-recognition test, Quartz (Oct. 3, 2019), <https://qz.com/1720832/china-introduces-facial-recognition-step-to-get-new-mobile-number/>

⁴⁷⁰ Ilara Maria Sala, *Hong Kong is turning to a 1922 law that was used to quell a seamen's strike to ban face masks*, Quartz (Oct. 4, 2019), <https://qz.com/1721951/anti-mask-law-the-1922-origins-of-hong-kongs-emergency-powers/>

⁴⁷¹ Paul Mozur and Lin Qiqing, *Hong Kong Takes Symbolic Stand Against China's High-Tech Controls*, New York Times (Oct. 3, 2019), <https://www.nytimes.com/2019/10/03/technology/hong-kong-china-tech-surveillance.html>

⁴⁷² BBC, *Hong Kong security law: What is it and is it worrying?* (June 30, 2020), <https://www.bbc.com/news/world-asia-china-52765838>

⁴⁷³ Christopher Bodeen, *Hong Kong protesters wary of Chinese surveillance technology* (June 13, 2019), <https://apnews.com/article/028636932a874675a3a5749b7a533969>

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exporting this technology to regimes around the globe.”⁴⁷⁴ According to *The Atlantic*, “Xi’s pronouncements on AI have a sinister edge. Artificial intelligence has applications in nearly every human domain, from the instant translation of spoken language to early viral-outbreak detection. But Xi also wants to use AI’s awesome analytical powers to push China to the cutting edge of surveillance. He wants to build an all-seeing digital system of social control, patrolled by precog algorithms that identify potential dissenters in real time.”

In September 2020, the United States State Department issued voluntary guidelines for American companies “to prevent their products or services . . . from being misused by government end-users to commit human rights abuses.”⁴⁷⁵ The report comes amid growing concern that China is rapidly exporting its own surveillance capabilities to authoritarian regimes around the world, as part of its Belt and Road Initiative (BRI).⁴⁷⁶ But the *Washington Post* recently highlighted the ongoing role of US-made technology in the sweeping surveillance of China, and notably the Uighur Muslim minority.⁴⁷⁷ The *Washington Post* explained that “the aim is to monitor cars, phones and faces — putting together patterns of behavior for ‘predictive policing’ that justifies snatching people off the street for imprisonment or so-called reeducation. This complex opened four years ago, and it operates on the power of chips manufactured by U.S. supercomputer companies Intel and Nvidia.”

⁴⁷⁴ Ross Anderson, *The Panopticon is Already Here*, *The Atlantic* (Sept. 2020), <https://www.theatlantic.com/magazine/archive/2020/09/china-ai-surveillance/614197/>

⁴⁷⁵ U.S. Department of State, Bureau of Democracy, Human Rights, and Labor, *U.S. Department of State Guidance on Implementing the "UN Guiding Principles" for Transactions Linked to Foreign Government End-Users for Products or Services with Surveillance Capabilities* (Sept. 30, 2020), <https://www.state.gov/key-topics-bureau-of-democracy-human-rights-and-labor/due-diligence-guidance/>

⁴⁷⁶ Abhijnan Rej, *US Issues Human Rights Guidelines for Exporters of Surveillance Tech: The directions to American businesses come amid growing concern around China’s export of advanced mass-surveillance capabilities to more than 60 countries*, *The Diplomat* (Oct. 2, 2020), <https://thediplomat.com/2020/10/us-issues-human-rights-guidelines-for-exporters-of-surveillance-tech/>

⁴⁷⁷ *The Washington Post*, Editorial, *U.S.-made technologies are aiding China’s surveillance of Uighurs. How should Washington respond?* (Nov. 28, 2020), https://www.washingtonpost.com/opinions/us-made-technologies-are-aiding-chinas-surveillance-of-uighurs-how-should-washington-respond/2020/11/26/0218bbb4-2dc9-11eb-bac0-50bb17126614_story.html

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The *Post* editorial followed a *New York Times* investigation which found extensive involvement by U.S. firms in the Chinese surveillance industry.⁴⁷⁸

Public Opinion

There is growing concern in China about the misuse of personal data and the risk of data breaches. In a 2018 survey by the Internet Society of China, 54% of respondents stating that they considered the problem of personal data breaches as ‘severe.’⁴⁷⁹ The World Economic Forum suggest that 2018-2019 “could be viewed as the time when the Chinese public woke up to privacy.” According to the WEF, a controversy arose in 2019 when the Zao app, using AI and machine learning techniques, allowed users to swap faces with celebrities in movies or TV shows.⁴⁸⁰ “It went viral as a tool for creating deepfakes, but concerns soon arose as people noticed that Zao’s user agreement gave the app the global rights to use any image or video created on the platform for free.” The company later clarified that the app would not store any user’s facial information. Chinese consumers also challenged Alibaba when they learned that they had been enrolled in a credit scoring system by default and without consent. “Under pressure, Alibaba apologized.”

Data Protection

China adopted the Personal Information Protection Law (PIPL) in August, 2021.⁴⁸¹ It took effect in November 2021. The aims of the PIPL are to

1. to protect the rights and interests of individuals (为了保护个人信息权益),

⁴⁷⁸ Paul Mazur and Don Clark, *China’s Surveillance State Sucks Up Data. U.S. Tech Is Key to Sorting It: Intel and Nvidia chips power a supercomputing center that tracks people in a place where government suppresses minorities, raising questions about the tech industry’s responsibility* (Nov. 22, 2020),

<https://www.nytimes.com/2020/11/22/technology/china-intel-nvidia-xinjiang.html>

⁴⁷⁹ Technology Review, *China’s citizens do care about their data privacy, actually*, (Mar. 28, 2018), <https://www.technologyreview.com/2018/03/28/671113/chinas-citizens-do-care-about-their-data-privacy-actually/>

⁴⁸⁰ World Economic Forum, *China is waking up to data protection and privacy. Here’s why that matters* (Nov. 12, 2019), <https://www.weforum.org/agenda/2019/11/china-data-privacy-laws-guideline/>

⁴⁸¹ Stanford University, Digichina, *Translation: Personal Information Protection Law of the People’s Republic of China – Effective Nov. 1, 2021* (Sept. 7, 2021), <https://digichina.stanford.edu/work/translation-personal-information-protection-law-of-the-peoples-republic-of-china-effective-nov-1-2021/>

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2. to regulate personal information processing activities (规范个人信息处理活动),
3. to safeguard the lawful and “orderly flow” of data (保障个人信息依法有序自由流动),
4. to facilitate reasonable use of personal information (促进个人信息合理利用) (Art. 1).⁴⁸²

Key provisions include Article 7 (principle of transparency), Article 24 (algorithmic transparency including explanation, with a new clause to limit price discrimination) Article 28 (establishing the use of personal identity recognition equipment in public venues), Articles 55 and 56 (the renamed “personal information protection impact assessments”), and Article 62 (coordination of AI by state cybersecurity authority). Other provisions align with the GDPR, such as the definition of personal data, deidentification, and anonymization, as well as the need for a legal basis to process personal data. Article 34 extends the PIPL obligations to state authorities. And provisions on data minimization and purpose specification limite personal data available to the state for public security purposes. Other provisions limit the export of personal data out of China (Article 36). And other provisions limit the use of children’s data (Articles 28 and 31).

Fundamental Rights & OECD AI Principles

China has endorsed Universal Declaration of Human Rights and G20 AI Principles. As a party to the UDHR, China shall recognize “the inherent dignity” of all human beings and to secure their fundamental rights to “privacy.” Privacy rights are guaranteed to Chinese citizens under the Constitution. However, Article 40 of the Chinese constitution justifies the invasion of privacy “to meet the needs of State security.” Furthermore, the Constitution is regarded as irrelevant, as there is neither a constitutional court nor any possibility to assert constitutional rights.⁴⁸³ Relatedly, problematic exemptions for the collection and use of data, when it is related

⁴⁸² Future of Privacy Forum, China’s New Comprehensive Data Protection Law: Context, Stated Objectives, Key Provisions (Aug. 20, 2021), <https://fpf.org/blog/chinas-new-comprehensive-data-protection-law-context-stated-objectives-key-provisions/>

⁴⁸³ Greenleaf, *Data Privacy* (n 3) 196 f; Wang, ‘Redefining Privacy’ (n 11) 110; Ma and Roth (n 2) 355

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to security, health, or the flexibly interpretable “significant public interests”⁴⁸⁴ contribute to weak data protection in China.

These exemptions are also behind the big data collection and mass surveillance system, the Integrated Joint Operations Platform (IJOP),⁴⁸⁵ used in Xinjiang for monitoring minorities. Another example is Social Credit System, a system that collects all kinds of data about citizens and companies, sorts, analyses, evaluates, interprets and implements actions based on it. Thus, the strength of privacy protection in China is likely to be determined by the government’s decisions surrounding data collection and usage, rather than legal and practical constraints.⁴⁸⁶ Moreover, policies and administrative decisions on both central and provincial levels often contradict the legal protection⁴⁸⁷ as administrative agencies may ignore the law on the basis of party policy, morality, public opinion, or other political considerations.⁴⁸⁸

Freedom House is extremely critical of China’s failure to protect rights and civil liberties in the most recent survey of country practices.⁴⁸⁹ China score 9/100 and was designated “no free.” According to Freedom House, “China’s authoritarian regime has become increasingly repressive in recent years. The ruling Chinese Communist Party (CCP) is tightening its control over the state bureaucracy, the media, online speech, religious groups, universities, businesses, and civil society associations, and it has undermined its own already modest rule-of-law reforms.”

Evaluation

China has emerged as one of the first AI superpowers and has an ambitious plan of leading the world in AI by 2030. In addition to the G20 AI Principles, China has endorsed important principles on AI and ethics and recently announced a new law on data protection and a regulation of

⁴⁸⁴ Sacks S (2018) New China Data Privacy Standard Looks More Far-Reaching than GDPR. Center for Strategic and International Studies. <https://www.csis.org/analysis/new-china-data-privacystandard-looks-more-far-reaching-gdpr>.

⁴⁸⁵ China’s Big Brother App, Human Rights Watch <https://www.hrw.org/news/2019/05/01/interview-chinas-big-brother-app>

⁴⁸⁶ Huw Roberts, Josh Cows, Jessica Morley, Mariarosaria Taddeo, Vincent Wang, Luciano Floridi, *The Chinese approach to artificial intelligence: an analysis of policy, ethics, and regulation*, May 2020

⁴⁸⁷ Aktas, I. (2015). Uighur Separatism and Human Rights: A Contextual Analysis. In M. Kosmala-Mozłowska (Ed.), *Democracy and Human Rights in East Asia and Beyond – Critical Essays*. Warsaw: Collegium Civitas Press.

⁴⁸⁸ Wang J, Liu S (2019) *Ordering power under the party: a relational approach to law and politics in China*. Asian J Law Soc 6(1):1–18. <https://doi.org/10.1017/als.2018.40>

⁴⁸⁹ Freedom House, *Freedom in the World 2021 – China* (2021), <https://freedomhouse.org/country/china/freedom-world/2021>

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recommendation algorithms. However, China's use of its AI against ethnic minorities and protesters in Hong Kong, as well as a means to score citizens for their alliance with the state (a practice recently banned by the UNESCO Recommendation on AI Ethics), is the source of widespread fear and skepticism. There is also a concern about the development of lethal autonomous weapons. As China is now rapidly deploying AI systems, there is an urgent need to assess China's actual practices against global standards for human-centric AI.

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Colombia

National AI Strategy

At the launch of Colombia's draft Ethical Framework for AI, President Iván Duque Márquez highlighted the importance of an ethical framework on AI with 'tools that strengthen the principle of democracy, free competition and equity.'⁴⁹⁰ It is with these considerations along with ethics, social aspects, economic development and technological concepts that Colombia developed its AI policy.

The National Planning Department of Colombia, through the National Development Plan for 2018-2022 was the first to encourage the inclusion of emerging technologies of the Fourth Industrial Revolution, such as AI, the Internet of Things (IoT) and robotics in the digital transformation of national entities and strategies across all sectors.⁴⁹¹

Following this, the National Planning Department, the Ministry of Information and Communications Technology (MinTIC), and the Office of the President launched the country's National AI Strategy, titled the National Policy for Digital Transformation and AI (CONPES No. 3975).⁴⁹² This strategy introduced enabling social and economic conditions for the development of AI, with a framework of flexible principles and guidelines instead of a rule-based structure. While the strategy acknowledges its adoption of the OECD AI principles, it sets out 14 additional principles with a focus on four aspects namely inclusive growth, sustainable development, and well-being; building human capacity and preparing for labor market transition; fostering a digital ecosystem for AI; and providing an enabling policy environment for AI. The strategy also endorses the adoption of an ethical framework for the development of responsible and inclusive AI, utilization of data for the development of AI, and establishment of a market that uses AI productively and competitively.

To ensure the sustainable execution and continuity of AI public policy, various entities were created to coordinate the development and

⁴⁹⁰ Office of the President of the Republic of Colombia, *With the Ethical Framework for Artificial Intelligence, Colombia is at the forefront in Latin America: Duque*, (Nov. 25, 2020), <https://idm.presidencia.gov.co/prensa/con-el-marco-etico-de-inteligencia-artificial-colombia-se-pone-a-la-201125>

⁴⁹¹ Congress of the Republic of Colombia, *National Development Plan 2018-2022 'Pact for Colombia, Pact for Equity'*, (2019), <https://www.dnp.gov.co/DNPN/Paginas/Plan-Nacional-de-Desarrollo.aspx>

⁴⁹² Ministry of Information and Communications Technology (MinTIC), National Planning Department and the Office of the President, *National Policy for Digital Transformation and Artificial Intelligence (CONPES No. 3975)*, (Nov. 8, 2019), <https://colaboracion.dnp.gov.co/CDT/Conpes/Econ%C3%B3micos/3975.pdf>

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implementation of National AI Strategy and other AI policies in the country. This includes the Presidential Advisory for Economic Affairs and Digital Transformation (DAPRE), the AI Expert Mission and the International Council for AI. DAPRE coordinates the work of government functionaries in implementing digital transformation through various systems including AI based ones, while advising the government on the development of a digital ecosystem, along with the formulation and implementation of related policy.⁴⁹³ The AI expert mission or task force, based on the entity in the United States and United Kingdom serves as a bridge between regulators and experts. It includes experts from various professions who advise the government on policy formulation and assist them in developing a prospective roadmap for the implementation of AI policy, combining their technical and comprehensive vision.⁴⁹⁴ The AI expert mission was launched with 10 experts. The International Council of AI was proposed to integrate international experts in the implementation and deployment of Colombia's National AI systems.⁴⁹⁵ The Council consists of six government officials and nine international experts as permanent guests to collectively analyze and present policy proposals that will impact the development and deployment of AI. The Council will also review and guide the implementation of AI policy, while studying Colombia's position in international AI indices to determine points of improvement that can be integrated into a roadmap for the future of AI.

There are various policy intelligence tools in place to monitor the implementation of AI policy. For instance, SisCONPES monitors the implementation of each action line of the National AI Strategy, by reporting to implementing authorities on progress made and obstacles that arise.⁴⁹⁶

⁴⁹³ Office of the President of the Republic of Colombia, *Decree No. 1784 by which the structure of the Administrative Department of the Presidency of the Republic is modified*, (Dec. 2019), <https://bit.ly/3EWfUDk>

⁴⁹⁴ Office of the President of the Republic of Colombia and The Development Bank of Latin America (CAF), *Task force for the development and implementation of Artificial Intelligence in Colombia*, (Nov. 2020), <https://dapre.presidencia.gov.co/AtencionCiudadana/Documents/TASK-FORCE-para-desarrollo-implementacion-Colombia-propuesta-201120.pdf>

⁴⁹⁵ Office of the President of the Republic of Colombia and The Development Bank of Latin America (CAF), *International Council of Artificial Intelligence for Colombia*, (March 2021), <https://dapre.presidencia.gov.co/TD/INTERNATIONAL-COUNCIL-OF-ARTIFICIAL-INTELLIGENCE-FOR-COLOMBIA.pdf>

⁴⁹⁶ Office of the President of the Republic of Colombia, *Preparation and monitoring of CONPES documents*, <https://bit.ly/3klbcqX>

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Ethical Framework for Artificial Intelligence

In Colombia, it was believed that concerns arising from the implementation of emerging technology, such as AI can only be answered with an ethical framework.⁴⁹⁷ Thus, an ethical framework was developed around ethical principles that can serve as a criterion for evaluating the different uses and challenges that arise in this respect.

The Ethical Framework for AI was developed as a tool, that can be applied to different sectors taking into consideration the diversity of interests and opinions around the use of AI. The ten principles provided by the framework to guide the design, development, implementation and evaluation of AI systems include transparency, explainability, privacy, human oversight over AI decisions, security, responsibility, non-discrimination, inclusion, prevalence of the rights of children and adolescents, and social benefit.⁴⁹⁸

The framework also proposes an ethical algorithm register in which entities periodically report what their AI project is about, how they are implementing the AI ethics principles, and the ethical risks to the use of AI in their project. The register allows for the monitoring of progress in the implementation of AI principles and reinforces citizen participation by inviting their comments or questions on policies, good practices and projects related to AI.⁴⁹⁹ The ethical algorithm register of Colombia is based on the models of Amsterdam and Helsinki.⁵⁰⁰

⁴⁹⁷ The Development Bank of Latin America (CAF), *Why has Colombia positioned itself as a regional leader on Artificial Intelligence*, (Sept. 14, 2021),

<https://www.caf.com/es/conocimiento/visiones/2021/09/por-que-colombia-se-ha-posicionado-como-lider-regional-en-inteligencia-artificial/>

⁴⁹⁸ Office of the President of the Republic of Colombia and The Development Bank of Latin America (CAF), *Ethical Framework for Artificial Intelligence in Colombia*, (Aug.2020), https://cyber.harvard.edu/sites/default/files/2020-12/Colombia_AI_Ethical_Framework.pdf

⁴⁹⁹ Office of the President of the Republic of Colombia and The Development Bank of Latin America (CAF), *Ethical Framework for Artificial Intelligence in Colombia*, (May 2021), <https://bit.ly/3bRiXAm>

⁵⁰⁰ Center for Technology and Society Studies (CETyS) of the University of San Andrés, *The Colombian Case: Adopting collaborative governance as a path for implementing ethical artificial intelligence*, (2021), <https://repositorio.udes.edu.ar/jspui/bitstream/10908/18743/1/The%20Colombian%20case%20adopting%20collaborative%20governance%20as%20a%20path%20for%20implementing%20ethical%20artificial%20intelligence%20.pdf>

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Regulatory Sandboxes and Beaches

Colombia has adopted a smart regulation approach to AI policy through regulatory sandboxes and beaches.⁵⁰¹ This controlled environment was set up to experiment and test AI systems in the local context, to identify technical and governance flaws while promoting innovation.⁵⁰²

At first, a Draft Model Concept for the Design of Regulatory Sandboxes and Beaches in AI was published in August 2020 with public comment received from various stakeholders.⁵⁰³ The purpose of this policy was to understand technology before trying to regulate it, by balancing precaution with experimentation and learning. The document suggests a process of implementation that includes (1) defining a policy leadership to implement public policy; (2) defining emerging technologies and preliminary problems to be addressed; (3) completing a regulatory mapping of the impacted sector; (4) selecting a public entity to perform inspection and surveillance functions; (5) capacity building and training; (6) creating working groups; (7) designing a risk model and defining possible risks; (8) setting out a selection criteria for the risks; (9) designing the sandbox; (10) sharing the project for comment; (11) publishing and implementing; and (12) reporting on the findings and evidence.⁵⁰⁴

Later in 2020, a policy proposing a regulatory sandbox for Privacy and AI was open for public comments until November 30 by DAPRE along with the Superintendence of Industry and Commerce. The regulatory sandbox here is meant to be preventive, so AI systems related to e-commerce, advertising and marketing protect personal data from the stage of design to execution, using tools like privacy impact assessments and

⁵⁰¹ Regulatory sandboxes are a testbed for selected AI projects, where the regulatory framework is relaxed with some laws and regulations set aside while entities test their projects. Regulatory beaches are similar to regulatory sandboxes, but they are wider in scope. They allow a larger number of companies and sectors to participate in regulatory experimentation during extended amounts of time even longer than a year, with the goal of resolving industry problems.

⁵⁰² The Global Policy Journal, *The Colombia Case: A New Path for Developing Countries Addressing the Risks of Artificial Intelligence*, (May 2021), <https://bit.ly/3jVF2Cm>

⁵⁰³ Presidential Advisory for Economic Affairs and Digital Transformation (DAPRE), *Draft Model Concept for the Design of Regulatory Sandboxes & Beaches in AI: Document for discussion*, <https://bit.ly/3Gbd7XD>

⁵⁰⁴ Armando Guío Español, *Model Concept for the Design of Regulatory Sandboxes & Beaches in AI*, (August 2020), <https://dapre.presidencia.gov.co/AtencionCiudadana/DocumentosConsulta/consulta-200820-MODELO-CONCEPTUAL-DISENO-REGULATORY-SANDBOXES-BEACHES-IA.pdf>

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privacy by design. This document proposes (1) criteria to ensure compliance with regulation on data processing in AI; (2) proper processing of personal data in all stages of an AI project; (3) creation of AI products that respects individual rights to personal data; (4) advice to companies on the protection of personal data in AI systems; (5) adoption of a preventive approach to protect human rights in AI projects; (6) suggestion of amendments or modifications to Colombian regulations on technological advances.⁵⁰⁵

Public Participation

The Development Bank of Latin America (CAF) with the authorship of international expert, Armando Guío Español has developed AI policy and implementation documents, including the ethical framework for AI, a model concept for the design of regulatory sandboxes and beaches in AI, a data governance model, a task force on the development and implementation of AI, and the outline of an international council for the implementation of AI policy.⁵⁰⁶

Draft AI policies and legislations of Colombia have been opened for public comment from academia, national, regional and international civil society actors, intergovernmental organizations and the private sector. These consultations have taken on various forms. For example, an Expert Roundtable on Colombia's Draft AI Ethical Framework was organized by the Berkman Klein Center for Internet and Society at Harvard University.⁵⁰⁷

Additionally, the Ethical Framework for AI and its ethical algorithm register promote public participation in the implementation of AI ethics principles, as the registry is publicly accessible and includes an interactive channel where citizens can ask questions or post comments on the ethical implementation of AI.⁵⁰⁸ The presence of regulatory sandboxes and beaches also allow participation of the private sector and academic institutions in the development AI technology.

⁵⁰⁵ Presidential Advisory for Economic Affairs and Digital Transformation (DAPRE), and the Superintendence of Industry and Commerce, *Sandbox on privacy by design and by default in Artificial Intelligence projects*, (2020), https://www.sic.gov.co/sites/default/files/normatividad/112020/031120_Sandbox-sobre-privacidad-desde-el-diseno-y-por-defecto.pdf

⁵⁰⁶ Development Bank of Latin America, *Experience AI: Data and Artificial Intelligence in the Public Sector*, (2021), <https://scioteca.caf.com/handle/123456789/1793>

⁵⁰⁷ Berkman Klein Center for Internet and Society at Harvard University, *Summary Report of Expert Roundtable on Colombia's Draft AI Ethical Framework*, (Jan. 2021), https://cyber.harvard.edu/sites/default/files/2021-01/Colombia_Roundtable_Report.pdf

⁵⁰⁸ Office of the President of the Republic of Colombia and The Development Bank of Latin America (CAF), *Ethical Framework for Artificial Intelligence in Colombia*, (May 2021), <https://bit.ly/3bRiXAm>

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Research & Development

On 26 July 2019, MinTIC released an Information and Communication Technology (ICT) Plan for 2018-2022 titled ‘The Digital Future is for Everyone’. Highlighting the need to develop human capital, the ICT Plan proposes an AI Center of Excellence & Appropriation to generate innovative proposals that benefit the national system and serve as reference internationally.⁵⁰⁹

The ICT plan also emphasizes the importance of removing obstacles to the use of technology for digital businesses. In this respect, on 29 April 2019, the World Economic Centre for the Fourth Industrial Revolution was launched in Medellín, bringing together governments, the private sector, civil society organizations, academia, and tech experts from across the globe.⁵¹⁰ Together, these actors collaborate in designing, testing, and developing projects that prioritize policy and tech innovation on AI, the Internet of Things, blockchain, and robotics.⁵¹¹

To boost innovative AI research, Colombia launched a start-up incubator and accelerator, C-Emprende. In addition to scaling enterprises and mobilizing resources, C-Emprende facilitates the exchange of knowledge between national and international academia, private sector actors, investors, and government representatives.⁵¹²

Privacy and Data Protection

Data Protection in Colombia is governed by Article 15 of the Political Constitution.⁵¹³ Additionally, Colombia regulates financial, credit, commercial and services information⁵¹⁴ and personal data processing and databases.⁵¹⁵

⁵⁰⁹ Ministry of Information and Communications Technology (MinTIC), *ICT Plan 2018-2022 ‘The Digital Future is For Everyone’*, (2019), https://micrositios.mintic.gov.co/plan_tic_2018_2022/pdf/plan_tic_2018_2022_2019112_1.pdf

⁵¹⁰ World Economic Forum, *Centre for the Fourth Industrial Revolution*, <https://www.weforum.org/centre-for-the-fourth-industrial-revolution/affiliate-centres>

⁵¹¹ Centre for the Fourth Industrial Revolution Colombia, *Homepage*, <https://c4ir.co>

⁵¹² C-Emprende, *Homepage*, <https://innpulsacolombia.com/cemprende/quienes-somos>

⁵¹³ Congress of the Republic of Colombia, *Political Constitution of Colombia*, (1991), https://www.constituteproject.org/constitution/Colombia_2015.pdf?lang=en

⁵¹⁴ Congress of the Republic of Colombia, *Law 1266 of 2008 on the processing of financial data, credit records, and commercial information collected in Colombia or abroad*, (Dec. 31, 2008)

⁵¹⁵ Congress of the Republic of Colombia, *Law 1581 of 2012 on the protection of personal data* (Oct. 17, 2012), <https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=49981#:~:text=La%20presente%20ley%20tiene%20por,el%20art%C3%ADculo%2015%20de%20la>

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For the implementation and monitoring of regulations around privacy, the Personal Data Authority (DPA) was established under the Division of Data Protection of the Superintendence of Industry and Commerce, according to Article 19 of Law 1581. This authority functions as an oversight body, providing instructions and setting mandates, along with receiving complaints on the handling of data.

On automated decision-making, Law 1581 establishes that for personal data processing must be for a legitimate purpose under the Constitution and other laws, it must be notified to the subject, and the purpose must be specific. As a result, if automated decision-making is the purpose of processing data then (1) legitimate as per the Political Constitution and other laws of Colombia, (2) specific in purpose, and (3) informed to the data subject.⁵¹⁶

Secondary decrees, decisions and regulations provide a better understanding of data protection, AI, particularly the application of automated mechanisms to databases. Databases have been defined under Article 3 of Law 1581 as an organized set of personal data which is treated the same. Decree 886 that regulates Article 25 of Law 1581 explains this further by stating that, when automation is applied to databases containing personal data, it should be registered in the public directory of databases called the National Register of Databases.⁵¹⁷ Drawing from the necessity to register information from databases and the protection of the right to *habeas data*,⁵¹⁸ the Constitutional Court concluded that the administrator of a database has specific obligations regarding the quality of data being transmitted and allows data subjects to authorize how their information in an automated system is handled.⁵¹⁹ Additionally, Article 26 of Decree 1377 establishes the principle of proven liability, according to which those responsible for handling of personal data have an obligation to prove that

⁵¹⁶ Dejusticia, *Accountability of Google and other businesses in Colombia: Personal Data Protection in the Digital Age*, (2019), <https://www.dejusticia.org/wp-content/uploads/2019/01/Accountability-of-Google-and-other-Businesses-in-Colombia.pdf>

⁵¹⁷ Office of the President of the Republic of Colombia, *Decree 886 of 2014*, (2014), <https://www.suin-juriscol.gov.co/viewDocument.asp?id=1184150>

⁵¹⁸ *Habeas data* is a fundamental right and tool to provide legal protection to owners of personal data, particularly when faced with undue or illegal processing of their personal data by databases, or public or private registries

⁵¹⁹ Constitutional Court of Colombia, *Sentence C-1011/08: Habeas Data in statutory law and the handling of information contained in personal databases* (2008), <https://www.corteconstitucional.gov.co/relatoria/2008/C-1011-08.htm>

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they have taken sufficient and effective measures to abide by regulations, even when the data is processed by an automated method.⁵²⁰

In July 2020, through Resolution 38281, the Superintendence of Industry and Commerce concluded that Law 1581 is thematically and technologically neutral.⁵²¹ Thus, the provisions of Law 1581 apply to processing of any data regardless of techniques or technologies used. Protection of personal data extends to all techniques and tools, including AI in its use for predictive dialing, robocalls and nuisance calls. Nelson Remolina, the Superintendent for the Protection of Personal Data elaborated on this by stating that, while Colombian law allows for the creation, design, and use of technological innovations to process data, it must be done in a way that respects the legal system by complying with all rules to process personal data.⁵²²

Colombian privacy law differs in scope from GDPR, since it only applies to data processing carried out by data processors and data controllers within the country or to those who have a legal obligation under international laws and treaties. Unlike GDPR, Colombian privacy law also does not regulate the right to be forgotten and does not set out conditions under which data profiling is allowed. This could allow for exploitation of gaps in the law, providing lesser protection to individuals and their personal data.

Colombia was a primary sponsor of the 2020 GPA Resolution on Accountability in the Development and Use of Artificial Intelligence.⁵²³

Data Infrastructure

Colombia facilitates data access for those designing and developing AI systems, achieved by removing unnecessary and unjustified barriers to access information. To facilitate such data access and to generate social and

⁵²⁰ Office of the President of the Republic of Colombia, *Decree 1377 of 2013*, (2013), <http://www.suin-juriscol.gov.co/viewDocument.asp?ruta=Decretos/1276081>

⁵²¹ Superintendence of Industry and Commerce, *Resolution 38281*, (July 14, 2020), https://www.sic.gov.co/sites/default/files/files/Proteccion_Datos/Res%2038281%20del%2014VII2020%20Mervicol%20marcadores%20predictivos%20robocalls%20IA.pdf

⁵²² Ibero-American Data Protection Network (RIPD), *Colombian data protection authority concluded that predictive dialing, robocalls and artificial intelligence must comply with regulation regarding the processing of personal data*, (20 July 2020), <https://www.redipd.org/en/news/colombian-data-protection-authority-concluded-predictive-dialing-robocalls-and-artificial>

⁵²³ Global Privacy Assembly, *Resolution on Accountability in the Development and Use of Artificial Intelligence* (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>

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economic well-being, the Colombian government has developed data infrastructure policies with a shared dynamic and standardized resources across different actors. Thus, data infrastructure is used to strengthen institutional capacity to provide better quality services to citizens, to include citizens and the private sector in data governance, to drive innovation in governance, and to guide decision-making.

The first policy document on data infrastructure is the National Policy on Data Exploitation or CONPES No. 3920 of 2018, developed by the National Council on Economic and Social Policy, the National Planning Department, and the Office of the President.⁵²⁴ This policy uses data within a legal, ethical, and institutional framework to generate social and economic value; to increase the availability and interoperability of government data; to promote data culture in public entities, academia and the private sector; to promote data ethics and AI; and to provide test environments through data sandboxes, sandboxes on privacy and AI, and conceptual models for regulatory sandboxes and beaches in AI. To achieve this target, CONPES 3920 sets out 45 action steps with indicators, responsible parties, budgets and a timeline.

The second policy document is the National Data Infrastructure Plan (PNID) developed by MinTIC, the National Planning Department, and the Office of the President, with the support of the World Economic Centre for the Fourth Industrial Revolution.⁵²⁵ The draft of PNID was shared for public comment until 17 September 2021. PNID presents an approach to data as infrastructure, defines the components of data infrastructure, and provides a roadmap with concrete actions to implement data infrastructure in the country. This roadmap identifies 6 elements including governance, data, data leveraging, infrastructure interoperability, data security and privacy, as well as technical and technological input for data management.

For the successful integration of PNID into the data regulation ecosystem, between 2022 and 2025, the government intends to create guidelines for PNID; to identify priority data and create guidelines to ensure data quality; to develop a data infrastructure governance model; to identify

⁵²⁴ National Council on Economic and Social Policy, the National Planning Department, and the Office of the President, *National Policy on Data Exploitation (Big Data)*, (Apr. 17, 2018), https://www.mindeporte.gov.co/recursos_user/2020/Jur%C3%ADdica/Julio/Conpes_3920.pdf

⁵²⁵ Ministry of Information and Communications Technology (MinTIC), National Planning Department and the Office of the President, *National Data Infrastructure Plan (PNID)*, (Sept. 2021), https://mintic.gov.co/portal/715/articles-179710_recurso_2.pdf

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indicators for monitoring; and to draw up a collaborative participation strategy for different actors in the data ecosystem.

The third policy document is the Data Infrastructure Governance Model for the Development of Emerging Technologies that was created by DAPRE, the National Planning Department, and CAF.⁵²⁶ CONPES 3920 and PNID both emphasized the need to develop an institutional framework to accompany the development of data infrastructure. The governance model responds to this need. The governance model outlines five objectives to guide its design, including institutional coordination, private sector participation, confidence building, technical modelling, and international impact. Under each of these objectives, responsible parties or entities and specific tasks have been provided.

AI and the Judiciary

From 1996, the Colombian government introduced the use of technology in the administration of justice through Article 95 of Law 270, while mandating protection of confidentiality, privacy, and security of personal data.⁵²⁷ As a result, several government entities use AI in judicial aspects of their work. This includes the Constitutional Court, the Office of the Attorney General, and the Superintendence of Companies.

In the Constitutional Court of Colombia, where thousands of case documents are received daily, their processing has been expedited and improved using an AI system called Promotea. Applying machine learning abilities, this system investigates, analyses, identifies and suggests priority cases on health-related aspects within a few minutes.⁵²⁸ Additionally, it produces statistical reports, automates documentation, systematizes and synthesizes case law across the country, and improves security by

⁵²⁶ Presidential Advisory for Economic Affairs and Digital Transformation (DAPRE), the National Planning Department and the Development Bank of Latin America (CAF), *Data Infrastructure Governance Model for the Development of Emerging Technologies*, (August 2020), <https://bit.ly/306wVvn>

⁵²⁷ Congress of Colombia, *Law 270 of 1996*, (Mar. 7, 1996), <https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=6548#:~:text=Expte%20la%20Ley%20Estatutaria%20de,las%20jurisdicciones%20y%20altas%20Cortes.>

⁵²⁸ Juan Camilo Rivandeniera, *Prometea, artificial intelligence for the revision of guardianships in the Constitutional Court*, (22 March 2019), <https://www.ambitojuridico.com/noticias/informe/constitucional-y-derechos-humanos/prometea-inteligencia-artificial-para-la>

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integrating blockchain technology. This system that includes human oversight, improved the efficiency of case processing by 937%.⁵²⁹

The Office of the Attorney General makes use of an AI system called Fiscal Watson, which consolidates criminal cases across different databases and regional offices to analyze similar evidentiary elements such as *modus operandi*, physical attributes, types of weapon and other aspects.⁵³⁰ By accelerating and improving the processing of case information, Fiscal Watson has helped connect and solve similar cases across the country. The Attorney General has also suggested that Fiscal Watson can be used to identify irregularities in government contracts made during the COVID-19 pandemic, since all data and documentation is available online.⁵³¹

The Superintendence of Companies, an administrative body employs a robot assistant called Siarelis (System based on AI for the Resolution of Company Litigation) to exercise its discretionary judicial powers in corporate cases related to the piercing of the corporate veil, insolvency and so on.⁵³² Using Case Based Reasoning (CBR), Siarelis helps officials identify relevant case law that applies to a legal case and also provides users with possible decisions that could be reached in their case.⁵³³ The outcome reached by the system is decided based on the judicial history and precedent relevant to a specific case.

Facial Recognition

In Colombia, facial recognition technology is used extensively by the State. The Ministry of Transport is integrating a network of cameras with facial recognition technology throughout Bogota. This system that is meant to prevent and reduce road accidents, will become operational by

⁵²⁹ Laboratory of Innovation and Artificial Intelligence Buenos Aires (IA Lab), *Analyse 2016 sentences in 2 minutes? Prometea in the Constitutional Court of Colombia*, (Aug. 6, 2019), <https://ialab.com.ar/prometeacolombia/>

⁵³⁰ Pablo Medina Uribe and Luisa Fernanda Gomez, 'Watson,' *the intelligent investigator with which the Prosecutor's Office seeks to block crime*, (25 July 2020), <https://www.elpais.com.co/judicial/watson-el-investigador-inteligente-con-el-que-la-fiscalia-busca-cerrarle-el-paso-al-crimen.html>

⁵³¹ Vanguardia, *Fight against corruption in Santander will be done with Artificial Intelligence*, (24 June 2020), <https://www.vanguardia.com/politica/lucha-contra-la-corrupcion-en-santander-se-hara-con-inteligencia-artificial-XC2532257>

⁵³² Center for Technology and Society Studies (CETyS) of the University of San Andrés, *Readiness of the judicial sector for Artificial Intelligence in Latin America – Analytical and Exploratory Framework, Republic of Colombia*, (2021), <https://cetys.lat/wp-content/uploads/2021/09/colombia-ENG.pdf>

⁵³³ Superintendence of Companies, *Siarelis*, https://www.supersociedades.gov.co/delegatura_mercantiles/Paginas/siarelis.aspx

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December 2021 and provides the location of cameras for transparency.⁵³⁴ A facial recognition system to improve surveillance was also introduced by local authorities in September 2021, at a stadium in Barranquilla. This system combines cameras with access to unlimited databases to record and track individuals.⁵³⁵ The system will be used to identify and detain anyone with cases pending before the judicial system or any other relevant authority. The Atanasio Girardot stadium in Medellín also has 170 smart cameras installed for surveillance, since 2016.⁵³⁶ Expanding the reach of surveillance in the city, Medellín introduced 40 security robots with facial recognition capability and an integrated AI security system to patrol the city.⁵³⁷ The Border Control Agency located at El Dorado International Airport in Bogota uses the Iris recognition system, with the system expected to reach other airports in the country within the next few years.^{538 539}

Fundación Karisma, a civil society organization dedicated to supporting the responsible use of tech highlights the pitfalls of these systems. In their report titled *Discreet Cameras*, they point out that surveillance technology and biometric identification systems in Colombia only take into consideration the technical and impact considerations while assessing systems. There is no analysis using necessity, proportionality or the possible effect of the technology on human rights. Although the government tries to ensure transparency by sharing the location of video surveillance systems that use facial recognition technology, the right to privacy and other fundamental rights of individuals are still ignored.⁵⁴⁰

⁵³⁴ El Tiempo, *Do you agree with life-saving cameras recognizing your face?*, (Aug. 2, 2021), <https://www.eltiempo.com/bogota/camaras-salvavidas-tendrian-reconocimiento-facial-en-bogota-movilidad-607508>

⁵³⁵ El Tiempo, *Colombia vs Chile match will have facial recognition system*, (Sept. 9, 2021), <https://www.eltiempo.com/colombia/barranquilla/el-metropolitano-cuenta-con-sistema-de-reconocimiento-facial-616845>

⁵³⁶ NEC Corporation, *Integrated Surveillance and Security System for Atanasio Girardot Stadium - Medellín*, (2017), <https://www.nec.com/en/case/medellin/es/pdf/brochure.pdf>

⁵³⁷ El Tiempo, *Mayor Daniel Quintero revealed robots to track crime in Medellín*, (Aug. 11, 2021), <https://www.eltiempo.com/colombia/medellin/daniel-quintero-presento-robot-para-predecir-delitos-en-medellin-609912>

⁵³⁸ El Tiempo, *How is facial recognition done in Colombia?*, (May 17, 2019), <https://www.eltiempo.com/tecnosfera/dispositivos/colombia-que-usos-de-reconocimiento-facial-hay-en-el-pais-362220>

⁵³⁹ Bloomberg, *Gemalto's Biometric Authentication Technology revolutionizes automated border control in Colombia*, (3 Mar 2018), <https://www.bloomberg.com/press-releases/2018-05-03/gemalto-s-biometric-authentication-technology-revolutionizes-automated-border-control-in-colombia>

⁵⁴⁰ Fundación Karisma, *Discreet Cameras*, (2 February 2018), <https://web.karisma.org.co/camaras-indiscretas/>

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OECD/G20 AI Principles

Colombia has endorsed the OECD and G20 AI Principles. Colombia's Ethical Framework for AI introduced as a guideline for trustworthy AI, that provides standards for the ethical use and governance of AI and is aligned with the OECD AI principles.⁵⁴¹ Colombia has not joined the Global Partnership on AI (GPAI).⁵⁴² Additionally, Colombia has developed policy intelligence tools and a follow up plan to monitor the implementation of the OECD AI Principles, while identifying good practices to determine if OECD's recommendations to Colombia have been implemented.

Human Rights

Colombia is a signatory to many international human rights treaties and conventions. However, it is only considered to be partly free for the protection of human rights and transparency, due to the illegal surveillance operations by the state security forces.⁵⁴³ According to Article 93 of Colombia's Political Constitution, rights and duties in the national system are interpreted according to international treaties and conventions that have been ratified by its Congress.⁵⁴⁴ Thus, Colombia has made powerful commitments backed by strong action that encourages legal certainty, with an entire implementation, regulatory and monitoring ecosystem for AI. This is strengthened by expert contribution and public participation at the national, regional and international level. According to Freedom House, Colombia scores 65/100 for protection of political rights and civil liberties and is therefore designated "partly free."⁵⁴⁵

Lethal Autonomous Weapons

During the meeting of the Group of Governmental Experts (GGE) on lethal autonomous weapons (LAWS), Colombia issued a statement calling for multilateral regulation to ensure human control over autonomous

⁵⁴¹ Presidential Advisory for Economic Affairs and Digital Transformation (DAPRE), *Ethical Framework for Artificial Intelligence*, (Aug. 2020), <https://bit.ly/3jTbLJa>

⁵⁴² The Global Partnership on Artificial Intelligence (GPAI), *Members*, <https://www.gpai.ai/community/>

⁵⁴³ Semana, *Strikes without quarter: The Persecution of Semana*, (Jan. 12, 2020), <https://www.semana.com/nacion/articulo/persecucion-espionaje-y-amenazas-a-periodistas-de-la-revista-semana/647890/>

⁵⁴⁴ Congress of the Republic of Colombia, *Political Constitution of Colombia* (1991), https://www.constituteproject.org/constitution/Colombia_2015.pdf?lang=en

⁵⁴⁵ Human Rights Watch, *World Report 2021: Colombia*, (2021), <https://www.hrw.org/world-report/2021/country-chapters/colombia>

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weapons at all times, so no machine makes an autonomous decision.⁵⁴⁶ Colombia has called for a pre-emptive ban on all LAWS⁵⁴⁷ and for an international treaty that will ensure meaningful human control over any use of force.⁵⁴⁸

Evaluation

Colombia has anchored its AI policy in the Ethical Framework for Artificial Intelligence, which has influenced AI policies across Latin America. Colombia has also endorsed the OECD AI Principles. The Constitution of Colombia established a right to data protection, and the country has comprehensive national privacy law and a data protection agency. However, Colombia's laws do not include the algorithmic transparency provisions of the GDPR. There also growing concerns about the use of AI-enabled facial surveillance systems.

⁵⁴⁶ Government of Colombia, *Statement at the Convention on Certain Convention Weapons – Informal meeting of experts on Lethal Autonomous Weapons Systems*, (Apr.2015), https://www.reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2015/meeting-experts-laws/statements/17April_Colombia.pdf

⁵⁴⁷ World Summit of Nobel Peace Laureates, *Final Declaration of the 16th World Summit of Nobel Peace Laureates*, (4 February 2017), <http://www.nobelpeacesummit.com/final-declaration-of-the-16th-world-summit-of-nobel-peace-laureates/>

⁵⁴⁸ Government of Colombia, *Statement at the Convention on Certain Conventional Weapons – Group of Government al Experts on Lethal Autonomous Weapons Systems*, (13 April 2018), https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2018/gge/statements/13April_Colombia.pdf

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Denmark

National AI Strategy

The Danish government unveiled their National AI strategy in March 2019.⁵⁴⁹ The Danish strategy on AI development outlines the issues that must be tackled, and defines specific policy efforts and key initiatives. The National AI strategy intends to establish Denmark as a leader in responsible AI development. There are four objectives to accomplish this goal:

- Establish a consistent ethical and human-centred foundation for artificial intelligence;
- Prioritize and promote research in artificial intelligence;
- Encourage the growth of Danish firms through the development and use of artificial intelligence;
- Ascertain that the public sector utilizes AI to provide world-class services to citizens and society.

In addition, the strategy is divided into seven major initiatives which includes the following:

- Digital Hub Denmark;
- SME:Digital;
- The Technology Pact;
- Strengthened Computational Thinking in Elementary Schools;
- Data as a Growth Driver;
- Agile Regulation for New Business Models; and
- Strengthened Cyber Security in Businesses.

The Danish strategy, which featured a budget of 1 billion DKK for initiatives through 2025,⁵⁵⁰ is based on proposals from a Digital Growth Panel⁵⁵¹ and the Danish Government's Disruption Committee.⁵⁵²

⁵⁴⁹ The Danish Government, *National Strategy for Artificial Intelligence (2019)* https://en.digst.dk/media/19337/305755_gb_version_final-a.pdf

⁵⁵⁰ Ministry of Industry, Business and Financial Affairs, *New Strategy to make Denmark the New Digital Frontrunner* (2018), <https://eng.em.dk/news/2018/januar/new-strategy-to-make-denmark-the-new-digital-frontrunner/>

⁵⁵¹ European Commission, Directorate-General for Communications Networks, Content and Technology, *Digital Growth Strategy 2025* (2021) <https://digital-skills-jobs.europa.eu/en/actions/national-initiatives/national-strategies/denmark-digital-growth-strategy-2025>

⁵⁵² The Danish Government, Ministry for Economic Affairs and the Interior, *Denmark's National Reform Programme (2019)*, <https://ec.europa.eu/info/sites/default/files/2019-european-semester-national-reform-programme-denmark-en.pdf>

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Denmark issued "Towards a Digital Growth Strategy – MADE" in October 2017,⁵⁵³ identifying AI as a significant growth sector and identifying a Danish center for artificial intelligence (DCKAI) as one of the targeted strategies.⁵⁵⁴ The Digital Strategy titled "A Strong and more Secure Digital Denmark" was established for the period of 2016-2020,⁵⁵⁵ which was issued in May 2016 and includes a quick mention of AI. The plan established three objectives:

- to create digital solutions simple to use and of high quality,
- to provide favorable conditions for growth, and
- to always promote security and confidence.

The OECD AI Principles

The OECD AI Principles were launched in May of 2019. Since then, as part of the Danish National Strategy for AI,⁵⁵⁶ the Danish government has initiated several aimed at laying a responsible foundation for AI, including a data ethics council and a data ethics toolbox.⁵⁵⁷ By promoting transparency and establishing data ethics standards, these initiatives hope to increase the ethical use of data and artificial intelligence in both the public and private sectors. The Danish government intends to launch a new set of policies aimed at ensuring a responsible digital economy that is both trustworthy, ethical, and safe in its use of data and artificial intelligence, as well as capable of creating innovative solutions.⁵⁵⁸

Universal Declaration of Human Rights

The 2030 Agenda is based on international human rights principles, and the Sustainable Development Goals (SDGs) aim to ensure that

⁵⁵³ Ministry of Foreign Affairs of Denmark, *The Danish Government Present the Digital Growth Strategy* (2018) <https://investindk.com/insights/the-danish-government-presents-digital-growth-strategy>

⁵⁵⁴ 2021.AI CVR, *Partnering with the Danish Center for Artificial Intelligence* (2017) <https://2021.ai/partnering-danish-center-artificial-intelligence/>

⁵⁵⁵ Danish Ministry of Finance, Local Government Denmark and Danish Regions, *A Strong and more Secure Digital Denmark, Digital Strategy 2016-2020* (2016), https://digst.dk/media/16165/ds_singlepage_uk_web.pdf

⁵⁵⁶ OECD.AI (2021), powered by EC/OECD (2021), database of national AI policies, accessed on 8/12/2021, <https://oecd.ai/en/dashboards/countries/Denmark>

⁵⁵⁷ Frederik Weiergang Larsen, *Denmark: an independent council and a labelling scheme to promote the ethical use of data* (2020), <https://oecd.ai/en/wonk/an-independent-council-and-seal-of-approval-among-denmarks-measures-to-promote-the-ethical-use-of-data>

⁵⁵⁸ Ministry of foreign Affairs Denmark, *Denmark Paves the way for the implementation of trust by design* (2021) <https://investindk.com/insights/denmark-paves-the-way-for-implementation-of-trust-by-design>

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everyone's human rights are met.⁵⁵⁹ Human rights are a top priority for Denmark, both nationally and internationally. Human rights is the foundation upon which all other advancements are built. Human rights are crucial to Denmark as they are the necessary foundation for a society to progress.⁵⁶⁰ The government pledged in January to respond to the CESCR 2019 recommendation that Denmark develop a legal framework requiring corporate entities to perform due diligence with respect to human rights in their operations.⁵⁶¹ Additionally, the CESCR urged that enterprises be held accountable for human rights breaches and that victims be given the opportunity to seek redress.⁵⁶² By year's end, the government had taken no efforts toward establishing the necessary legislative framework. Denmark's largest corporations, for example, are required by law to consider human rights and report on what they have done to defend them on a yearly basis.

The Danish Parliament established the Danish Centre for Human Rights in 1987, which was renamed the Danish Institute for Human Rights in 2002 (*Institut for Menneskerettigheder*). As Denmark's NHRI (National Human Rights Institute), the Institute has counterparts in other countries.⁵⁶³ Denmark, as a member of the United Nations, has ratified several human rights treaties, including those prohibiting torture and strengthening the rights of persons with disabilities.

Denmark has also ratified several European human rights instruments, including the European Convention on Human Rights (ECHR)⁵⁶⁴ and the establishment of the European Court of Human Rights (ECtHR or ECHR) in Strasbourg.⁵⁶⁵ Denmark, as an EU member, supports the European Parliament's human rights efforts. Denmark has a variety of mechanisms and authorities in place to safeguard civil rights. According to

⁵⁵⁹ Office of the High Commissioner for Human Rights, *Human Rights, the SDGs and the 2030 Agenda for Sustainable Development* (2019)

https://www.ohchr.org/Documents/HRBodies/UPR/SDGs_2030_Agenda.pdf

⁵⁶⁰ Amnesty International, *Denmark: Human Rights must be ensured for all* (2020)

<https://www.amnesty.org/en/documents/eur18/3229/2020/en/>

⁵⁶¹ The Danish Institute for Human Rights, *Documenting Business Respect for Human Rights* (2020)

https://menneskeret.dk/sites/menneskeret.dk/files/media/document/~%2020_00345-60%20Documenting%20Business%20Respect%20for%20Human%20Rights%202020%20504132_1_1.PDF

⁵⁶² Amnesty International, *Denmark 2021* (2020)

<https://www.amnesty.org/en/location/europe-and-central-asia/denmark/report-denmark/>

⁵⁶³ <https://www.humanrights.dk/>

⁵⁶⁴ European Court of Human Rights, Council of Europe, *European Convention on Human Rights (n.d)* https://www.echr.coe.int/documents/convention_eng.pdf

⁵⁶⁵ <https://www.echr.coe.int/pages/home.aspx?p=home>

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Freedom House, Denmark ranks very highly (97/100) for defense of political rights and civil liberties.⁵⁶⁶

Public Participation

Denmark provides programs that enable non-governmental actors (e.g., the academic community, business, civil society, and regional and local governments) to express their perspectives or provide expert advice that informs policy-making processes. These policy initiatives enable stakeholders or experts to engage in public discussions to share information and foster collaboration. Public awareness campaigns and civic engagement activities include informing and consulting with members of the public.⁵⁶⁷

Privacy and Data Protection

Denmark, like other European countries, has enacted laws to supplement the EU General Data Protection Regulation (GDPR).⁵⁶⁸ In Denmark, the GDPR and its Danish supplementary act, the Data Protection Act⁵⁶⁹ are the primary regulations governing the processing of personal data.

In addition to the GDPR's regulations, the Data Protection Act and national practice provide for certain exceptions to the GDPR's law governing the processing of personal data, most notably regarding the processing of personal data in the employment sector and the processing of national registration numbers. In 2002, the Danish Act on Personal Data Processing came into force, implementing Directive 95/46 EC. However, despite the fact that the Danish data protection regulation is approximately two decades old, until the GDPR was implemented in 2016, little attention was paid to data protection in Denmark. Prior to 2017–2018, the term 'data protection' was almost unknown to the broader Danish population and many businesses. Thus GDPR compliance has been a hot topic in recent years. Since the GDPR's adoption, Danish businesses have invested in data protection compliance, mostly to mitigate economic and legal risks.

⁵⁶⁶ Freedom House, *Freedom in the World 2021-Denmark* (2021),

<https://freedomhouse.org/country/denmark/freedom-world/2021>

⁵⁶⁷ OECD, *Public awareness campaigns and civic participation activities* (n.d)

https://oecd.ai/en/dashboards/policy-instruments/Public_awareness_campaigns_and_other_outreach_activities

⁵⁶⁸ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

⁵⁶⁹ Act No. 502 of 23 May 2018 on supplementary provisions to the regulation on the protection of natural persons with regard to the processing of personal data and on the free movement of such data.

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The Danish and other European regulatory agencies have released several recommendations and decisions interpreting the GDPR and national additional legislation, allowing Danish businesses to conduct significantly more targeted and resource-efficient compliance operations. Denmark has lagged behind the majority of other EU Member States, most notably Germany and France, when it comes to data protection knowledge and compliance. This situation is largely explained by the comparatively high level of trust in Danish society. On the other hand, Denmark appears to have caught up with the majority of Member States in recent years, owing largely to increasing public and company knowledge of data protection requirements, as well as huge countrywide corporate resource investments since 2016.

Denmark considered developing guidelines to assign specific initiatives aimed at bolstering government and business efforts in the areas of information technology security and data protection. Denmark has maintained a high level of trust in the public sector among both citizens and business.

According to Statistics Denmark, 83 percent of Danes have confidence in the way public authorities manage personal information.⁵⁷⁰ The government has set a goal of increasing this to 90% by 2024 in world-class digital services. To accomplish this goal and fully exploit the potential of artificial intelligence, a common ethical framework for the development and use of artificial intelligence is required. This instills confidence in the public sector's and private sector's work with data and new technologies. As a result, the government has established six ethical principles that will serve as the foundation for future development and application of artificial intelligence. Additionally, the government will launch several initiatives promoting a strong emphasis on data ethics. Artificial intelligence development and use must adhere to applicable legal frameworks. Personal data should always be used in accordance with the General Data Protection Regulation's fundamental principles. The legislative framework is found in the General Data Protection Regulation, administrative law, and other pieces of legislation that regulate, among other things, work with artificial intelligence.

AI Policies and Practices in the Public Sector

Denmark aims to support more effective deployment and use of new technologies, including AI, across the public sector. Among Europeans, Denmark has the most favorable attitudes about robotics and artificial

⁵⁷⁰ Danish Government, *National Strategy for Artificial Intelligence 25 (2019)*
https://en.digst.dk/media/19337/305755_gb_version_final-a.pdf

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intelligence, and they rank second in Europe in terms of learning the skills necessary for the future workforce, such as social cooperation, creativity, and digital literacy. Furthermore, Denmark is a leader in various subfields of artificial intelligence research, with notably strong ecosystems in algorithmics, machine learning for audio, robotics and computer vision, and natural language processing.

Oversight Mechanisms

The Danish government established an independent labelling scheme in collaboration with a consortium of the Confederation of Danish Industry, the Danish Chamber of Commerce, SMEdenmark, and the Danish Consumer Council. The seal is an independent labelling scheme awarded to businesses that meet the organization's requirements for cybersecurity and safe data handling connected to artificial intelligence.⁵⁷¹ The seal will tell consumers which companies handle data and AI in a trustworthy, ethical and secure way. As a seal of approval, it will hopefully create a market incentive for actors to be more data ethical. The consortium plans to launch the seal in the second half of 2020.

Denmark hopes that these initiatives will normalize the ethical use of data and create transparency and sustained awareness about data ethics in business, both in Denmark and globally. In 2019, the Danish government launched a program whose mission is to advise the public and private sectors on ethical matters related to data. In 2020, the council will define data ethics as well as investigate the ethical dimensions of data combination in the public sector. More generally, the council plans to increase awareness about ethical dilemmas, in part through public debate.

Universal Guidelines for AI

Denmark is one of the countries that have targeted AI strategies that include AI-related actions within broader plans of the Universal Guidelines for Artificial Intelligence. In supporting these guidelines, Denmark aims to increase AI researchers and skilled graduates; to strengthen national AI research capacity; and to translate AI research into public- and private-sector applications. In considering the economic, social, ethical, policy and legal implications of AI advances, the national initiatives reflect differences in national cultures, legal systems, country size and level of AI adoption, although policy implementation is at an early stage. This chapter also

⁵⁷¹ Larsen, F. (2020), “Denmark: An independent council and a labelling scheme to promote the ethical use of data”, The AI Wonk, OECD.AI Policy Observatory, <https://oecd.ai/wonk/an-independent-council-and-seal-of-approval-among-denmarks-measures-to-promote-the-ethical-use-of-data>

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examines recent developments in regulations and policies related to AI; however, it does not analyse or assess the realisation of the aims and goals of national initiatives, or the success of different approaches.

Independent Council for Ethical use of Data

The Danish government has launched several initiatives to establish a responsible foundation for AI as part of the Danish National Strategy for AI. A critical component of these initiatives is to increase the accountability of both the public and private sectors' use of data and AI by ensuring transparency and adhering to data ethical guidelines. The Danish government established an Independent Data Ethics Council in 2019 with the mission of advising the public and private sectors on data-related ethical issues. By 2020, the council would have defined data ethics and examined the ethical dimensions of data fusion in the public sector.

Evaluation

Denmark's National AI strategy, released in 2019, sets out an ambitious agenda for the country. Denmark has emphasized responsible AI development, established an independent Data Ethics Council, endorsed the OECD AI Principles, and promoted opportunities for public participation in the development of AI policy. Denmark has also introduced certification seals to promote trustworthy AI.

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Dominican Republic

National AI Strategy

The Dominican Republic does not currently have a formal National Strategy on Artificial Intelligence (AI), but there have been steps toward one. The Dominican Republic's Ministry of Economy, Planning and Development (MEPyD) detailed goals for "the pillars of the fourth industrial revolution, the internet of things, Big Data and big data analysis, cloud computing, artificial intelligence, among other aspects of the technology."⁵⁷² MEPyD Minister Juan Ariel Jiménez recognized that "large volumes of data, artificial intelligence and blockchain are transforming economic activities around the world. This technological trend has repercussions on production, social interaction, planning and, of course, on public management." The presentation detailed opportunities for citizens to participate in public debates to help further the MEPyD's commitment to become an "open, close, collaborative and transformative" institution.

The Dominican Republic has focused on using AI for public management and economic development. In 2021, President Luis Abinader issued *Decree 71-21*, creating the Dominican Republic's Digital Agenda 2030 and establishing the overseeing Digital Transformation Cabinet. The Cabinet "responds to the government's vision of making information and communication technologies a strategic tool for sustainable development. [sic] and inclusive for Dominican society."⁵⁷³ Lisandro Macarrulla, Minister of the Presidency, stressed that the Agenda "will raise national productivity and competitiveness levels, placing us in a better position in global markets. . . . [and] will improve the quality of life of citizens because they will be able to receive more and better services from the State and they will develop new skills that will allow them to access better jobs." However, none of the legal provisions specifically concern transparency.

The Vice Minister of Digital Agenda, José David Montilla, assured that working groups and thematic committees have been created that

⁵⁷²Gobierno de la República Economía, Planificación, MEPYD uses artificial intelligence to improve decision-making in public management (Nov. 28, 2019), <https://mepyd.gob.do/mepyd-utiliza-inteligencia-artificial-mejorar-la-toma-decisiones-la-gestion-publica>

⁵⁷³Presidencia de la República Dominicana, President Abinader creates the Digital Transformation Cabinet, 26 Aug. 2021, <https://presidencia.gob.do/noticias/presidente-abinader-crea-el-gabinete-de-transformacion-digital>; Luis Abinader, Decree 571-21 (Aug. 26, 2021). <https://presidencia.gob.do/sites/default/files/decree/2021-08/Decreto%20527-21%20Agenda%20Digital%202030.pdf>

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“include members of the cabinet, representatives of public and private institutions involved, specialists and volunteers, who will develop each of the pillars of the Agenda.” However, there is no independent oversight, as the Digital Transformation Cabinet will administratively depend on the Ministry of the Presidency.⁵⁷⁴

There are also initiatives among civil society focused on Artificial Intelligence policy in the Dominican Republic, notably the *Sociedad Dominicana de IA* (SODIA) (Dominican Society of AI).⁵⁷⁵ Founded in 2014 by a group of professors, students and collaborators, SODIA is a non-profit dedicated to the study, research and dissemination of AI. This society seeks to contribute to the creation of an ecosystem of AI in the Dominican Republic, organizing local events and collaborating with international associations such as the *Association for the Advancement of Artificial Intelligence*, the *Canadian Artificial Intelligence Association*, the *Spanish Association of AI*, the *Mexican Society of AI* and the *Argentine Association of AI*.

Privacy and Data Protection

The Dominican Republic has started to draft a new privacy and data protection law to become compliant with the Council of Europe’s Convention 108+, which has been modernized to cover artificially intelligent systems. Toward this effort, the Dominican Republic requested and is receiving the support of the Council of Europe.⁵⁷⁶

Human Rights

According to Freedom House, the Dominican Republic is “partly free,” with a score in 2020 of 67/100 for political rights and civil liberties, unchanged from 2020.⁵⁷⁷ According to the recent report, “The Dominican Republic holds regular elections that are relatively free, though recent years have been characterized by controversies around implementing a new electoral framework.”

⁵⁷⁴ Presidencia de la República Dominicana, President Abinader creates the Digital Transformation Cabinet, 26 Aug. 2021, <https://presidencia.gob.do/noticias/presidente-abinader-crea-el-gabinete-de-transformacion-digital>

⁵⁷⁵ Sociedad Dominicana de Inteligencia Artificial (SODIA), <http://www.socdia.org/>

⁵⁷⁶ GLACY+: The Dominican Republic works on new data protection law, Dec. 2019, https://www.coe.int/en/web/cybercrime/glacyplusactivities/-/asset_publisher/uKE6ShlCfApw/content/glacy-the-dominican-republic-works-on-new-data-protection-law

⁵⁷⁷ Freedom House, *Freedom in the World 2021 – Dominican Republic* (2021), <https://freedomhouse.org/country/dominican-republic/freedom-world/2021>

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Facial Recognition

In 2021, the Dominican Republic's General Director of Immigration, Enrique García, reported that facial recognition technology will be used to enforce security in airports and border entry to combat drug trafficking and international crime.⁵⁷⁸

Lethal Autonomous Weapons

The Dominican Republic also consented to the 11 Principles on Lethal Autonomous Weapons Systems (LAWS). These principles respond to challenges relating to the development of LAWS within the UN's Convention of Certain Conventional Weapons (CCW).⁵⁷⁹ These principles affirm "international humanitarian law applies to these systems; a human must always be responsible for the decision to use these systems; [and] States must examine the legality of these new weapons that they are developing or requiring at the design stage.

Evaluation

The Dominican Republic has much ground to cover, having yet to endorse or implement the OECD AI Principles,⁵⁸⁰ the Universal Guidelines for AI, or the 2018 GPA Resolution on AI and Ethics, or the 2020 GPA Resolution on AI and Accountability. New data protection laws guided by the Council of Europe's standards on human rights, democracy and the rule of law are positive steps, as are endorsements to international principles of transparency. As the country focuses on capacity building and digitization, how the Dominican Republic uses AI technology should be closely monitored, especially as the country adopts facial recognition technology in law enforcement.

⁵⁷⁸ Arecoa, *DR airports will strengthen security with facial recognition technology* (Apr. 20, 2021), <https://www.arecoa.com/aeropuertos/2021/04/20/aeropuertos-rd-reforzaran-seguridad-tecnologia-reconocimiento-facial/>

⁵⁷⁹ France Diplomacy, *11 Principles on Lethal Autonomous Weapons Systems (LAWS)*, https://www.diplomatie.gouv.fr/en/french-foreign-policy/united-nations/multilateralism-a-principle-of-action-for-france/alliance-for-multilateralism/article/11-principles-on-lethal-autonomous-weapons-systems-laws#sommaire_2.

⁵⁸⁰ <https://www.oecd.org/digital/artificial-intelligence/ai-principles/>

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Egypt

National AI Strategy

In November 2019⁵⁸¹ the Egyptian Cabinet approved the formation of a National Council⁵⁸² for Artificial Intelligence (NCAI) made up of representatives from all relevant government entities, as well as independent experts in the field of Artificial Intelligence (AI).⁵⁸³ The Technical Committee of the National Council later published Egypt’s National AI Strategy, building on the previous work of the Ministry of Communications and Information Technology and the Ministry of Higher Education and Scientific Research, along with input from independent experts and private sector companies.⁵⁸⁴ The deployment of the National Strategy is considered to be a key step toward Egypt achieving its relevant UN Sustainable Development Goals (namely goals 4, 5, 8, 9, 10, 11),⁵⁸⁵ a top priority for the country’s extensive development road map.⁵⁸⁶

The primary objectives of the Egyptian National AI Strategy are to:

- 1) Exploit AI technologies to support the achievement of Egypt’s sustainable development goals, to the benefit of all Egyptians.
- 2) Play a key role in facilitating regional cooperation within the African and Arab regions and establish Egypt as an active international player in AI.⁵⁸⁷

The strategy consists of four pillars:

- 1) AI for government: the automation of government processes and the embedding of AI in decision-making cycles in order to increase efficiency and transparency.
- 2) AI for development: the application of AI in different economic sectors, prioritizing agriculture/environment/water management; healthcare; Arabic natural language processing;

⁵⁸¹ Ministry of Communications and Information Technology, Egypt National Artificial Intelligence Strategy, July 2021, § 10, https://mcit.gov.eg/Upcont/Documents/Publications_672021000_Egypt-National-AI-Strategy-English.pdf (hereinafter “Egypt National AI Strategy”)

⁵⁸² National Council for Artificial Intelligence (NCAI), Ministry of Communications and Information Technology (Egypt), https://mcit.gov.eg/en/Artificial_Intelligence.

⁵⁸³ Egypt National AI Strategy, §2.

⁵⁸⁴ *Id.*

⁵⁸⁵ *Id.*, §5.

⁵⁸⁶ *Id.*, §4.

⁵⁸⁷ *Id.*, §2.

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economic planning and development; and manufacturing and smart infrastructure management.

- 3) Capacity building: increasing general awareness of AI and providing professional training.
- 4) International activities: fostering cooperation at both the regional and the international level.

In turn, these four pillars are supported by four categories of enablers:

- 1) Governance: including ethics, laws and regulations, tracking and monitoring.
- 2) Data: including collection, management and monetization strategies.
- 3) Ecosystem: including private sector, research and academia, and civil society
- 4) Infrastructure: including fair access to compute, storage, networking, and other assets.⁵⁸⁸

The National Strategy will be implemented in a phased approach. The first phase, which started in 2020 and which will last until the end of 2022⁵⁸⁹ is focused on proving the value of AI in different domains and on building the foundations upon which to build AI at scale.⁵⁹⁰ In the second phase, also intended to last 3 years, the emphasis will be placed on expanding AI into additional sectors. Simultaneously, the government intends to roll out AI applications at scale, to establish a “paperless, collaborative, and smart” government.⁵⁹¹

Public Participation

The Ministry for Communications and Information Technology has launched an AI Platform⁵⁹² which allows the public to easily access the National Strategy, in addition to AI news, details about AI events, projects, and capacity-building programs, and information about AI partnerships with governments, international organizations, private sector companies, and academia. The AI Platform also includes a page where researchers can submit academic articles. Neither the National Council for AI nor the Ministry for Communications and Information Technology, however, has sought public feedback on any AI policy proposals, nor have they

⁵⁸⁸ Egypt National AI Strategy, §2.

⁵⁸⁹ *Id.*

⁵⁹⁰ *Id.*, §11.2.

⁵⁹¹ *Id.*

⁵⁹² Ministry of Communications and Information Technology, *Egypt Artificial Intelligence Platform*, <https://ai.gov.eg>. (hereinafter “Egypt AI Platform”)

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established any meaningful mechanisms by which individuals or groups can express concerns around the use of AI.

Regional Leadership

Egypt is actively working to bring the perspective of developing countries to international discussions, thereby helping to narrow the AI knowledge and development gap between developed and developing countries, as well as helping to foster the use of AI applications in the latter group.⁵⁹³ In 2019, Egypt participated in the drafting of the UNESCO AI recommendations, serving as the Ad Hoc Expert Group's vice-chair.⁵⁹⁴ Egypt is also positioning itself as a regional leader in the AI policy world, having helped create the African's Union's African Working Group on AI, a group tasked with drafting a continent-wide AI strategy.⁵⁹⁵ In 2021, UNESCO distributed an AI needs assessment to African countries, the results of which would inform the African Union's Working Group future work.⁵⁹⁶ UNESCO distilled their survey findings into four key recommendations: the creation of an AI policy toolkit, the development of implementation guides and model use cases, the deployment of AI pilot projects in areas of interest to African countries, and the establishment of policy guidelines to tackle gender equality issues in AI.⁵⁹⁷

Egypt also chairs the Arab League's AI Working Group.⁵⁹⁸ In October 2021, the group held their second meeting, in which they discussed the general outline of a unified Arab strategy for AI.⁵⁹⁹

⁵⁹³ Egypt National AI Strategy, §9.

⁵⁹⁴ Egypt AI Platform, Partnerships, <https://ai.gov.eg/Partnerships>.

⁵⁹⁵ François Cadelon, Hind El Bedraoui, Hamid Maher, *Developing an Artificial Intelligence Strategy for Africa* (Feb. 9, 2021) <https://oecd-development-matters.org/2021/02/09/developing-an-artificial-intelligence-for-africa-strategy/>.

⁵⁹⁶ UNESCO, *UNESCO launches Artificial Intelligence Needs Assessment Survey in Africa* (Mar. 4, 2021), <https://en.unesco.org/news/unesco-launches-artificial-intelligence-needs-assessment-survey-africa>.

⁵⁹⁷ UNESCO, *Artificial intelligence needs assessment survey in Africa* (2021), <https://unesdoc.unesco.org/ark:/48223/pf0000375410>.

⁵⁹⁸ Ministry of Communications and Information Technology, *Egypt Elected Chair of Arab AI Working Group*, (Feb. 16, 2021), https://mcit.gov.eg/en/Media_Center/Latest_News/News/57187.

⁵⁹⁹ Ministry of Communications and Information Technology, *Egypt Chairs Second Meeting of Arab AI Working Group* (Oct. 18, 2021) https://mcit.gov.eg/en/Media_Center/Latest_News/News/63741.

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Responsible AI

The following points list major Key Performance Indicators (KPIs) for ensuring Ethical AI in Egypt:

- The establishment of a dedicated track within NCAI for AI Ethics.
- Publish Guidelines for Responsible and Ethical development of AI.
- A set of rules and regulations for responsible AI use.
- Ethics in AI/technology courses being offered in universities as part of computing degrees.⁶⁰⁰

Most significantly, Egypt is currently developing the Egyptian Charter on Responsible AI,⁶⁰¹ which the government purports will demonstrate how the country is implementing and/or adjusting the OECD AI Principles to suit its unique goals. The document will include guidelines and best practices for assessing AI systems.

OECD/G20 AI Principles

Egypt has endorsed the OECD AI Principles and has taken a few meaningful actions to begin implementing them. As reported by the OECD in their 2021 white paper “State of implementation of the OECD principles,” Egypt has set up a governing body (the National Council for AI) to oversee the implementation of their AI strategy.⁶⁰² This is a concrete first step toward fulfilling the OECD recommendation of ensuring “a policy environment that will open the way to deployment of trustworthy AI systems.” However, this recommendation will only be satisfied if Egypt adopts AI policies that protect human rights and that ensure the responsible, transparent, and fair use of the technology.

Egypt has also taken steps toward fulfilling three of the four other OECD recommendations. The creation of both the AI Platform and the new Egyptian Center of Excellence⁶⁰³ a government group that will work with private or academic partners to deliver AI projects on behalf of beneficiaries, help to “foster accessible AI ecosystems with digital infrastructure and technologies and mechanisms to share data and knowledge.” Empowering “people with the skills for AI and support workers for a fair transition” will be accomplished through enrollments in

⁶⁰⁰ Egypt National AI Strategy, §10.1.2

⁶⁰¹ Egypt AI Platform, AI Strategy Info, <https://ai.gov.eg/strategy/strategy-info>.

⁶⁰² Organisation for Economic Co-operation and Development (OECD), "State of implementation of the OECD AI Principles: Insights from national AI policies", OECD Digital Economy Papers, No. 311, 18 June 2021, <https://doi.org/10.1787/1cd40c44-en>, pg. 10.

⁶⁰³ Egypt AI Platform, Egyptian AI Center of Excellence (AIEG), <https://ai.gov.eg/strategy/center-of-excellence>.

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the newly created “Faculties of AI” at eight public and private Egyptian universities.⁶⁰⁴ Egypt’s cooperation “across borders and sectors to progress on responsible stewardship of trustworthy AI” is evidenced by its participation in and leadership of international AI committees.

The final OECD recommendation is that governments “facilitate public and private investment in research & development to spur innovation in trustworthy AI.” The Egyptian government’s future plans set a public goal of 7.7% of Egyptian Gross Domestic Product deriving from AI & robotics by 2030.⁶⁰⁵

Human Rights

While Egypt has endorsed the Universal Declaration of Human Rights, its human rights record has been highly criticized, with Freedom House giving the country a freedom score of 18/100 for 2021.⁶⁰⁶ In March 2021, 31 UN member states penned a joint declaration, supported by numerous NGOS, strongly condemning human rights abuses in Egypt. The declaration highlighted constraints on citizens’ freedom of expression, as well as their ability to voice political opposition and to peacefully assemble.⁶⁰⁷

Biometric Recognition

Egypt is increasingly adopting biometric technologies for security and surveillance. A recent deal was struck between the Arab Organization for Industrialization and Idemia, a leading biometric company, for the latter to produce biometric devices, including facial recognition systems, in Egypt.⁶⁰⁸ The Egyptian government contracted with Idemia in early 2020 to build a biometric ID system.⁶⁰⁹ In 2021, Fingo, another organization

⁶⁰⁴ Sally Radwan, Samar Sobeih, *Egypt’s AI strategy is more about development than AI*, OECD.ai Policy Observatory, 26 May 2021, <https://oecd.ai/en/wonk/egypt-ai-strategy>.

⁶⁰⁵ Rebellion Research, *Egypt AI: Egypt’s Artificial Intelligence Future* (Mar. 14, 2021), <https://www.rebellionresearch.com/egypts-artificial-intelligence-future>.

⁶⁰⁶ Freedom House, *Freedom in the World 2021*, <https://freedomhouse.org/country/egypt/freedom-world/2021>.

⁶⁰⁷ Human Rights Watch, *Condemnation of Egypt’s Abuses at UN Rights Body: Overdue Action is a Step Forward* (Mar. 12, 2021), <https://www.hrw.org/news/2021/03/12/condemnation-egypts-abuses-un-rights-body#>.

⁶⁰⁸ Ayang MacDonald, *Idemia renews Mauritania contract, signs deal with AOI for biometric device production in Egypt*, Biometric Update.COM (Nov. 9, 2020) <https://www.biometricupdate.com/202011/idemia-renews-mauritania-contract-signs-deal-with-aoi-for-biometric-device-production-in-egypt>

⁶⁰⁹ Chris Burt, *Idemia to build biometrics-backed digital identity service in Egypt, supply TSA trials, joins Kantara*, Biometric Update.COM (Mar. 12, 2020),

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specializing in biometrics, announced it had partnered with Egypt to develop a vein-based recognition system for the country's national ID program.⁶¹⁰

Evaluation

Egypt has made progress toward implementing the OECD AI Principles. These efforts have had the dual purpose of increasing AI capacity within its borders, for example by fostering private sector AI projects or by establishing AI Faculties at Egyptian universities. Similarly, many of Egypt's AI endeavours have been dedicated to bolstering its leadership credentials, such as by heading international working groups. Less has been done to enshrine AI principles and practices based in human rights across Egypt's public and private sectors. More information on how Egypt plans to implement the OECD AI Principles will be available once the country releases its Charter on Responsible AI, though this may not alleviate all concerns, as Egypt has stated the document will expound on not only the implementation of OECD Principles, but also their modification so as to better conform to Egypt's objectives. This, in combination with a lack of public participation and a poor track record of human rights, allows us to accord Egypt only middling scores.

<https://www.biometricupdate.com/202003/idemia-to-build-biometrics-backed-digital-identity-service-in-egypt-supply-tsa-trials-joins-kantara>.

⁶¹⁰ Fingo, "Egypt to unlock futuristic ID verification with finger-vein recognition tech", 18 Feb. 2021, <https://www.fingo.to/media/egypt-to-unlock-futuristic-id-verification-with-finger-vein-recognition-tech/>

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Estonia

A global leader in the use of digital technologies for e-government,⁶¹¹ the Estonian public sector has adopted at least 41 AI projects and has a goal of having at least 50 AI use cases by the end of 2020.⁶¹² In 2018, the Estonian Undersecretary for Communications and State Information Systems emphasized the importance of facilitating AI in Estonia for investment and innovation, as well as for public administration.⁶¹³ In light of its commitment to e-government, Estonia emphasizes the use of AI for government services.⁶¹⁴ Indeed, *KrattAI* refers to “the vision of how digital public services should work in the age of artificial intelligence;” or more specifically, *KrattAI* is described as an “interoperable network of AI applications, which enable citizens to use public services with virtual assistants through voice-based interaction.”⁶¹⁵

The Estonian government makes use of automated decision-making in many different contexts.⁶¹⁶ For example, the Tax and Customs Board uses automated decision-making to facilitate tax refunds following the submission of an online income tax return. Other examples include the use of tachographs on lorries and automated speed checks on motorways to issue cautionary fines and the use of automated decision-making for the determination of a child’s school on the basis of their registered residence.⁶¹⁷ There has been international coverage of Estonia’s ambitious plans for AI

⁶¹¹ e-estonia, <https://e-estonia.com>.

⁶¹² Republic of Estonia GCIO Office, *Artificial Intelligence for Estonia*, <https://www.kratid.ee/in-english>

⁶¹³ Riigikantselei, *Estonia will have an Artificial Intelligence Strategy* (Mar. 27, 2018) <https://www.riigikantselei.ee/et/uudised/cesti-saab-tehisintellekti-strateegia>; Tanel Kerikmäe and Evelin Pärn-Lee, *Legal Dilemmas of Estonian Artificial Intelligence Strategy: In Between of E-Society and Global Race, AI & Society* (2020).

⁶¹⁴ It has been noted that the “Estonian public sector is highly digitalized, whereas the private sector is not.” Tanel Kerikmäe and Evelin Pärn-Lee, *Legal Dilemmas of Estonian Artificial Intelligence Strategy: In Between of E-Society and Global Race, AI & Society* (2020).

⁶¹⁵ KRATT Artificial Intelligence Programme of #Estonia, #KrattAI: roadmap for 2020 https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_19625e00a7b84900b99e952b1ce7d21a.pdf; Republic of Estonia, Ministry of Economic Affairs and Communications, *Report of Estonia’s AI Taskforce* (May 2019), https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf. The report of Estonia's AI Taskforce defined ‘kratt’ as being “a practical application that uses artificial intelligence and that fulfils a specific function.”

⁶¹⁶ See also #KrattAI Roadmap for 2020 <https://www.kratid.ee/roadmap>.

⁶¹⁷ Council of State of the Netherlands and ACA-Europe, *An Exploration of Technology and the Law* (May 14, 2018), <http://www.aca-europe.eu/colloquia/2018/Estonia.pdf>.

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in the public sector – including on the issue of “Robot Judges.”⁶¹⁸ The Estonian court system embraces digitalization and started an e-File system in 2005. The use of AI to tackle an immense backlog of cases has been considered, including the adoption of projects that can make “autonomous decisions within more common court procedures/tasks that would otherwise occupy judges and lawyers alike for hours.”⁶¹⁹

National AI Strategy

The Estonian Cabinet adopted its National AI Strategy in July 2019.⁶²⁰ The Government Chief Information Officer Office, based in the Ministry of Economic Affairs and Communications, is tasked with steering the AI Strategy. The National AI Strategy builds on a May 2019 report of Estonia’s AI Taskforce.⁶²¹ The actions detailed in the AI Strategy are designed to advance the adoption of AI solutions in both the private and public sectors, to increase AI capacities and research and development, and to develop the legal environment to facilitate AI. The AI Strategy commits to the establishment of a steering group, comprised of government representatives and other stakeholders, in order to monitor the implementation of the AI Strategy. In addition, the e-Estonia Council will consider the strategy’s implementation annually. The AI Strategy is a short-term strategy, intended to apply up until 2021. By adopting a short-term strategy, Estonia intends to gain insight and develop a long-term strategy in response to the experience. Estonia will monitor the development of the short-term action plan and keep the European Union informed of developments.

In spite of Estonia’s national digital adviser initially proposing the adoption of a law granting legal personality to AI, Estonia’s AI Taskforce concluded that no substantial legal changes are currently required to address the issues presented by AI.⁶²² The Taskforce Report maintained that: “Both

⁶¹⁸ Eric Niller, *Can AI Be a Fair Judge in Court? Estonia Thinks So*, Wired (Mar. 23, 2019) <https://www.wired.com/story/can-ai-be-fair-judge-court-estonia-thinks-so/>.

⁶¹⁹ Anett Numa, *Artificial Intelligence as the New Reality of E-justice*, e-estonia (Apr. 2020) <https://e-estonia.com/artificial-intelligence-as-the-new-reality-of-e-justice/>; <https://e-estonia.com/artificial-intelligence-as-the-new-reality-of-e-justice/>.

⁶²⁰ *Estonia’s National AI Strategy 2019-2021* (July 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_27a618cb80a648c38be427194affa2f3.pdf.

⁶²¹ *Report of Estonia’s AI Taskforce* (May 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf.

⁶²² *Report of Estonia’s AI Taskforce* (May 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf; See Astghik Grigoryan, *Estonia: Government Issues Artificial Intelligence Report* (July 31,

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now and in the foreseeable future, kratts are and will be human tools, meaning that they perform tasks determined by humans and express the intention of humans directly or indirectly.” Accordingly, the AI Taskforce Report clarifies that the “actions” of AI are attributable to the relevant state body or private party that uses the AI solution.⁶²³ Minor changes recommended include the removal of obsolete laws and providing additional clarity in order to facilitate the use of AI. Estonia’s Chief Information Officer stated that Estonia wants to “build on the EU framework, not to start creating and arguing” for a separate Estonian framework.⁶²⁴

Neither the AI Strategy nor the AI Taskforce Report provide significant detail on questions related to the ethics of artificial intelligence. Reference is, however, made to guidance provided by the European Commission for the development and implementation of trustworthy artificial intelligence.⁶²⁵ The Taskforce Report acknowledges that “trustworthy artificial intelligence must be guided by the principles of human rights, positive rights, and values, thus ensuring the ethics dimension and objective.”⁶²⁶ The Report recognizes the relevance of the EU Charter of Fundamental Rights and refers to the following rights as central according to the Commission guidance on AI:

- The right to human dignity.
- The right to freedom.
- Respect of the principles of democracy and the state, based on the rule of law.

2019), <https://www.loc.gov/law/foreign-news/article/estonia-government-issues-artificial-intelligence-report/>.

⁶²³ Estonia’s National AI Strategy (July 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_27a618cb80a648c38be427194affa2f3.pdf.

⁶²⁴ Astghik Grigoryan, *Estonia: Government Issues Artificial Intelligence Report*, US Library of Congress (July 31, 2019) <https://www.loc.gov/law/foreign-news/article/estonia-government-issues-artificial-intelligence-report/>; referencing Ronald Liive, *Estonian State IT Manager Siim Sikkut: If There Were 1% in the State Budget for Science, We Could Talk More About Kratind*, DigiGeenius (May 5, 2019). In 2018, Estonia signed up to a European Union Declaration of Cooperation on Artificial Intelligence <https://ec.europa.eu/digital-single-market/en/news/eu-member-states-sign-cooperate-artificial-intelligence>.

⁶²⁵ Report of Estonia’s AI Taskforce (May 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf; European Commission, *Ethics Guidelines for Trustworthy AI* (Apr. 8, 2019) <https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai>.

⁶²⁶ Report of Estonia’s AI Taskforce (May 2019), https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf.

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- Right to equality, non-discrimination, and acknowledgement of minorities.
- Civil rights.

To ensure that the development and use of AI is ethical, the Taskforce Report emphasizes the importance of ensuring that AI is human-centric; that rights, ethics principles, and values are fundamental; and that AI may bring unintended consequences. The AI Strategy references the EU guidelines that identify the importance of the following values: human agency, technical reliability, privacy and data management, transparency, non-discrimination, social and environmental well-being, and responsibility.

OECD AI Principles

In May 2019, Estonia signed the OECD Principles on Artificial Intelligence, “agreeing to uphold international standards that aim to ensure AI systems are designed to be robust, safe, fair and trustworthy.”⁶²⁷

Human Rights

Estonia is a member of the European Union and the Council of Europe and is, accordingly, committed to the upholding of the Charter of Fundamental Rights and the European Convention on Human Rights. Estonia is committed to the Universal Declaration on Human Rights and has acceded to international human rights treaties, such as the International Covenant on Civil and Political Rights. The Estonian Constitution grants basic rights to citizens.

In Freedom House’s 2020 and 2021 Country Reports, Estonia ranked highly (94/100). It was reported that, ‘Democratic institutions are strong, and political and civil rights are widely respected in Estonia.’⁶²⁸ On the issue of openness and transparency, Freedom House reported that “Estonia is well-known for its transparency and well-developed e-governance services. Recently, however, several security flaws in these systems were revealed. While the government announced a plan to remedy the situation, additional resources to support the maintenance and further expansion of the e-governance program are needed.”

⁶²⁷ OECD, *Forty-two countries adopt new OECD Principles on Artificial Intelligence* (May 22, 2019), <https://www.oecd.org/science/forty-two-countries-adopt-new-oecd-principles-on-artificial-intelligence.htm>.

⁶²⁸ Freedom House, *Freedom in the World 2021 – Estonia* (2021), <https://freedomhouse.org/country/estonia/freedom-world/2021>

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In a 2018 report of the Commissioner for Human Rights of the Council of Europe, the Commissioner urged the Estonian authorities to give careful consideration “to the ethical, legal and human rights implications of using robots and artificial intelligence in the care of older persons” given Estonia’s strong focus on digitalization, new technologies, and AI.⁶²⁹

Algorithmic Transparency

Estonia is also a member of the Council of Europe and was among the first states to ratify the modernized Privacy Convention.⁶³⁰ Article 9(1)(c) of the Convention provides a right for algorithm transparency. As a member of the European Union, Estonia is also committed to the protection of personal data as required by Article 8 of the Charter of Fundamental Rights and the data protection laws of the EU. The Personal Data Protection Act was enacted in 2018 in order to adapt the GDPR and to implement the Law Enforcement Directive into Estonian law.⁶³¹ Accordingly, the processing of personal data in Estonia must comply with the data protection principles, including the principles of purpose limitation, minimization, and fair and lawful processing. Moreover, automated processing can only be carried out in specific circumstances and data subjects are granted specific rights in that context. Article 17 of the Personal Data Protection Act places limits on automated processing.⁶³² The Estonian Supervisory Authority is the Data Protection Inspectorate.⁶³³

The Estonian government provides a data tracker tool accessible through the state portal (eesti.ee) that enables anyone with an eID to keep track of which institutions have accessed their data and for what purposes.⁶³⁴ As pointed out on the e-estonia website, transparency is “fundamental to foster trust in the effective functioning of the whole system.” Notably, information is also provided regarding automated processing although Algorithm Watch states that it “is not always clear if data is used as a part

⁶²⁹ Council of Europe, Commissioner for Human Rights, *Report of the Commissioner for Human Rights of the Council of Europe Dunja Mijatović Following her Visit to Estonia from 11 to 15 June 2018*, 21 <https://rm.coe.int/report-of-the-council-of-europe-commissioner-for-human-rights-dunja-mi/16808d77f4>.

⁶³⁰ Council of Europe, *Estonia, 7th State to ratify Convention 108+* (Sept. 16, 2020), <https://www.coe.int/en/web/human-rights-rule-of-law/-/estonia-7th-state-to-ratify-convention-108->

⁶³¹ Personal Data Protection Act <https://www.riigiteataja.ee/en/eli/523012019001/consolide>.

⁶³² Algo: Aware, *State-of-the-Art Report: Algorithmic Decision-Making* (Dec. 2018) <https://actuary.eu/wp-content/uploads/2019/02/AlgoAware-State-of-the-Art-Report.pdf>.

⁶³³ Data Protection Inspectorate <https://www.aki.ee/en>.

⁶³⁴ Federico Plantera, ‘Data Tracker - Tool that Builds Trust in Institutions’ (e-estonia, September 2019) <https://e-estonia.com/data-tracker-build-citizen-trust/>.

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of an automatic process or viewed by an official.”⁶³⁵ In spite of the ambition of this tool, the Estonian Human Rights Center argue that the data provided is variable depending on the service and at times not detailed enough. To assist transparency and understanding, the Estonian Human Rights Center suggests that visual depictions of data use should be provided.⁶³⁶ Similarly, Algorithm Watch state that the current tool does not provide a “clear understanding of what profiling is done by the state, which data is collected, how it is used, and for what purpose.”⁶³⁷

The Ministry of Justice intends to draft legislation addressing high-risk algorithmic systems that will require the creators of AI (both public and private) to provide transparency regarding when AI communicates with an individual, processes an individual’s data, or makes a decision on the basis of the individual’s data.⁶³⁸ A representative of the Ministry said that non-transparency of decisions is the biggest threat. When it comes to AI, based on current knowledge, even the person who wrote the algorithm's code is unable to explain the reasons behind a decision, as the system is self-learning and self-evolving. “An assessment or a decision made by an algorithm may have a significant impact on fundamental rights no matter whether we are speaking of a self-learning or a human-defined algorithm. It is a duty of a country of rule of law to be foresightful and prevent serious interferences with fundamental rights by means of setting out a relevant legislative framework,” said Kai Härmand with the Ministry of Justice.

Public Participation

In 2018, the Estonian government brought together an expert group to participate in a cross-sectional coordination project on AI.⁶³⁹ The three tasks of this expert group were to

⁶³⁵ Algorithm Watch, *Automating Society Report 2020 75* (Oct. 2020), <https://automatingsociety.algorithmwatch.org/wp-content/uploads/2020/10/Automating-Society-Report-2020.pdf>.

⁶³⁶ Kari Käsper and Liina Rajavee, *Inimõigused, Infoühiskond Ja Eesti: Esialgne Kaardistus* (Estonian Human Rights Centre 2019) <https://humanrights.ee/app/uploads/2019/12/EIK-kaardistamine.pdf> (Estonian).

⁶³⁷ Algorithm Watch, *Automating Society Report 2020 75* (Oct. 2020), <https://automatingsociety.algorithmwatch.org/wp-content/uploads/2020/10/Automating-Society-Report-2020.pdf>.

⁶³⁸ Estonian Ministry, *Use of AI must Respect Fundamental Rights* (Aug. 19, 2020) www.baltic-course.com/eng/Technology/?doc=158411&output=d.

⁶³⁹ *Report of Estonia's AI Taskforce* 42 (May 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf.

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- prepare draft legislation to ensure clarity in the Estonian judicial area and organize the necessary supervision;
- develop the so-called Estonian artificial intelligence action plan;
- notify the public about the implementation of kratts and introduce possible options.

Participants in the group included representatives from state authorities, the private sector, universities, and sectoral experts. In order to prepare the report, interviews were conducted, including with company representatives involved in the development of AI and ICT representatives from universities. Working groups (in the fields of law, education, and the public sector) were also assembled for discussion.⁶⁴⁰ There is a commitment to the importance of diverse inputs in the AI debate. The e-estonia website states:

In these debates, technical and legal expertise goes a long way. But the discussion must also involve the public. Honest, meaningful debate requires that dreamy utopias be balanced with open discussions about AI's controversial attributes and threats. Only this can create user-friendly legislation that's equipped to reduce legal nightmares in the long-term.⁶⁴¹

Documents relating to the AI Strategy are accessible on the internet. The website Krattid provides links to the National Artificial Intelligence Strategy, the Report of Estonia's AI Taskforce, the 'Vision Paper on #KrattAI: The Next Stage of Digital Public Services in #eEstonia', and the '#KrattAI Roadmap for 2020'.⁶⁴²

Evaluation

Estonia has set out a short-term AI Strategy formed from the AI Taskforce Report. As a member of the European Union and the Council of Europe, Estonia is committed to the protection of human rights, ethics in AI, and algorithmic transparency. Estonia has also endorsed the OECD AI Principles and signed the Declaration of Collaboration on AI in the Nordic-Baltic Region which includes a commitment "to develop ethical and

⁶⁴⁰ *Report of Estonia's AI Taskforce May* (2019) (See Annex for details on membership, 42 https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf).

⁶⁴¹ e-estonia, *AI and the Kratt Momentum* (Oct. 2018) <https://e-estonia.com/ai-and-the-kratt-momentum/>.

⁶⁴² Krattid, *Search for Estonia*, <https://www.krattid.ee/in-english>.

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transparent guidelines, standards, norms and principles that can be employed as a steering mechanism to guide AI programmes.”⁶⁴³ In spite of these commitments, neither the AI Strategy nor the AI Taskforce Report consider the issues of ethics and human rights in significant depth. Due to the short-term nature of the current AI Strategy, there is an opportunity – and apparent intention – for Estonia to adopt a clear ethical framework in practice.

⁶⁴³ Government of Sweden, Nordic Council of Ministers, *AI in the Nordic-Baltic region* (May 14, 2018), https://www.regeringen.se/49a602/globalassets/regeringen/dokument/naringsdepartementet/20180514_nmr_deklaration-slutlig-webb.pdf.

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Finland

National Approach to Artificial Intelligence

In 2017, Finland was among the first countries to develop a national AI strategy, establishing proposed target dates and allocating public funds in furtherance of the country's AI-related business objectives. At that time, Finland explained that it implemented this AI strategy to: (1) enhance business competitiveness using AI, (2) ensure top-level expertise and attract top experts, (3) provide the world's best public services, and (4) make Finland a front runner in the age of AI.⁶⁴⁴ To that end, in May 2017, Finland's Minister of Economic Affairs launched "Finland's AI Programme,"⁶⁴⁵ an operational program charged with "turning Finland into a leading country in the application of artificial intelligence." The Programme focused on three areas -- an efficient public sector, a well-functioning society, and a competitive business and industry sector.⁶⁴⁶ Under the operational umbrella of the AI Programme, the Minister of Economic Affairs identified five tasks necessary to achieve this objective:

- 1) To generate a snapshot of the current status and prospects for AI and robotics around the world and in Finland.
- 2) To propose a goal state, which Finland should strive to achieve in the application of AI in collaboration with companies, research institutes, educational institutions and public organizations.
- 3) To enter a proposal on measures the implementation of which is necessary in order to achieve the stated objectives. Special attention must be given to the field's innovation activities, preparedness for changes to working life, increasing education and upgrading the qualifications of those in the labour market.
- 4) To draw up a model for the implementation of the plan that will ensure the efficient realisation of the operational programme.

⁶⁴⁴ OECD, *State of Implementation of the OECD AI Principles* 18 (June 2021), <https://read.oecd.org/10.1787/1cd40c44-en?format=pdf>.

⁶⁴⁵ *AI Finland Background* (2018), <https://www.tekoalyaika.fi/en/background/>

⁶⁴⁶ Ministry of Economic Affairs and Employment, *Leading the way into the age of artificial*

Intelligence: Final Report of Finland's Artificial Intelligence Programme 44 (2019) ("Final Report"),

https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/161688/41_19_Leading%20the%20way%20into%20the%20age%20of%20artificial%20intelligence.pdf.

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- 5) To prepare a proposal for the expansion of the working group’s task description and composition, so as to allow it to develop the measures necessary for the promotion of AI in the long-term and analyse the more broad-scoped societal change related to digitalisation and provide proposals for solutions to the Government.

The Minister of Economic Affairs also appointed a steering committee, which included representatives from the public, private, and research sectors, and charged the steering committee with publishing a report containing the committee’s recommendations regarding the operationalization of Finland’s AI Programme. The Minister of Economic Affairs also established four subgroups “assigned to participate in the compilation and implementation of the Finnish AI Programme” and focused on four (4) key areas: (1) expertise and innovations; (2) data and platform economy; (3) transformation of society and work; and (4) ethics.

In December 2017, the steering committee published the first of three reports entitled, “Finland’s age of artificial intelligence⁶⁴⁷: Turning Finland into a leading country in the application of artificial intelligence.” (Finland, 2017). The report examined “the significance of artificial intelligence to Finland’s well-being, revised the programme objectives, and made eight (8) recommendations for actions, which, if implemented, would facilitate Finland’s objective to “adopt and benefit from AI”⁶⁴⁸:

- 1) Enhancement of business competitiveness through the use of AI
- 2) Effective utilization of data in all sectors
- 3) Ensure AI can be adopted more quickly and easily
- 4) Ensure top-level expertise and attract top experts
- 5) Make bold decisions and investments
- 6) Build the world’s best public services
- 7) Establish new models for collaboration
- 8) Make Finland a front runner in the age of AI

In June 2018, the transformation of work and society subgroup, working under the direction of the AI Programme steering group, published a second report entitled, “Work in the age of artificial intelligence: Four

⁶⁴⁷ Ministry of Economic Affairs and Employment, *Finland’s Age of Artificial Intelligence: Turning Finland into a leading country in the application of artificial intelligence, Objective and recommendations for measures* (2017), http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160391/TEMrap_47_2017_verkkojulkaisu.pdf

⁶⁴⁸ <https://futureoflife.org/ai-policy-finland/>

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perspectives on the economy, employment, skills and ethics.”⁶⁴⁹ The June 2018 report separately examined (1) impacts of artificial intelligence on growth and employment; (2) labour market dynamics in a technological revolution; (3) learning and skills in a transition; and (4) good application of artificial intelligence technology and ethics. The report also offered three (3) policy recommendations to add to the prior 8 recommended actions previously delineated in the December 2017 report:

- 1) Increase the competitiveness of business and industry;
- 2) Provide high-quality public services and improve the efficiency of the public sector;
- 3) Ensure a well-functioning society and wellbeing for its citizens.⁶⁵⁰

In December 2019, the steering committee published *Leading the way into the age of artificial intelligence*.⁶⁵¹ The final report detailed the steering committee’s policy recommendations for Finland’s AI Programme. The report also set forth the contours of Finland’s “vision” of a country that by 2025, “is competitive and able to attract talent and has the most relevantly educated population consisting of well-informed and independent citizens” in “the age of artificial intelligence.”

As the steering committee explained in the 2019 final report:

In another five years time, artificial intelligence will be an active part of every Finn’s daily life. Finland will make use of artificial intelligence boldly in all areas of society – from health care to the manufacturing industry – ethically and openly. Finland will be a safe and democratic society that produces the world’s best services in the age of artificial intelligence. Finland will be a good place for citizens to live and a rewarding place for companies to develop and grow. Artificial intelligence will reform work as well as create wellbeing through growth and productivity.

Finland’s Artificial Intelligence Programme has grown to include several AI initiatives including Finland’s AI Business Programme, a 2018 programme that provided public funding for 115 AI business projects, and

⁶⁴⁹ Ministry of Economic Affairs and Employment, *Work in the age of artificial intelligence: Four perspectives on the economy, employment, skills and ethics* (2018) https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160980/TEMjul_21_2018_Work_in_the_age.pdf

⁶⁵⁰ The report cautioned that “[t]he conclusions of the report d[id] not necessarily represent the group’s joint views,” but “d[id] represent a majority opinion.”

⁶⁵¹ Finland, Ministry of Economic Affairs and Employment (2019), http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/161688/41_19_Leading%20the%20way%20into%20the%20age%20of%20artificial%20intelligence.pdf

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Finland’s Artificial Intelligence Accelerator, a 6-month AI-deployment accelerator program focused on assisting organizations with the operationalization of AI solutions. In addition to these initiatives, in November 2020, Finland launched an updated AI strategy entitled the Artificial Intelligence 4.0 Programme,⁶⁵² which promotes the development and introduction of AI and other digital technologies in companies, with a special focus on subject matter experts (“SMEs”) from several industrial and service sectors.⁶⁵³

Access to Data

The 2019 final report noted that “[d]ata has become the world's most valuable resource, but when the existing operating models are applied, it primarily benefits a few giant corporations that collect the data from their service users.” With respect to the adoption of the GDPR by Finland (and other EU countries), the final report opined that although the law “strengthened the rights of individuals and harmonised the EU regulation related to processing of personal data” as currently formulated, “there is no joint concept or interoperable open ecosystem for the exchange of personal data based on consumer consent.”

The final report observes that “Finland is in a position to become a global trendsetter and a forerunner within the EU in the creation of fair, consumer-oriented principles” and that consumer-oriented principles require “a visionary approach and a joint EU-level roadmap, as well as technical proof of functional exchange of data.” According to the report, “‘Small data’ . . . may offer new opportunities for applying AI within the B2B field in particular . . . and “an opportunity for Finland.”

Foreign Policy and AI

Finland is a signatory of declaration, “AI in the Nordic-Baltic region” establishing a collaborative framework on “developing ethical and transparent guidelines, standards, principles and values to guide when and how AI applications should be used” and “on the objective that infrastructure, hardware, software and data, all of which are central to the

⁶⁵² Ministry of Economic Affairs and Employment, *Artificial Intelligence 4.0 programme to speed up digitalisation of business* (Nov. 17, 2020), <https://tem.fi/en/-/artificial-intelligence-4.0-programme-to-speed-up-digitalisation-of-business>

⁶⁵³ European Commission, AI Watch, *Finland AI Strategy Report* (2020), https://knowledge4policy.ec.europa.eu/ai-watch/finland-ai-strategy-report_en

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use of AI, are based on standards, enabling interoperability, privacy, security, trust, good usability, and portability.”⁶⁵⁴

Besides Ala-Pietilä, Pekka, who has been appointed as a chair for the Finland’s AI Programme has chaired to the European Commission's High Level Expert Group on AI which determined the Ethics Guidelines for Trustworthy AI, the document that puts forward a human-centric approach on AI and the key requirements for a trustworthy AI.

Within the European Union and in international settings, Finland cooperates with other countries with a view to strengthening a market-based data economy, access to data and cross-border data mobility, with due consideration for privacy and national security. Finland participates in international processes aiming to create ethical frameworks and shared core values for making use of artificial intelligence.⁶⁵⁵

UNICEF and Finland have been collaborating to create internationally applicable policy guidance for the use and development of artificial intelligence (AI) for children. The Ministry for Foreign Affairs supports the project, where practices are developed for the planning of safe and inclusive AI solutions that take the rights of the child into account. The second draft of the policy guidance, developed based on the results of the piloting, will be published in November 2021.⁶⁵⁶

Also Finland designed a free online course, The Elements of AI, with the University of Helsinki and Reaktor, a Finnish technology company. The objective of the course is to encourage everyone, regardless of age or educational background, to learn the basics of artificial intelligence.⁶⁵⁷

⁶⁵⁴ Nordic Cooperation, *Declaration AI in the Nordic-Baltic region* (May 14, 2018), <https://www.norden.org/en/declaration/ai-nordic-baltic-region>.

⁶⁵⁵ Finland, *Government report on information policy and artificial intelligence* (Dec. 5, 2018), https://vm.fi/documents/10623/7768305/VM_Tiepo_selonteko_070219_ENG_WEB.pdf/89b99a8e-01a3-91e3-6ada-38056451ad3f/VM_Tiepo_selonteko_070219_ENG_WEB.pdf.pdf/VM_Tiepo_selonteko_070219_ENG_WEB.pdf

⁶⁵⁶ Ministry of Foreign Affairs, *Policy Guidance on AI for Children piloted in different parts of the world* (Oct. 19, 2021), https://um.fi/current-affairs/-/asset_publisher/gc654PySnjTX/content/lapsiin-liittyvan-tekoalyn-pelisaantoja-pilotoitu-eri-puolilla-maailmaa

⁶⁵⁷ Ministry of Foreign Affairs, *Finland to enhance Europeans’ digital skills – Elements of AI online course to be launched in EU countries* (May 5, 2020), https://um.fi/current-affairs/-/asset_publisher/gc654PySnjTX/content/suomi-vahvistaa-eurooppalaisten-digitaitoja-ja-osaamista-elements-of-ai-verkkokurssin-lanseerukset-eu-maissa-alkavat

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Public Participation

Finland's longstanding and broad commitment to an open democracy has traditionally been given expression by extensive consultation with established groups.⁶⁵⁸ Also the Finland's Constitution states that "democracy entails the right of the individual to participate in and influence the development of society and his or her living conditions." Provisions on consultation and participation are given further weight in various laws and guidelines including the Act on the Openness of Government Activities. Bearing in mind this approach the steering committee formed to make recommendations to implement Finland's Artificial Intelligence Programme included among its membership members of the public.

Facial Recognition

According to recent news reports, Finland's National Bureau of Investigation has acknowledged using facial recognition technology in connection with certain law enforcement activities within the last two years.⁶⁵⁹ After initially denying that it had used facial recognition technology in response to media questioning, the Finnish officials from the National Bureau of Investigation acknowledged that four members of its Child Exploitation Investigation Unit had conducted 120 searches of the Clearview AI system during the 2019 to 2020 time period.

The Office of the Deputy Ombudsman issued a note to the National Bureau of Investigation regarding the controversial use of Clearview AI facial recognition technology. In September 2021, the Data Protection Commissioner warned the National Bureau of Investigation that its police officers had used a facial recognition technology system without first verifying that it complied with data security or data protection laws.

Lethal Autonomous Weapons

Human Rights Watch lists Finland among the countries that participated in discussions regarding the use of fully autonomous lethal

⁶⁵⁸ OECD, *Better Regulation in Europe: Finland, Transparency through consultation and communication* 71 (2010), <https://www.oecd.org/gov/regulatory-policy/45054502.pdf>

⁶⁵⁹ Nord News, *The Data Protection Commissioner rapped the Finnish police for a controversial facial identity application* (Sept. 29, 2021), <https://nord.news/2021/09/29/the-data-protection-commissioner-raped-the-finnish-police-for-a-controversial-facial-identity-application/>

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weapons.⁶⁶⁰ Finland also participated in the Convention of Conventional Weapons meetings held each year between 2014 and 2019. According to the August 2020 report, at the 2014 UN General Assembly, Finnish officials noted that the issue of lethal autonomous weapons systems is “a complex issue.” Finnish officials cautioned that the “development of weapons and means of warfare where humans are completely out of the loop would pose serious risks from the ethical and legal viewpoint,” noted their view that “humans should always bear the ultimate responsibility when dealing with questions of life and death.” Finnish officials have not supported proposals to negotiate a new international treaty to ban or restrict killer robots. However, in June 2019, Finland’s new government released a coalition platform that seeks to ban weapons systems based on artificial intelligence.

OECD AI Principles

Finland is a long-time member of the OECD and has adopted OECD AI Principles,⁶⁶¹ committing “to uphold international standards that aim to ensure AI systems are designed to be robust, safe, fair and trustworthy.”⁶⁶²

Algorithmic Transparency

As an EU Member State, the General Data Protection Regulation (Regulation (EU) 2016/679) (GDPR) governs the use of data and the transparency of algorithms in Finland. This means that Finnish citizens have the right to “meaningful information about the logic involved” as well as about “the significance and the envisaged consequences”⁶⁶³ of algorithms used in their services and products. In addition to GDPR, Finland enacted the Data Protection Act of Finland (*Tietosuojalaki*), a supplemental provision to the GDPR effective as of January 1, 2019.⁶⁶⁴

In December 2018, Juha Sipilä’s Government of 2015–2019 submitted to Parliament the Government report on information policy and artificial intelligence. The report combines two aspects while paying special

⁶⁶⁰ Human Rights Reports, *Stopping Killer Robots: Country Positions on Banning Fully Autonomous Weapons and Maintaining Human Control* (Aug. 10, 2020), https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and#_ftn1

⁶⁶¹ OECD, *Finland*, <https://www.oecd.org/finland/>

⁶⁶² OECD, *Forty-two countries adopt new OECD Principles on Artificial Intelligence* (May 22, 2019), <https://www.oecd.org/science/forty-two-countries-adopt-new-oecd-principles-on-artificial-intelligence.htm>

⁶⁶³ *AIDV* 2020 266.

⁶⁶⁴ DLA Piper, *Data Protection Laws of the World: Finland*, <https://www.dlapiperdataprotection.com/index.html?t=law&c=FI#:~:text=The%20protect ion%20of%20employees%20privacy,concerning%20privacy%20in%20working%20life.>

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attention to ethical issues and 200 people from different sectors of society were involved in working on the Report.⁶⁶⁵

In the report, information policy is studied not only from the viewpoint of information management, but also from the perspectives of the conditions for the use of information, value basis, ethical principles and financial impacts. The report constitutes the knowledge basis and a policy, upon which a roadmap with prioritized concrete actions can be built in the future.⁶⁶⁶ Information policies discussed in the report relate to data access rights, data ownership, copyrights, security and personal data protection. It constitutes the knowledge basis and a policy, upon which a roadmap with prioritized actions can be built in the future. The development and deployment of AI raises uncertainty about the application of the current legislation on these issues and increases the need for a reform of the legislative and regulatory framework.⁶⁶⁷

Human Rights

As one of the signatories to the Universal Declaration of Human Rights and several international human rights treaties and conventions,⁶⁶⁸ Finland is committed to protecting human rights, civil liberties, and political rights. Under Finnish law, these rights are guaranteed and subject to the rule of law as interpreted by an independent judiciary.

Freedom House gives Finland top scores (100/100) for political rights and civil liberties, observing that “Finland’s parliamentary system features free and fair elections and robust multiparty competition. Corruption is not a significant problem, and freedoms of speech, religion,

⁶⁶⁵ Finland, *Government report on information policy and artificial intelligence* (Dec. 5, 2018), https://vm.fi/documents/10623/7768305/VM_Tiepo_selonteko_070219_ENG_WEB.pdf/89b99a8e-01a3-91e3-6ada-38056451ad3f/VM_Tiepo_selonteko_070219_ENG_WEB.pdf.pdf/VM_Tiepo_selonteko_070219_ENG_WEB.pdf

⁶⁶⁶ Ministry of Finance, *Information policy report*, <https://vm.fi/en/information-policy-report>

⁶⁶⁷ European Commission, AI Watch, *Finland AI Strategy Report* (2020), https://knowledge4policy.ec.europa.eu/ai-watch/finland-ai-strategy-report_en#regulation

⁶⁶⁸ These include the International Covenant on Economic, Social and Cultural Rights, International Covenant on Civil and Political Rights, European Convention on Human Rights and Protocol amending the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (108+)

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and association are respected. The judiciary is independent under the constitution and in practice.”⁶⁶⁹

Evaluation

Finland is among the leaders in the development of AI policies. As one of the first countries to develop a national AI strategy, Finland has committed to an open and inclusive process for AI with a strong emphasis on ethics. Finland has also worked closely with UNICEF to develop internationally applicable policy guidance for the use AI for children. Finland receives high marks for its defense of political rights and civil liberties. However, the use of the Clearview facial recognition system remains controversial.

⁶⁶⁹ Freedom House, *Freedom in the World 2021 – Finland*,
<https://freedomhouse.org/country/finland/freedom-world/2021>

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France

National AI Strategy

France’s national Strategy on Artificial Intelligence⁶⁷⁰ (AI) aims to make France a world leader in AI. “AI will raise a lot of issues in ethics, in politics, it will question our democracy and our collective preferences,” stated French President Emmanuel Macron in 2018.⁶⁷¹ “If you want to manage your own choice of society, your choice of civilization, you have to be able to be an acting part of this AI revolution.”

France’s AI strategy sets out four objectives⁶⁷²: Reinforcing the AI ecosystem to attract the very best talents, (2) Developing an open data policy, especially in sectors where France already has the potential for excellence, such as healthcare, (3) Creating a regulatory and financial framework favoring the emergence of “AI champions,” and (4) Promoting AI regulation and ethics, to ensure to high standard and acceptability for citizens. This includes supporting human sciences research on ethics of use, making all algorithms used by the State public, including admission to higher education, and encouraging AI’s openness to diversity.

The national AI strategy builds on the work of France Strategy,⁶⁷³ the work of the Commission Nationale de l’Informatique et des Libertés⁶⁷⁴ (CNIL), and the Villani⁶⁷⁵ report For a Meaningful Artificial Intelligence:

⁶⁷⁰ President of France, *France’s new national strategy for artificial intelligence - Speech of Emmanuel Macron* (March 29, 2018), <https://www.elysee.fr/emmanuel-macron/2018/03/29/frances-new-national-strategy-for-artificial-intelligence-speech-of-emmanuel-macron.en>

⁶⁷¹ Nicholas Thompson, *Emmanuel Macron Talks to WIRED About France’s AI Strategy* (Mar. 31, 2018), <https://www.wired.com/story/emmanuel-macron-talks-to-wired-about-frances-ai-strategy>

⁶⁷² Government of France, *Artificial Intelligence: “Making France a leader”* (Mar. 30, 2018), <https://www.gouvernement.fr/en/artificial-intelligence-making-france-a-leader>

⁶⁷³ France Stratégie, the strategy department attached to the French Prime Minister, released a synthesis *France intelligence artificielle* report in March 2017. <https://www.enseignementsup-recherche.gouv.fr/cid114739/rapport-strategie-france-i.a.-pour-le-developpement-des-technologies-d-intelligence-artificielle.html>

⁶⁷⁴ The CNIL (National Commission on Computer Technology and Civil Liberties) organized a public debate and produced a report on “the ethical stakes of algorithms and artificial intelligence” in December 2017 which recommends six concrete actions. <https://www.cnil.fr/en/algorithms-and-artificial-intelligence-cnils-report-ethical-issues>

⁶⁷⁵ Cedric Villani is a French mathematician, Fields Medal winner and Member of Parliament. Part 5 of his report focuses on ethical considerations of AI and notably includes proposals to open the “black box”, implement ethics by design, and set up an AI Ethics Committee.

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Towards a French and European strategy (March 2018).⁶⁷⁶ The National Coordinator for AI works with all administrations, centers and research laboratories dedicated to AI.⁶⁷⁷

The Health Data Hub Controversy

In pursuit of the objective of an open data policy, France launched in December 2019⁶⁷⁸ the Health Data Hub⁶⁷⁹ (HDH) to facilitate data sharing and foster research. Pulling together 18 public databases of patient data, the HDH could, in the future, be connected with environmental, patient compliance and quality of life data to enable consideration of all the data surrounding a patient.⁶⁸⁰ The HDH's compiled health data is hosted by Microsoft.⁶⁸¹

Following the *Schrems II* decision in July 2020 that invalidated the Privacy Shield, France's highest administrative court (the *Conseil d'État*) considered a request for the suspension of the HDH. In October, the Judge rejected the request. The judge observed that "personal data hosted in the Netherlands under a contract with Microsoft cannot legally be transferred outside the European Union. While the risk cannot be completely excluded that the American intelligence services request access to this data, it does not justify, in the very short term, the suspension of the Platform, but

⁶⁷⁶ Cedric Villani, *For a Meaningful Artificial Intelligence: Toward a French and European Strategy* (Mar. 2018),

https://www.aiforhumanity.fr/pdfs/MissionVillani_Report_ENG-VF.pdf

⁶⁷⁷ Government of France, Prime Minister, *Nomination de M. Renaud VEDEL. comme Coordinateur national pour l'intelligence artificielle* (Mar. 9, 2020),

https://www.gouvernement.fr/sites/default/files/document/document/2020/03/communiqu_e_de_presse_de_m._edouard_philippe_premier_ministre_-_nomination_de_m._renaud_vedel_comme_coordinateur_national_pour_lintelligence_artificielle_-_09.03.2020.pdf

⁶⁷⁸ Government of France, Ministry of Solidarity and Health, *Création officielle du Health data hub* (Dec. 2, 2019), <https://solidarites-sante.gouv.fr/actualites/presse/communiqués-de-presse/article/creation-officielle-du-health-data-hub>

⁶⁷⁹ *Health Data Hub* (under "reconstruction"), <https://www.health-data-hub.fr/>; Government of France, Ministry of Solidarity and Health, *Le Health data hub est officiellement créé* (Dec. 2, 2019), https://solidarites-sante.gouv.fr/IMG/pdf/191202_cp_health_data_hub.pdf

⁶⁸⁰ Opus Line, *Health Data Hub: An Ambitious French Initiative for Tomorrow's Health* (Mar. 25, 2019), <https://www.opusline.fr/health-data-hub-an-ambitious-french-initiative-for-tomorrows-health/>

⁶⁸¹ Florian Dèbes, *L'Etat choisit Microsoft pour les données de santé et crée la polémique*, Les Echos (June 4, 2020) <https://www.lesechos.fr/tech-medias/hightech/letat-choisit-microsoft-pour-les-donnees-de-sante-et-cree-la-polemique-1208376>

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requires special precautions to be taken, under the supervision of the CNIL.”⁶⁸²

Following the decision concerning data protection and the Health Data Hub, the CNIL announced it will advise public authorities on the implementation of appropriate guarantees and will ensure that use of the HDH for research projects related to the health crisis is really necessary.⁶⁸³

The press reported in October 2020 that the debates are far from over since the CNIL and the Conseil d’État do not have the same analysis of the situation. According to the CNIL, the end of the Privacy Shield requires an urgent change of host for the personal data. According to the Conseil d’État, the risks are hypothetical and not urgent.⁶⁸⁴ A recent CNIL’s draft determination, pending validation by a commissioner, would essentially prevent implementation of the HDH.⁶⁸⁵ According to Mediapart, at the end of November, the Minister of Health and Solidarity, Olivier Véran, responded to the President of the CNIL that he would put an end to Microsoft’s hosting of the Health Data Hub within two years.⁶⁸⁶

In 2022, it is highly likely health data will still be at the center of concern for France’s DPA, the CNIL. Indeed, this data, known as sensitive data in European law, has been widely collected and processed by many different data controllers and processors in the current health context to fulfill different purposes, such as access to the workplace for certain professions, allowing establishment of the sanitary pass, monitoring the evolution of the pandemic, establishing vaccination campaigns, deepening

⁶⁸² Le Conseil d’État, *Health Data Hub et protection de données personnelles: des précautions doivent être prises dans l’attente d’une solution pérenne* (Oct. 14, 2020), <https://www.conseil-etat.fr/actualites/actualites/health-data-hub-et-protection-de-donnees-personnelles-des-precautions-doivent-etre-prises-dans-l-attente-d-une-solution-perenne>

⁶⁸³ CNIL, *Le Conseil d’État demande au Health Data Hub des garanties supplémentaires pour limiter le risque de transfert vers les États-Unis* (Oct. 14, 2020), <https://www.cnil.fr/fr/le-conseil-detat-demande-au-health-data-hub-des-garanties-supplementaires>

⁶⁸⁴ Informatique News, *Divergences sur le Health Data Hub* (Oct. 19, 2020), <https://www.informatiquenews.fr/divergences-sur-le-health-data-hub-les-annonces-de-zoomtopia-cohesity-sassocie-a-aws-des-iphone-12-en-5g-le-teletravail-en-question-netapp-insight-74042>

⁶⁸⁵ Alice Vitard, *Les détails de la mise en œuvre du Health Data Hub ne conviennent pas à la Cnil*, L’Usine Digitale, (Nov. 14, 2020), https://www.usine-digitale.fr/article/les-detaills-de-la-mise-en-uvre-du-health-data-hub-ne-conviennent-pas-a-la-cnil.N1024349_

⁶⁸⁶ Mediapart, *Health Data Hub: Véran s’engage à retirer l’hébergement à Microsoft d’ici «deux ans»* (Nov. 22, 2020), <https://www.mediapart.fr/journal/france/221120/health-data-hub-veran-s-engage-retirer-l-hebergement-microsoft-d-ici-deux-ans>.

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research, implementing health protocols for people suffering from COVID-19 and more.

In view of the numerous data breaches that have occurred in this field and the numerous interests this type of data can arouse, the verification of the conformity of the data processing implemented and security measures taken should still give rise to numerous controls by CNIL agents.

Similarly, it is anticipated employee monitoring systems will be subject to increased vigilance by the CNIL. As a result of the pandemic, many employees are now working in a hybrid work environment, with periods of office work and periods of working at home. This requires companies to adapt, since they must allow them to continue carrying out their remote missions under the same conditions as if they were in the office. Therefore, companies must give them access to personal data, such as data on customers, prospects, suppliers or even employees of the organization, under appropriate security conditions, all while controlling their activity.⁶⁸⁷

Launch of National AI Research Institutes

France has established interdisciplinary institutes for AI (3IA institutes) to bring researchers together and to focus on academic excellence, interdisciplinary research and collaboration with industries. Each institute has been given areas of focus: MIAI in Grenoble focuses on health, environment and energy. 3IA Côte d'Azur in Nice focuses on health and the development of the territories. The PRAIRIE institute in Paris focuses on health, transport and the environment. The ANITI in Toulouse focuses on transport, the environment and health. It is reported that EUR 225 million will be spent on 3IA research projects in total.⁶⁸⁸

AI Cloud

In April 2020, France and Germany launched Gaia-X, a platform joining up cloud-hosting services from dozens of French and German companies, to allow business to move their data freely under Europe's data processing rules. "We are not China, we are not the United States — we are European countries with our own values and our own European interests that we want to defend" said French Economy Minister Bruno Le Maire. A

⁶⁸⁷ The International Association of Privacy Professionals (IAPP), *2022 Global Legislative Predictions*,

https://iapp.org/media/pdf/resource_center/2022_iapp_global_legislative_predictions.pdf.

⁶⁸⁸ The International Association of Privacy Professionals (IAPP), *2022 Global Legislative Predictions*,

https://iapp.org/media/pdf/resource_center/2022_iapp_global_legislative_predictions.pdf.

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prototype of “Gaia-X” is set to be released early 2021.⁶⁸⁹ Gaia-X will play a key role in the European data strategy, the Commission said, as its success lies in the ability to harmonize rules on data sharing to allow for upscaling.⁶⁹⁰

Gaia-X will be open to American, Chinese and Indian technology companies. Digital Europe, which counts among its members Google, Apple and Facebook, submitted his application to be a member of this collective of providers last October.⁶⁹¹

National Pilot Committee for Digital Ethics

With regard to AI regulation and ethics (objective 4), in July 2019, the Prime Minister asked the French National Consultative Committee on Bioethics (CCNE) to launch a pilot initiative dedicated to Digital Ethics. The National Pilot Committee for Digital Ethics (NPCDE) created in December 2019 “shall submit initial contributions on the ethics of digital sciences, technologies, uses and innovations and determine relevant equilibria for the organization of public debate on digital ethics and artificial intelligence.” It is also tasked to maintain ethical oversight and to raise awareness, inform and assist individuals, companies, administrations, institutions, etc., in their decision-making process.⁶⁹² A recommendation for the formation of a permanent body is expected early 2021.

The 27-member multidisciplinary pilot Committee has started work, at the request of the Prime Minister on the ethical issues raised by chatbots, autonomous car and medical diagnosis and health AI. Since its creation the NPCDE has issued three watch bulletins on digital ethical issues in the

⁶⁸⁹ Marion Simon Rainaud, *Gaia-X : où en est le projet de méta-cloud européen qui veut protéger vos données?* 01net (Nov. 13, 2020), <https://www.01net.com/actualites/gaia-x-ou-en-est-le-projet-de-meta-cloud-europeen-qui-veut-protoger-vos-donnees-1991857.html>

⁶⁹⁰ Janosch Delcker and Melissa Heikkilä, *Germany, France launch Gaia-X platform in bid for ‘tech sovereignty,’* Politico (June 5, 2020), <https://www.politico.eu/article/germany-france-gaia-x-cloud-platform-eu-tech-sovereignty/>

⁶⁹¹ Alice Vitard, *Le projet de cloud européen Gaia-X ouvert aux entreprises américaines, chinoises et indienne*, L’Usine Nouvelle (Oct. 16, 2020), <https://www.usine-digitale.fr/article/le-projet-de-cloud-europeen-gaia-x-ouvert-aux-entreprises-americaines-chinoises-et-indiennes.N1017634>

⁶⁹² Claude Kirchner, *The French National Committee for Digital Ethics* (Feb. 24, 2020), <https://ai-regulation.com/the-french-national-committee-for-digital-ethics/>

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COVID-19 health crisis.⁶⁹³ In July 2020, the NPCDE issued a call for public comments on the ethical issues of chatbots.⁶⁹⁴

However, civil society groups such as Access Now have objected to government studies that simply propose ethical guidelines rather than hard law. As the group explains, “There is solid and creative thinking in the advisory paper that informed the strategy around the ethical and regulatory challenges posed by AI, but at the moment the proposed solutions largely involve the creation of groups to study them rather than the proposal of new or modified norms.”⁶⁹⁵ Access Now continues, “France’s AI strategy generally cleaves to the ‘ethics’ framework and makes scant reference to hard legal constraints on AI development.” The group does note that the “The Villani report is considerably more detailed about the ethical and legal challenges posed by AI.”

Fundamental Rights

On another front, the French independent administrative authority *Défenseur des droits* (Defender of Rights) and the CNIL have “both, in their own area of expertise, voiced their concerns regarding the impact of algorithmic systems on fundamental rights.”⁶⁹⁶ Following a joint expert seminar in May 2020, they have called in June 2020 for a collective mobilization to prevent and address discriminatory biases of algorithms.⁶⁹⁷

Their report *Algorithms: preventing automated discrimination*⁶⁹⁸ stresses that bias can be introduced at every stage of the development and deployment of AI systems, discusses how algorithms can lead to discriminatory outcomes and includes recommendations on how to identify

⁶⁹³ Comité Consultatif National d’Ethique, *Opinion* (Apr. 14, 2020), <https://www.ccne-ethique.fr/en/publications/national-pilot-committee-digital-ethics-ethics-watch-bulletin-no1>

⁶⁹⁴ Comité Consultatif National d’Ethique, *Ethical Issues of Conversational Agents* (Oct. 31, 2020), https://www.ccne-ethique.fr/sites/default/files/cnpen-chatbots-call-participation_1.pdf

⁶⁹⁵ AccessNow, *Mapping Regulatory Proposals for Artificial Intelligence in Europe* 18 (Nov. 2018), https://www.accessnow.org/cms/assets/uploads/2018/11/mapping_regulatory_proposals_for_AI_in_EU.pdf.

⁶⁹⁶ Defender of Rights and CNIL, *Algorithms: preventing automated discrimination* (2020), <https://www.defenseurdesdroits.fr/sites/default/files/atoms/files/synth-algos-en-num-16.07.20.pdf>

⁶⁹⁷ CNIL, *Algorithms and discrimination: the Defender of Rights, with the CNIL, calls for collective mobilization* (June 2, 2020), <https://www.cnil.fr/fr/algorithmes-et-discriminations-le-defenseur-des-droits-avec-la-cnil-appelle-une-mobilisation>

⁶⁹⁸ Defender of Rights, *Algorithms: preventing automated discrimination* n. 19 (May 2020), <https://www.defenseurdesdroits.fr/sites/default/files/atoms/files/synth-algos-en-num-16.07.20.pdf>.

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and minimize algorithmic biases. The Defender of Rights called on the government and relevant actors to take appropriate measures to avoid algorithms that replicate and amplify discrimination.⁶⁹⁹ In particular, The Defender of Rights recommends to: i) support research to develop studies to measure and methods to prevent bias; ii) reinforce algorithms' information, transparency and explainability requirements; and iii) perform impact assessments to anticipate algorithms' discriminatory effects.

Facial Recognition

Facial recognition is a processing of sensitive personal data prohibited in principle by the GDPR and the French data protection law, subject to exceptions such as individual's consent or for important public interests. In the latter case, facial recognition can be authorized by a Decree of the Conseil d'État informed by an opinion from the CNIL.

Facial recognition has long been used in France, on a voluntary basis, for passport control in airports. Facial recognition is also implemented in some banks and tested in a number of colleges. The French government is considering the deployment of facial recognition for access to public services. The ID program, called Alicem,⁷⁰⁰ to be deployed in November 2019, was however put on hold following an appeal of NGOs to the Conseil d'État requesting the annulment of the decree authorizing its creation. Early November, the Conseil d'État dismissed the appeal.⁷⁰¹

In November 2019, the CNIL published guidance on the use of facial recognition.⁷⁰² The document, primarily directed at public authorities in France that want to experiment with facial recognition, presents the technical, legal and ethical elements that need to be considered.

After recalling that facial recognition, experimental or not, must comply with the European GDPR and the "police justice" directive, the

⁶⁹⁹ Inside Tech Media, *French CNIL Publishes Paper on Algorithmic Discrimination* (June 9, 2020), <https://www.insideprivacy.com/artificial-intelligence/french-cnil-publishes-paper-on-algorithmic-discrimination/>

⁷⁰⁰ <https://www.interieur.gouv.fr/Actualites/L-actu-du-Ministere/Alicem-la-premiere-resolution-d-identite-numerique-regalienne-securisee> (in French) -; Charlotte Jee, *France plans to use facial recognition to let citizens access government services*, MIT Technology Review (Oct. 3, 2020), <https://www.technologyreview.com/2019/10/03/132776/france-plans-to-use-facial-recognition-to-let-citizens-access-government-services/>

⁷⁰¹ Marion Garreau, *Le ministère de l'Intérieur va pouvoir lancer l'application Alicem, basée sur la reconnaissance faciale*, L'Usine Nouvelle (Nov. 5, 2020), <https://www.usinenouvelle.com/editorial/le-ministere-de-l-interieur-va-pouvoir-lancer-l-application-alicem-basée-sur-la-reconnaissance-faciale.N1024754>

⁷⁰² CNIL, *Reconnaissance faciale - pour un débat à la hauteur des enjeux* (Nov. 2020), https://www.cnil.fr/sites/default/files/atoms/files/reconnaissance_faciale.pdf (in French).

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CNIL sets out three general requirements: (1) facial recognition can only be used if there is an established need to implement an authentication mechanism that ensures a high level of reliability, and there are no other less intrusive means that would be appropriate; (2) the experimental use of facial recognition must respect the rights of individuals (including consent and control, transparency and security); and (3) the use of facial recognition on an experimental basis must have a precise timeline and be based on a rigorous methodology setting out the objectives pursued and the criteria for success.

In December 2019, the Observatoire des Libertés Numériques⁷⁰³ and 80 organisations signed an open letter calling on the French Government and Parliament to ban any present and future use of facial recognition for security and surveillance purposes.⁷⁰⁴

Earlier this year the administrative tribunal of Marseille rendered a decision on facial recognition that ruled illegal a decision by the South-East Region of France (Provence-Alpes-Côte d'Azur) to test facial recognition at the entrance of two High schools.⁷⁰⁵ Following an analysis from the CNIL,⁷⁰⁶ the court ruled that there was no opportunity for free and informed consent and also that there were other, less intrusive means to manage entrance to high schools. The French NGO La Quadrature du Net brought the successful challenge to the regional program.⁷⁰⁷ This was the first decision ever by a court applying the General Data Protection Regulation (GDPR) to Facial Recognition Technologies (FRTs).⁷⁰⁸

⁷⁰³ The Observatoire des Libertés Numériques federates several French NGOs monitoring legislation impacting digital freedoms: Le CECIL, Creis-Terminal, Globenet, La Ligue des Droits de l'Homme (LDH), La Quadrature du Net (LQDN), Le Syndicat des Avocats de France (SAF), Le Syndicat de la Magistrature (SM).

⁷⁰⁴ La Quadrature du Net, *Joint Letter from 80 organisations: Ban Security and Surveillance Facial Recognition* (Dec. 19, 2019), <https://www.laquadrature.net/en/2019/12/19/joint-letter-from-80-organisations-ban-security-and-surveillance-facial-recognition/>

⁷⁰⁵ Tribunal Administratif de Marseille, *La Quadrature du Net, No. 1901249* (27 Nov. 2020), https://forum.technopolice.fr/assets/uploads/files/1582802422930-1090394890_1901249.pdf

⁷⁰⁶ CNIL, *Expérimentation de la reconnaissance faciale dans deux lycées : la CNIL précise sa position* (Oct. 29, 2019), <https://www.cnil.fr/fr/experimentation-de-la-reconnaissance-faciale-dans-deux-lycees-la-cnil-precise-sa-position>

⁷⁰⁷ La Quadrature du Net, *First Success Against Facial Recognition in France* (Feb. 27, 2020), <https://www.laquadrature.net/en/2020/02/27/first-success-against-facial-recognition/>

⁷⁰⁸ AI Regulation, *First Decision of a French Court Applying GDPR to Facial Recognition* (Feb. 27, 2020), <https://ai-regulation.com/first-decision-ever-of-a-french-court-applying-gdpr-to-facial-recognition/>

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In 2020, real-time facial recognition on public roads in France is still not authorized. However, many experiments are already taking place, and companies are positioning themselves, with the Olympic Games in Paris in 2024 in their sights, and a market of seven billion euros at stake.⁷⁰⁹

Consumer Perspective

According to BEUC, the European consumer association, more than 80% of those polled in France are familiar with Artificial Intelligence and over 50% respondents agreed that companies use AI to manipulate consumer decisions.⁷¹⁰ BEUC also reported that there is little trust over authorities to exert effective control over organizations and companies using AI. More than 60% of respondents in France said users should be able to say “no” to automated decision-making.

The Global Partnership on AI

In June 2020, Canada and France, and a dozen other countries announced the Global Partnership on Artificial Intelligence to support “support the responsible and human-centric development and use of AI in a manner consistent with human rights, fundamental freedoms, and our shared democratic values . . .”⁷¹¹ According to the statement, the “GPAI will be supported by a Secretariat, to be hosted by the OECD in Paris, as well as by two Centres of Expertise – one each in Montréal and Paris.” The first expert’s plenary session was held in Montreal December 2020. As GPAI co-chair, France hosted the 2021 GPAI Summit.⁷¹²

Algorithmic Transparency

France is subject to the General Data Protection Regulation which established rights to “meaningful information about the logic involved” as

⁷⁰⁹ France Culture, *Quand la reconnaissance faciale en France avance masquée* (Sept. 4, 2020), <https://www.franceculture.fr/societe/quand-la-reconnaissance-faciale-en-france-avance-masquee>

⁷¹⁰ BEUC, *Artificial Intelligence, what consumers say: Findings and policy recommendations of a multi-country survey on AI*, (Sept. 7, 2020) https://www.beuc.eu/publications/beuc-x-2020-078_artificial_intelligence_what_consumers_say_report.pdf

⁷¹¹ France Diplomacy, *Joint Statement from founding members of the Global Partnership on Artificial Intelligence* (June 15, 2020), <https://www.diplomatie.gouv.fr/en/french-foreign-policy/digital-diplomacy/news/article/launch-of-the-global-partnership-on-artificial-intelligence-by-15-foundingdevelopment/news/2020/06/joint-statement-from-founding-members-of-the-global-partnership-on-artificial-intelligence.html>

⁷¹² GPAI, The Magazine, *The GPAI Paris Summit* (Nov. 11-12, 2021), <https://magazine.gpai.paris/en/>

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well as about “the significance and the envisaged consequences.”⁷¹³ The French data protection agency (CNIL) has published several papers on AI. A 2018 report followed extensive public outreach in 2017. More than 3,000 people took part in 45 debates and events, organized by 60 partners, including research centers, public institutions, trade unions, think tanks, companies).⁷¹⁴ The report set out two founding principles – fairness and vigilance -- six recommendations, and six concerns. The work of the CNIL also contributed to the Declaration on Ethics and Data Protection in AI, adopted by the Global Privacy Assembly in 2018, which emphasized fairness and accountability.⁷¹⁵ In the 2020 paper with the Defender of Rights, the CNIL went into more details concerning the transparency obligations of those who are responsible for AI systems.⁷¹⁶

Following the assassination in October 2020 of history professor Samuel Paty, the Secretary of State for digital, Cédric O, wrote in a blog that “the opacity of the functioning of (social media) algorithms and their moderation is a societal and democratic aberration.” He added “it is also essential that full transparency be observed vis a vis the public authorities as regards the principles governing in detail the choices made by their moderation algorithms, whether it is about online hatred or dissemination of false information.”⁷¹⁷

OECD/G20 AI Principles

France endorsed the OECD and the G20 AI Principles. France is also co-hosting the Global Partnership for AI.⁷¹⁸ France is a signatory to many international human rights treaties and conventions.

⁷¹³ [GDPR Art. 22, Art. 13.2.f]

⁷¹⁴ CNIL, *Algorithms and artificial intelligence: CNIL’s report on the ethical issues* (May 25, 2018), <https://www.cnil.fr/en/algorithms-and-artificial-intelligence-cnils-report-ethical-issues>

⁷¹⁵ Global Privacy Assembly, *Declaration on Ethics and Data Protection in AI* (Oct. 23, 2018), http://globalprivacyassembly.org/wp-content/uploads/2019/04/20180922_ICDPPC-40th_AI-Declaration_ADOPTED.pdf

⁷¹⁶ CNIL, *Algorithmes et discriminations : le Défenseur des droits, avec la CNIL, appelle à une mobilisation collective* (May 2020), <https://www.cnil.fr/fr/algorithmes-et-discriminations-le-defenseur-des-droits-avec-la-cnil-appelle-une-mobilisation>

⁷¹⁷ Cédric O, Régulations, Medium.com (Oct. 20, 2020), <https://medium.com/@cedric.o/r%C3%A9gulations-657189f5d9d2>

⁷¹⁸ The Government of France, *Launch of the Global Partnership on Artificial Intelligence* (June 17, 2020), <https://www.gouvernement.fr/en/launch-of-the-global-partnership-on-artificial-intelligence>

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Human Rights

France typically ranks among the top nations in the world for the protection of human rights and transparency.⁷¹⁹ Freedom House reports, “The French political system features vibrant democratic processes and generally strong protections for civil liberties and political rights. However, due to a number of deadly terrorist attacks in recent years, successive governments have been willing to curtail constitutional protections and empower law enforcement to act in ways that impinge on personal freedoms.”

Lethal Autonomous Weapons

President Macron declared in an interview that he is “dead against” the deployment of lethal autonomous weapons.⁷²⁰ “You always need responsibility and assertion of responsibility.” However, the French government has only proposed the adoption of a nonbinding declaration to curtail Lethal Autonomous Weapons (LAWS), and is opposed to the idea of a new international treaty on the issue,⁷²¹ though an earlier French initiative led to annual international discussions on LAWS) within the framework of the Convention on Certain Conventional Weapons.⁷²²

Evaluation

France is among the leaders in national AI policies. France has endorsed the OECD/G20 AI Principles and is a co-host for the Global Partnership on AI. French authorities in charge of human rights, data protection and ethics are actively involved in AI policy and have published practical guidance regarding facial recognition and algorithmic transparency. However, public information about progress toward the national strategy on AI is not readily available. While there is,

⁷¹⁹ *Freedom House Report: France* (2020), <https://freedomhouse.org/country/france>

⁷²⁰ Nicholas Thompson, *Emmanuel Macron Talks to Wired About France’s AI Strategy*, *Wired* (Mar. 31, 2018), <https://www.wired.com/story/emmanuel-macron-talks-to-wired-about-frances-ai-strategy/>

⁷²¹ *Armes : Il faut négocier un traité d’interdiction des armes létales autonomes [Weapons: We Must Negotiate a Treaty to Ban Lethal Autonomous Weapons]*, Human Rights Watch (Aug. 27, 2018), <https://www.hrw.org/fr/news/2018/08/27/armes-il-faut-negocier-un-traite-dinterdiction-des-armes-letaales-autonomes>, archived at <https://perma.cc/JC23-3BFB>

⁷²² *Presentation and Position of France*, MISSION PERMANENTE DE LA FRANCE AUPRÈS DE LA CONFÉRENCE DU DÉSARMEMENT À GENÈVE [PERMANENT REPRESENTATION OF FRANCE TO THE CONFERENCE ON DISARMAMENT IN GENEVA] (Aug. 3, 2016), <https://cd-geneve.delegfrance.org/Presentation-and-position-of-France-1160>, archived at <https://perma.cc/6XD3-U82R>.

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at the moment, no express support for the Universal Guidelines, France's AI policies share similarities to those recommended in the UGAI.

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Germany

National AI Strategy

The German government published its national AI strategy in November 2018.⁷²³ The three main goals are:

- 1) “to make Germany and Europe a leading centre for AI and thus help safeguard Germany’s competitiveness in the future”
- 2) To ensure “a responsible development and use of AI which serves the good of society”
- 3) To “integrate AI in society in ethical, legal, cultural and institutional terms in the context of a broad societal dialogue and active political measures”

The guiding slogan for the strategy is “AI made in Germany.” One section of the AI Strategy states: “The Federal Government advocates using an “ethics by, in and for design” approach throughout all development stages and for the use of AI as the key element and hallmark of an ‘AI made in Europe’ strategy.” The Strategy continues, “The Federal Government is engaging in dialogue with national and international bodies, including the Data Ethics Commission or the EU Commission’s High-Level Expert Group on AI and will take into account the recommendations of these bodies as it develops standards on ethical aspects at German and European level.”

The German government further emphasizes transparency for the development of AI to ensure civil rights as well as maintain trust in businesses and institutions. The AI Strategy proposes “government agencies or private-sector auditing institutions that verify algorithmic decision-making in order to prevent improper use, discrimination and negative impacts on society.” AI ethics is a core component of the AI Strategy.⁷²⁴

There are several programs underway to implement the National AI Strategy. According to the OECD, there are approximately 29 initiatives on AI across several topics and institutions.⁷²⁵ They range from the ethical guidelines to initiatives that foster fruitful business environments. There are four that specifically focus on ethics.

⁷²³ Die Bundesregierung, *Artificial Intelligence Strategy*, (Nov. 2018), https://www.bmbf.de/files/Nationale_KI-Strategie.pdf

⁷²⁴ The Federal Government of Germany, *Artificial Intelligence Strategy* (Nov. 2018), https://www.ki-strategie-deutschland.de/home.html?file=files/downloads/Nationale_KI-Strategie_engl.pdf

⁷²⁵ OECD.ai, *AI in Germany*, <https://oecd.ai/dashboards/countries/Germany/>

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First, the Ethical Guidelines for Automated and Connected Driving set out 20 ethical principles for autonomous and semi-autonomous vehicles.⁷²⁶ This was among the first guidelines worldwide to establish ethical guidelines for connected vehicular traffic. The Ethical Guidelines led to an action plan and the “creation of ethical rules for self-driving cars” that was adopted by the Federal Government.⁷²⁷

Second, the German AI Observatory forecasts and assesses AI technologies’ impact on society. The AI Observatory also develops regulatory frameworks that help deal with the rapidly changing labor market in an attempt to ensure that social aspects of these changes are not neglected.⁷²⁸

Third, the Ethical, Legal and Social Aspects of Modern Life Sciences Funding Priority, launched originally in 1997, funds research with the goal of establishing “findings regarding the opportunities and risks presented by modern life sciences” and developing a basis for discourse amongst involved stakeholders.⁷²⁹

Fourth, the Federal Ministry for Economic Cooperation and Development launched the Development Cooperation initiative FAIR Forward in 2019. The initiative aims to promote more “open, inclusive and sustainable approach to AI on an international level” by “working together with five partner countries: Ghana, Rwanda, South Africa, Uganda and India.” The FAIR Forward goals are to: Strengthen Technical Know-How on AI, Remove Entry Barriers to AI, and Develop Policy Frameworks ready for AI. Several projects are underway in partner countries.⁷³⁰

Further, the Federal Ministry for Economic Affairs and Energy launched a Regulatory Sandboxes initiative in 2018. This initiative focuses

⁷²⁶ Federal Ministry of Transport and Digital Infrastructure, *Ethics Commission: Automated and Connected Driving (2017)*,

<https://www.bmvi.de/SharedDocs/EN/publications/report-ethics-commission-automated-and-connected-driving.pdf>

⁷²⁷ Federal Ministry of Transport and Digital Infrastructure, *Automated and Connected Driving*, <https://www.bmvi.de/EN/Topics/Digital-Matters/Automated-Connected-Driving/automated-and-connected-driving.html>

⁷²⁸ Denkfabrik: Digitale Arbeitsgesellschaft, Policy Lab Digital, Work & Society: Re-imagining Work, <https://www.denkfabrik-bmas.de/en/about-us/policy-lab-digital-work-society-re-imagining-work>

⁷²⁹ Federal Ministry of Education and Research, *The ELSA funding initiative* (June 2016), https://www.gesundheitsforschung-bmbf.de/files/bmbf_flyer_ELSA_funding_initiative_e.pdf

⁷³⁰ Toolkit Digitalisierung, *FAIR Forward – Artificial Intelligence for All*, <https://toolkit-digitalisierung.de/en/fair-forward/>

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on “testing innovation and regulation which enable digital innovations to be tested under real-life conditions and experience to be gathered.”⁷³¹

In response to the White Paper on AI, Germany called for tighter regulation of AI on the EU level. The German government stated they welcome new regulations but want more specific definitions and tighter requirements for data storage, more focus on information security and more elaborate definitions of when human supervision is needed.⁷³²

In December 2020, Germany published an updated report on the German AI strategy. With this update, the federal government is responding to current developments and high-priority topics such as the COVID-19 pandemic, environmental and climate protection; and complementing the strategy with further measures.⁷³³

Public Participation

One AI initiative, *Plattform Lernende Systeme* (Platform for Artificial Intelligence), focuses specifically on fostering dialogue between different stakeholders, like civil society, government and business on the topic of self-learning systems. The Platform for AI also aims to “shape self-learning systems to ensure positive, fair and responsible social coexistence” as well as strengthen skills for developing and using self-learning systems.⁷³⁴ The IT Security, Privacy, Legal and Ethical Framework working group has published two papers concerning AI and Discrimination as well as AI and IT Security.⁷³⁵

To inform the public about AI policy, the government created a website to provide information on AI strategy implementation and new

⁷³¹ Federal Ministry for Economic Affairs and Energy, *Regulatory Sandboxes – Testing Environments for Innovation and Regulation* (June 2019), <https://www.bmwi.de/Redaktion/EN/Dossier/regulatory-test-beds-testing-environments-for-innovation-and-regulation.html>

⁷³² Die Bundesregierung, *Stellungnahme der Bundesregierung der Bundesrepublik Deutschland zum Weissbuch zur Künstlichen Intelligenz – ein europäisches Konzept für Exzellenz und Vertrauen* (2020), https://www.ki-strategie-deutschland.de/files/downloads/Stellungnahme_BReg_Weissbuch_KI.pdf

⁷³³ OECD, *State of Implementation of the OECD AI Principles Insights from National AI Policies* 69 (June 2021), <https://www.oecd.org/digital/state-of-implementation-of-the-oecd-ai-principles-1cd40c44-en.htm>

⁷³⁴ Lernende Systeme, *Mission Statement*, <https://www.plattform-lernende-systeme.de/mission-statement.html>

⁷³⁵ Lernende Systeme, *WG 3: IT Security, Privacy, Legal and Ethical Framework*, <https://www.plattform-lernende-systeme.de/wg-3.html>

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policy developments.⁷³⁶ *Plattform Lernende Systeme* also offers a map that shows, by region, AI developments across Germany.⁷³⁷

There was a Bundestag EnqueteCommission comprising in equal parts of parliamentary representatives and experts called the “Study Commission on Artificial Intelligence, Social Responsibility and Economic, Social and Ecological Potential.”⁷³⁸ Their aim was to develop recommendations on AI and its potential “for example with regard to our value systems, fundamental and human rights, and the benefits for society and the economy.” Some of their meetings were broadcasted on parliamentary television or could be attended in person. After two years of work, the Enquete Commission presented its final report (19/23700) to the Parliament (Bundestag) on October 28, 2020. The Commission findings were debated in the Bundestag on November 5, 2020.⁷³⁹

Data Ethics Commission

In 2018 a Data Ethics Commission was established to “build on scientific and technical expertise in developing ethical guidelines for the protection of the individual, the preservation of social cohesion, and the safeguarding and promotion of prosperity in the information age.”⁷⁴⁰ In 2020 the Commission recommended to the German parliament that sustainability, justice and solidarity, democracy, security, privacy, self-determination and human dignity should be the ethical and legal principles that guide the regulation of AI.⁷⁴¹ The Data Ethics Commission suggested a risk-based approach to the regulation of AI, which distinguishes five levels

⁷³⁶ Die Bundesregierung, <https://www.ki-strategie-deutschland.de/home.html>

⁷³⁷ Lernende Systeme, *Artificial Intelligence in Germany*, <https://www.plattform-lernende-systeme.de/map-on-ai.html>

⁷³⁸ Deutscher Bundestag, Study Commission, *Artificial Intelligence, Social Responsibility and Economic, Social and Ecological Potential*, https://www.bundestag.de/webarchiv/Ausschuesse/ausschuesse19/weitere_gremien/enquete_ki

⁷³⁹ Unterrichtung der Enquete-Kommission Künstliche Intelligenz – Gesellschaftliche Verantwortung und wirtschaftliche, soziale und ökologische Potenziale, *Bericht der Enquete-Kommission Künstliche Intelligenz – Gesellschaftliche Verantwortung und wirtschaftliche, soziale und ökologische Potenziale* (Oct. 28, 2020), <https://dserver.bundestag.de/btd/19/237/1923700.pdf>

⁷⁴⁰ Bundesministerium der Justiz und für Verbraucherschutz, Data Ethics Commission, https://www.bmjv.de/DE/Themen/FokusThemen/Datenethikkommission/Datenethikkommission_EN_node.html

⁷⁴¹ Datenethikkommission, *Opinion of the Data Ethics Commission* (Jan. 2020), https://www.bmjv.de/SharedDocs/Downloads/DE/Themen/Fokusthemen/Gutachten_DE_K_EN_lang.pdf?__blob=publicationFile&v=3

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of criticality in a “criticality pyramid” and respective measures in its risk-adapted regulatory system for the use of algorithmic systems.

The German consumer organization vzbv favored the creation of the Commission and strongly supported the recommendations, as did the main German industry body Bundesverband der Deutschen Industrie (BDI).⁷⁴² The vzbv further emphasized that the aim of ADM (Automated Decision Making) regulation must be to ensure compliance with existing laws. Toward that goal, “it must be possible for supervisory authorities to scrutinise and verify the legality of ADM systems and their compliance with existing laws so that they can impose penalties if the law is infringed.”⁷⁴³ Vzbv also noted it is “important to ensure consumers’ self-determination when making decisions, to strengthen consumers’ confidence in ADM systems by creating transparency and to foster competition and innovation.”

Further, in 2018 the Cabinet Committee on Digitisation was founded with the goal of advising the Federal Government on how to best implement the National AI Strategy. The Committee is comprised of AI experts in science and business. An exchange between politics and national as well as international experts is also in the forefront of their activities.⁷⁴⁴⁷⁴⁵

Facial Recognition

In 2018 facial recognition technology at a large crossing in Berlin, set up by the government, sparked opposition from civil society.⁷⁴⁶ There was further outcry in 2020, when *Der Spiegel* wrote that there are plans to set up cameras capable of identifying people at 134 train stations and 14 airports.⁷⁴⁷ In late 2021, Germany’s incoming coalition government said it

⁷⁴² Communication between the Editor and Isabelle Buscke, vzbv Nov. 27, 2020 (on file).

⁷⁴³ Vzbv, *Artificial Intelligence: Trust is Good, Control is Better* (2019), https://www.vzbv.de/sites/default/files/2019_vzbv_factsheet_artificial_intelligence.pdf

⁷⁴⁴ Die Bundesregierung, *Der Digitalrat: Experten, die uns antreiben*, <https://www.bmvi.de/SharedDocs/EN/publications/report-ethics-commission-automated-and-connected-driving.pdf>

⁷⁴⁵ Die Bundesregierung, *Digitalisierung wird Chefsache*, <https://www.bundesregierung.de/breg-de/aktuelles/digitalisierung-wird-chefsache-1140420>

⁷⁴⁶ Janosch Delcker, *Big Brother in Berlin*, Politico (Sept. 13, 2018), <https://www.politico.eu/article/berlin-big-brother-state-surveillance-facial-recognition-technology/>

⁷⁴⁷ Phillipp Grüll, *Germany’s plans for automatic facial recognition meet fierce criticism*, Euractiv (Jan. 10, 2020), <https://www.euractiv.com/section/data-protection/news/german-ministers-plan-to-expand-automatic-facial-recognition-meets-fierce-criticism/>

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would exclude biometric recognition in public spaces as well as automated state scoring systems by AI.⁷⁴⁸

Predictive Policing

According to AlgorithmWatch, the German government is using AI to assist in predictive policing both on the federal and state level. One state, North Rhine-Westphalia is using AI to assist police in identifying child pornography and preventing suicides in jails. Further, the Federal government is using AI techniques to identify evolving international crises in their foreign policy, check identities of immigrants and administer social services.⁷⁴⁹

AI Oversight

The German Institute for Human Rights was founded in 2001 by the German Bundestag (Parliament). The Institute for Human Rights is an independent national institution, financed by the Bundestag and is considered a civil society body. The Institute works to ensure the observation and promotion of human rights by the German government in Germany and abroad.⁷⁵⁰ The Institute's responsibilities include documentation, consulting politicians and society, human rights education in Germany, providing a specialized scientific library on human rights, cooperation with other human rights institutions and promoting dialogue on human rights issues in Germany.⁷⁵¹ The German Institute has not yet explicitly addressed AI but might do so in the future as have human rights commissions in other countries.⁷⁵²

In Germany, the data protection authority landscape is quite large. The private sector is mainly supervised by the states with exception of the telecommunications and postal sector which is supervised on a federal level.

⁷⁴⁸ POLITICO, *German coalition backs ban on facial recognition in public places* (Nov. 24, 2021), <https://www.politico.eu/article/german-coalition-backs-ban-on-facial-recognition-in-public-places/>; Alliance for Freedom, Justice, and Sustainability, *Dare More Progress: Coalition agreement 2021 – 2025 between the Social Democratic Party of Germany (SPD), ALLIANCE 90 / THE GREENS and the Free Democrats (FDP)*, https://www.welt.de/bin/Koalitionsvertrag%202021-2025.pdf_bn-235257672.pdf

⁷⁴⁹ AlgorithmWatch, *Automating Society 2020* (Oct. 2020), <https://automatingsociety.algorithmwatch.org/report2020/belgium/>

⁷⁵⁰ German Institute for Human Rights, *Das Institut*, <https://www.institut-fuer-menschenrechte.de/das-institut>.

⁷⁵¹ German Institute for Human Rights, *FAQ*, <https://www.institut-fuer-menschenrechte.de/das-institut/faq>

⁷⁵² See, for example, the activities of the Human Rights Commission of Australia.

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Every state has a respective data protection authority dedicated to matters involving the private sector.⁷⁵³

In Bavaria, there is one authority responsible for the private sector and one for the public sector: the Data Protection Authority of Bavaria for Private Sector (BayLDA) and the Bavarian Data Protection Commissioner, which is responsible for enforcing data rights against public authorities and government agencies.⁷⁵⁴ In other states, one authority is responsible for all data protection supervision and enforcement in the state. One example of this is Hessen where the Hessian Commissioner for Data Protection and Freedom of Information is responsible for the public authorities, government agencies as well as the private sector.⁷⁵⁵

At the federal level, the Federal Commissioner for Data Protection and Freedom of Information (BfDI) is responsible for the supervision of all public bodies that belong to the federal government and the telecommunication and postal services companies.⁷⁵⁶

In December 2021 the Telecommunication Telemedia Data Protection Act (TTDSG) came into effect. Amongst other things, it clarifies application of the GDPR and ePrivacy Directive. The TTDSG (*Telekommunikation-Telemedien-Datenschutz-Gesetz*) contains regulations about cookie management and Personal Information Management Systems.⁷⁵⁷ Further the German Civil Code Article 327q entered into effect and is meant to deal with cases where a consumer gives their personal data in order to access some service. It is highly regarded by privacy protection organisations for enhancing the German Civil Code.⁷⁵⁸

Germany was a sponsor of the 2018 GPA Declaration on Ethics and Data Protection in Artificial Intelligence and a primary sponsor of the 2020

⁷⁵³ Landesbeauftragte für Datenschutz und Informationsfreiheit Nordrhein-Westfalen, *Datenschutzaufsichtsbehörden für den nicht-öffentlichen Bereich*, https://www.ldi.nrw.de/mainmenu_Service/submenu_Links/Inhalt2/Aufsichtsbehoerden/Aufsichtsbehoerden.php.

⁷⁵⁴ Datenschutz Bayern, *Bavarian Data Protection Commissioner*, <https://www.datenschutz-bayern.de>; BayLDA - *Offizielle Webseite*, <https://www.lda.bayern.de/de/index.html>

⁷⁵⁵ Datenschutz Hessen, *Zuständigkeit des Hessischen Beauftragten für Datenschutz und Informationsfreiheit*, <https://datenschutz.hessen.de/ueber-uns/zustaendigkeit-des-hessischen-datenschutzbeauftragten>.

⁷⁵⁶ Der Bundesbeauftragte für den Datenschutz und die Informationsfreiheit, *Aufgaben und Befugnisse*, https://www.bfdi.bund.de/DE/BfDI/Artikel_BFDI/AufgabenBFDI.html

⁷⁵⁷ TTDSG, *Telekommunikation-Telemedien-Datenschutz-Gesetz*, <https://gesetz-ttdsg.de>

⁷⁵⁸ Federal Ministry of Justice, *German Civil Code*, https://www.gesetze-im-internet.de/englisch_bgb/

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Resolution on Accountability in the Development and Use of Artificial Intelligence.⁷⁵⁹

Algorithmic Transparency

Germany is subject to the General Data Protection Regulation which established rights to “meaningful information about the logic involved” as well as about “the significance and the envisaged consequences.”⁷⁶⁰ According to Algorithm Watch,⁷⁶¹ the data protection agencies of the federal government and eight German federal states stated that greater transparency in the implementation of algorithms in the administration was indispensable for the protection of fundamental rights.⁷⁶² The agencies demanded that if automated systems are used in the public sector, it is crucial that processes are intelligible, and can be audited and controlled. In addition, public administration officials have to be able to provide an explanation of the logic of the systems used and the consequences of their use. Self-learning systems must also be accompanied by technical tools to analyse and explain their methods. An audit trail should be created, and the software code should be made available to the administration and, if possible, to the public. According to the position paper, there need to be mechanisms for citizens to demand redress or reversal of decisions, and the processes must not be discriminating. In cases where there is a high risk for citizens, there needs to be a risk assessment done before deployment. Very sensitive systems should require authorisation by a public agency that has yet to be created.

In 2019 the Ministry of Education and Research started a funding priority for AI R&D projects on explainability and transparency. The Ministry stated that improving explainability and transparency are two of

⁷⁵⁹ International Conference on Data Protection and Privacy Commissioners, *Declaration on Ethics and Data Protection in Artificial Intelligence* (Oct. 23, 2018), https://globalprivacyassembly.org/wp-content/uploads/2018/10/20180922_ICDPPC-40th_AI-Declaration_ADOPTED.pdf; Global Privacy Assembly, *Resolution on Accountability in the Development and Use of Artificial Intelligence* (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>.

⁷⁶⁰ [GDPR Art. 22, Art. 13.2.f]

⁷⁶¹ Algorithm Watch, *Automating Society: Germany* (Jan. 29, 2019), <https://algorithmwatch.org/en/automating-society-germany/>

⁷⁶² Freedom of Information Commissioners in Germany, “Transparenz der Verwaltung beim Einsatz von Algorithmen für gelebten Grundrechtsschutz unabdingbar“ (Oct. 16, 2018), https://www.datenschutzzentrum.de/uploads/informationsfreiheit/2018_Positionspapier-Transparenz-von-Algorithmen.pdf

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the Federal government’s central research goals.⁷⁶³ Funding is “aimed at collaborative projects between science and industry in an interdisciplinary composition.”⁷⁶⁴

OECD/G20 Principles and Global Partnership on AI

Germany is a member of the OECD and endorsed the OECD and the G20 AI Principles. In 2020, Germany joined 14 other countries to announce the Global Partnership on Artificial Intelligence to “support the responsible and human-centric development and use of AI in a manner consistent with human rights, fundamental freedoms, and our shared democratic values.”⁷⁶⁵ In 2021, the OECD noted several examples of Germany’s implementation of the OECD AI Principles, including guidelines for trustworthy AI that are largely in line with the OECD AI Principles (Germany’s Data Ethics Commission ethics recommendations), the establishment of a dedicated body to coordinate AI strategy, annual evaluation of national AI strategies, and fostering partnership between public and private research organization.⁷⁶⁶

Human Rights

According to Freedom House, Germany is one of the top countries in the world for the protection of political rights and civil liberties, receiving as score of 94/100, unchanged from the previous year.⁷⁶⁷ Freedom House reports that, “Germany is a representative democracy with a vibrant political culture and civil society. Political rights and civil liberties are largely assured both in law and practice.”⁷⁶⁸

⁷⁶³ Bundesministerium für Bildung und Forschung, KI-Erklärbarkeit und Transparenz, <https://www.softwaresysteme.pt-dlr.de/de/ki-erklarbarkeit-und-transparenz.php>

⁷⁶⁴ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

⁷⁶⁵ Federal Ministry for Economic Affairs and Energy & Federal Ministry for Social Affairs and Work, *Joint Press Release: Germany is a founding Member of the Global Partnership on Artificial Intelligence* (June 15, 2020), <https://www.bmwi.de/Redaktion/EN/Pressemitteilungen/2020/20200615-germany-is-a-founding-member-of-the-global-partnership-on-artificial-intelligence.html>

⁷⁶⁶ OECD, *State of Implementation of the OECD AI Principles Insights from National AI Policies* 10, 14, 15, 65 (June 2021), <https://www.oecd.org/digital/state-of-implementation-of-the-oecd-ai-principles-1cd40c44-en.htm>

⁷⁶⁷ Freedom House, *Freedom in the World 2021 – Germany* (2021), <https://freedomhouse.org/country/germany/freedom-world/2021>

⁷⁶⁸ Freedom House, *Freedom in the World 2020 – Germany* (2020), <https://freedomhouse.org/country/germany/freedom-world/2020>

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Lethal Autonomous Weapons

The German government's 2018 coalition agreement stated that it "rejects autonomous weapon systems devoid of human control" and calls for a global ban.⁷⁶⁹ Further in cooperation with the French government, the German government, published a joint statement on Lethal Autonomous Weapons at the "Meeting of the Group of Governmental Experts on Lethal Autonomous Weapons Systems." They write: "At the heart of our proposal is the recommendation for a political declaration, which should affirm that State parties share the conviction that humans should continue to be able to make ultimate decisions with regard to the use of lethal force and should continue to exert sufficient control over lethal weapons systems they use."⁷⁷⁰

The new German government's 2021 coalition agreement states: "Biometric recognition in public spaces as well as automated state scoring systems through AI are to be excluded under European law."⁷⁷¹ (p.18) "We reject lethal autonomous weapon systems that are completely removed from human control. We actively promote their international outlawing. We want the peaceful use of space and cyberspace. For weapons technology developments in biotech, hypersonics, space, cyber and AI, we will take early arms control initiatives. We want to contribute to strengthening norms for responsible state behavior in cyberspace."

Evaluation

Germany has undertaken a broad AI program, that pushes ethical considerations into the national discourse. Germany has recommended regulation of AI technologies. Germany has led efforts within the European Union to establish comprehensive regulation for AI. Further, Germany has promoted ethical use of AI across all sectors. While there has been no

⁷⁶⁹ Konrad Adenauer Stiftung Europe, *A New Awakening for Europe. A New Dynamic for Germany. A New Solidarity for Our Country: Coalition Agreement between CDU, CSU, and SPD* (2018), https://www.kas.de/c/document_library/get_file?uuid=bd41f012-1a71-9129-8170-8189a1d06757&groupId=284153)

⁷⁷⁰ Permanent Representation of the Federal Republic of Germany to the Conference on Disarmament in Geneva & Représentation Permanente de la France auprès de la Conférence du Désarmement, Meeting of the Group of Governmental Experts on Lethal Autonomous Weapons Systems, *Statement by France and Germany* (Apr. 2018), <http://perma.cc/2FQB-W8FX>); US Library of Congress, *Regulation of Artificial Intelligence in Selected Jurisdictions* (Jan. 2019), <https://www.loc.gov/law/help/artificial-intelligence/regulation-artificial-intelligence.pdf>

⁷⁷¹ Koalitionsvertrag 2021, *Mehr Fortschritt wagen* 18, 145, <https://www.bundesregierung.de/resource/blob/974430/1990812/04221173eef9a6720059cc353d759a2b/2021-12-10-koav2021-data.pdf>

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express support for the Universal Guidelines for AI, Germany's policies reflect elements found in the UGAI.

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Hong Kong

National AI Strategy

Hong Kong is making significant advances in AI development and policy implementation through the issuance of guidelines, policies and AI technology application in different sectors. Although this special administrative region largely controlled by China does not have a national strategy for the regulation of AI, there exists a guideline on AI to guide organizations in adopting accountable and ethical processes. This guideline issued by the Office of the Privacy Commissioner for Personal Data (PCPD) contains statements on the ethical development and use of AI which is aimed at guiding the adherence to personal data and privacy requirements by organizations within the region.⁷⁷² The PCPD guidelines are made up of seven principles that set out to get ethical AI policy implementation. These principles consist of themes involving accountability, human oversight, transparency and interpretability, data privacy, fairness, beneficial AI, reliability, robustness, and security. The PCPD guidelines also provide practical steps to help organizations in managing their AI systems, covered under four major areas namely:

- Establishing AI strategy and governance;
- Conducting risk assessment and human oversight;
- Executing development of AI models and managing overall AI systems; and
- Fostering communication and engagement with stakeholders.

Additionally, in November 2020, the PCPD sponsored a resolution and played a key role in encouraging greater accountability in the development and use of AI to the Global Privacy Assembly (GPA). This sponsored resolution was in response to the GPA's adopted Declaration on Ethics and Data Protection in Artificial Intelligence two years earlier.⁷⁷³ The resolution by the PCPD called for greater accountability as it relates to the measures below⁷⁷⁴:

⁷⁷² Office of the Privacy Commissioner for Personal Data, Hong Kong. PCPD Publishes "Guidance on Ethical Development and Use of AI" and Inspection Report on Customers' Personal Data Systems of Two Public Utility Companies (August 2021) https://www.pcpd.org.hk/english/news_events/media_statements/press_20210818.html

⁷⁷³ Bryan Cave Leighton Paisner. Hong Kong issues guidance on the use of AI (November 2021). <https://www.bclplaw.com/en-US/insights/hong-kong-issues-guidance-on-the-use-of-ai.html>

⁷⁷⁴ Office of the Privacy Commissioner for Personal Data, Hong Kong. Global Privacy Assembly Adopted a Resolution to Encourage Accountability in the Development and Use of AI" -- Privacy Commissioner's article contribution at Hong Kong Lawyer

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- assessing the potential impact to human rights (including privacy rights) before the development and/or use of AI;
- testing the robustness, reliability, accuracy and data security of AI systems before putting them into use; and
- disclosing the results of the privacy and human rights impact assessment of AI, and the use of AI, the data being used and the logic involved to enhance transparency.

In 2019, the Hong Kong Monetary Authority (HKMA) published a 12 principle guideline detailing adherence items for banks that engage in designing and implementing AI and big data analytics applications.⁷⁷⁵ The issuance of these principles was aimed at ensuring some form of safeguards for banks as they deal with the increased need for AI technology adoption in Hong Kong’s vibrant financial sector.

Hong Kong’s technology development sector, specifically AI, is seeing increased integration with mainland China. In Carrie Lam’s, the Chief Executive of Hong Kong, 2021 policy address she states “...the developments of Hong Kong and our country are closely related. Only by leveraging the Central Government’s policies in support of Hong Kong can we give full play to our unique strengths, which will, in turn, bring continuous impetus to our economy.⁷⁷⁶” This, coupled with the passage of the Hong Kong National Security Law in 2020 by China’s top legislature,⁷⁷⁷ cast some doubts on the future of the “One Country, Two Systems” model for governance of Hong Kong⁷⁷⁸.

Fundamental Rights and OECD AI Principles

Hong Kong is not one of the adopters of the Universal Declaration of Human Rights. However, there has been the International Covenant on Economic, Social, and Cultural Rights (ICESCR) and International

(November 2020).

https://www.pcpd.org.hk/english/news_events/newspaper/newspaper_202011.html

⁷⁷⁵ DLA Piper. Hong Kong banks must follow new AI framework (November 2019).

<https://www.lexology.com/library/detail.aspx?g=aff8347f-447c-4155-801b-8174a5d4668e>

⁷⁷⁶ The Chief Executive’s 2021 Address.

<https://www.policyaddress.gov.hk/2021/eng/p38.html>

⁷⁷⁷ Hong Kong Free Press. “In full: Official English translation of the Hong Kong national security law” (July 1 2020). <https://hongkongfp.com/2020/07/01/in-full-english-translation-of-the-hong-kong-national-security-law/>

⁷⁷⁸ Overholt, William. *Hong Kong: The Rise and Fall of “One Country, Two Systems”* (December 2019).

https://ash.harvard.edu/files/ash/files/overholt_hong_kong_paper_final.pdf

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Covenant on Civil and Political Rights (ICCPR) in effect within the region. These human rights conventions are also complemented by other articles that protect the rights of citizens. One of these key articles is Article 30 that protects citizens' right to privacy covered by the personal data (privacy) ordinance that clearly points out principles to be adhered to in the use of personal data.⁷⁷⁹

The Freedom House 2021 Report, ranks Hong Kong as partly free with a total score of 52/100.⁷⁸⁰ Political rights and civil liberties are scored very low on the report as there is still a large prevalence of pro-Beijing interests in the country's political system and the freedom and autonomy of citizens have to a large extent been controlled by political interventions from mainland China.

Hong Kong is not a member of the OECD and has not adopted the OECD AI Principles.⁷⁸¹

Public Participation

Hong Kong does not have a structured process for public participation in the development of AI policy, although, some AI and digital technology projects have sought the engagement of citizens as part of their roll-out plans, for instance, the Hong Kong government embarked on a two-month public engagement drive to gather and understand the views of citizens on the digital identity project they embarked on⁷⁸².

Data Protection and Algorithmic Transparency

Hong Kong passed the Personal Data (Privacy) Ordinance (PDPO) in 1995, which instilled a principles-based approach to data privacy and established the Office of the Privacy Commissioner for Personal Data (PCPD) as an independent data privacy regulator. The PCPD has been an active participant in international discussions on data protection, algorithmic transparency, and many other key issues in the use of AI, especially in the General Privacy Assembly. The PDPO saw amendments

⁷⁷⁹ Hong Kong e-legislation. Cap. 486 Personal Data (Privacy) Ordinance
<https://www.elegislation.gov.hk/hk/cap486>

⁷⁸⁰ Freedom House. Freedom in the World (2021)
<https://freedomhouse.org/country/hong-kong/freedom-world/2021>

⁷⁸¹ OECD Legal Instruments. Recommendation of the Council of Artificial Intelligence (2021) <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>

⁷⁸² Medha Basu. Exclusive: Hong Kong's Vision for Artificial Intelligence
<https://govinsider.asia/smart-gov/exclusive-hong-kongs-vision-for-artificial-intelligence/>

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in 2012⁷⁸³ and 2021⁷⁸⁴ to address direct marketing and criminalize doxxing, respectively. Allowing the PCPD to conduct investigations without a warrant, press charges independently, force content to be taken down, and charge non-compliant internet platforms, there are concerns that the doxxing amendment will be used to restrict dissenting opinions⁷⁸⁵. The PDPO applies to both private and public data usage; however, it allows for specific exemptions for criminal investigations, the performance of judicial functions, security and defense, and emergency situations.⁷⁸⁶ In the context of the recent Hong Kong National Security Law and associated protests, the broader implications of these exemptions on human rights are less clear. For example, police can request content be taken down or have online platforms provide information about users, although it's unclear if this information can or will be shared with mainland China.⁷⁸⁷

The AI Guidance presented by the PCPD makes several recommendations to increase transparency around the use of AI, including “putting in controls that allow human oversight and intervention of the operations of the relevant AI system.”⁷⁸⁸ Similarly, the guidelines for banks using AI from the Hong Kong Monetary Authority push banks to hold leadership accountable for AI decision-making, to ensure results from AI systems are explainable and auditable, and to provide transparency to

⁷⁸³ Office of the Privacy Commissioner for Personal Data, Hong Kong. “Amendments 2012”.

https://www.pcpd.org.hk/english/data_privacy_law/amendments_2012/amendment_2012.html

⁷⁸⁴ Office of the Privacy Commissioner for Personal Data, Hong Kong, “The Personal Data (Privacy) (Amendment) Ordinance 2021 Takes Effect Today to Criminalise Doxxing Acts” (Oct 8 2021),

https://www.pcpd.org.hk/english/news_events/media_statements/press_20211008.html

⁷⁸⁵ Law Society of Hong Kong, “Proposed Doxxing Offence - Personal Data (Privacy) (Amendment) Bill 2021” (Aug 18, 2021), https://www.hklawsoc.org.hk/-/media/HKLS/pub_e/news/submissions/20210818.pdf

⁷⁸⁶ Hong Kong e-legislation, *Cap. 486 Personal Data (Privacy) Ordinance, Part 8, Exemptions*, <https://www.elegislation.gov.hk/hk/cap486>

⁷⁸⁷ The Government of the Hong Kong Special Administrative Region, “Implementation Rules for Article 43 of the Law of the People's Republic of China on Safeguarding National Security in the Hong Kong Special Administrative Region gazetted” (Jul 6 2020), <https://www.info.gov.hk/gia/general/202007/06/P2020070600784.htm>

⁷⁸⁸ Office of the Privacy Commissioner for Personal Data, Hong Kong, *Guidance on the Ethical Development and Use of Artificial Intelligence* (Aug 2021), https://www.pcpd.org.hk/english/resources_centre/publications/files/guidance_ethical_e.pdf

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consumers on the use of AI⁷⁸⁹. These recommendations align with established principles such as the OECD AI Principles, and similar recommendations in the proposed EU AI Act; however, this is just a guidance to businesses, and non-binding.

Hong Kong was a signatory to the 2018 GPA Declaration on Ethics and Data Protection in Artificial Intelligence and a primary sponsor of the 2020 GPA Resolution on Accountability in the Development and Use of Artificial Intelligence.⁷⁹⁰

AI and Surveillance

Hong Kong has long-standing concerns about AI surveillance, especially as it relates to its relations with mainland China and the preservation of democracy in Hong Kong. Hong Kong Chief Executive Carrie Lam invoked the Emergency Regulations Ordinance in order to ban the use of face masks during anti-government protests in 2019.⁷⁹¹ This ordinance gives the chief executive the power to “make any regulations whatsoever which he may consider desirable in the public interest.”⁷⁹² In December 2020, Hong Kong’s Court of Final Appeal largely upheld the application of the Emergency Regulations Ordinance for the facemask ban⁷⁹³. The use of face masks in the context of the 2019 protests was a deliberate effort by protestors to shield their identity from the government and the subsequent mask ban casts doubt over the future of the right to freely protest in Hong Kong.

Hong Kong has also been a strong proponent of the use of technology in public spaces, laying out their future plans through the *Hong*

⁷⁸⁹ Hong Kong Monetary Authority, “High Level Principles on Artificial Intelligence” (1 Nov 2019), <https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2019/20191101e1.pdf>

⁷⁹⁰ International Conference on Data Protection and Privacy Commissioners, *Declaration on Ethics and Data Protection in Artificial Intelligence* (Oct. 23, 2018), https://globalprivacyassembly.org/wp-content/uploads/2018/10/20180922_ICDPPC-40th_AI-Declaration_ADOPTED.pdf; Global Privacy Assembly, *Resolution on Accountability in the Development and Use of Artificial Intelligence* (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>

⁷⁹¹ BBC News, “Hong Kong: Face Mask Ban Prompts Thousands to Protest” (Oct 4 2019), <https://www.bbc.com/news/world-asia-china-49939173>

⁷⁹² Hong Kong E-Legislation, *Cap. 241 Emergency Relations Ordinance*, <https://www.elegislation.gov.hk/hk/cap241>

⁷⁹³ Washington Post, “Hong Kong’s highest court upholds ban on masks at protests” (Dec 21, 2020), https://www.washingtonpost.com/world/hongkong-mask-ban-ruling/2020/12/20/f2722af0-4340-11eb-a277-49a6d1f9dff1_story.html

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Kong Smart Cities Blueprint 2.0, published in December 2020.⁷⁹⁴ These plans include the use of the “StayHomeSafe” mobile app and companion tracking bracelet, who’s use was required for all new entrants into Hong Kong.⁷⁹⁵ Additionally as an outcome of the Smart City Blueprint, Hong Kong has pushed to adopt concrete policy standards for the use of autonomous vehicles (AVs).⁷⁹⁶ The Legislative Council Panel on Transport released a proposal for legislation on this issue, with the goal of increased testing of AVs and a clear process for licensing new test cars.⁷⁹⁷ The blueprint and associated initiatives also outline many plans such as the increased rollout of public wifi and contact tracing for COVID, as well as funding for robotic patrols of airport terminals and a new LawTech Fund. Despite the clear potential upside, there is no mention of potential concerns, such as data privacy, algorithmic bias, or the potential violation of human rights in the documents rolling out these new initiatives. Furthermore, there was no significant public engagement, despite concerns about negative impacts⁷⁹⁸. The rollout of new technology in public places, the Hong Kong National Security Law and the development and use of facial recognition technology by local companies⁷⁹⁹ all threaten the increased use of AI for surveillance purposes in Hong Kong.

Evaluation

Hong Kong is a relatively new player in AI policy adoption and implementation, although it could be safe to link this special administrative

⁷⁹⁴ Hong Kong Innovation and Technology Bureau, *Hong Kong Smart Cities Blueprint 2.0* (Dec 2020),

[https://www.smartcity.gov.hk/modules/custom/custom_global_js_css/assets/files/HKSma rtCityBlueprint\(ENG\)v2.pdf](https://www.smartcity.gov.hk/modules/custom/custom_global_js_css/assets/files/HKSma rtCityBlueprint(ENG)v2.pdf)

⁷⁹⁵ Government of Hong Kong Special Administrative Region, “StayHomeSafe User Guide”, <https://www.coronavirus.gov.hk/eng/stay-home-safe.html>

⁷⁹⁶ Legislative Council Secretariat, Information Services Division, “Policy on testing and deployment of autonomous vehicles” (Jan 12 2021), <https://www.legco.gov.hk/research-publications/english/essentials-2021/ise13-policy-on-testing-and-deployment-of-autonomous-vehicles.htm>

⁷⁹⁷ Legislative Council Panel on Transport, “Proposed Regulatory Framework for Autonomous Vehicles” (May 21 2021), <https://www.legco.gov.hk/yr20-21/english/panels/tp/papers/tp20210521cb4-987-3-e.pdf>

⁷⁹⁸ Lai, Neville, Chan, Justin, “People have to be at the heart of Hong Kong’s smart city plans” (27 Nov 2021), <https://www.scmp.com/comment/opinion/hong-kong/article/3157263/people-have-be-heart-hong-kongs-smart-city-plans>

⁷⁹⁹ Markay, Lachlan, “Scoop: Chinese tech firm sidesteps sanctions” (29 Sept 2021), <https://www.axios.com/chinese-tech-firm-sidesteps-sanctions-de43feaf-7df5-46ad-85bd-8a37ab468e2e.html>

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unit with some of China's AI efforts and achievements due to the administrative relationship between both. Hong Kong has not been a signatory to the OECD AI Principles or the Universal Declaration for Human Rights; however, it has seen some effort to propose and implement similar principles and guidelines. The leading role played by Hong Kong through the PCPD-sponsored resolution on greater accountability in the development and use of AI to the Global Privacy Assembly (GPA) shows that the region has the potential to play a prominent role in key global AI policy development and implementation. However, despite being one of the first places to have an independent commissioner for data privacy, Hong Kong has not been quite as proactive in the adoption of policy with regards to the safe use of artificial intelligence. Irrespective of its complicated relationship with mainland China especially as it relates to surveillance and data protection issues, there is some effort by the government in regulating and promoting ethical AI use within the country. It's unclear, however, how much of this extends to new government initiatives, such as the Smart Cities Blueprint, or issues of national security. More effort is needed by the government in the adoption of a comprehensive national AI strategy that promotes democratic values and human rights, as well as alignment with international commitments to AI principles.

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India

National AI Strategies

Recognizing the potential of AI to transform and advance its economy, the government of India has initiated and implemented multiple strategies to address research, development, innovation, governance, standards setting, and accountability of AI in India. The *Task Force on Artificial Intelligence for India's Economic Transformation*,⁸⁰⁰ which has produced a benchmarking report (2018),⁸⁰¹ has played a role in setting forth India's vision regarding AI.

In 2015, India's Ministry of Commerce and Industry established NITI Aayog, which a policy think tank of the Government of India providing directional and policy inputs.⁸⁰² The NITI Aayog replaced the erstwhile Planning Commission, formed shortly after India's independence which analyzed several factors and developed goals and strategies for India through 5 year plans. In June 2018, NITI Aayog released a discussion paper⁸⁰³ the National Strategy on Artificial Intelligence where the role of the Government has been clearly delineated to develop the research ecosystem, promote adoption and address development of skills while undertaking exploratory proof-of-concept AI projects in various areas, crafting a national strategy for building a vibrant AI ecosystem in India as well as collaborating with various experts and stakeholders.⁸⁰⁴

NITI focused on five strategic focus areas for AI development: healthcare, agriculture, education, smart cities and transportation.⁸⁰⁵ The commission also identified five barriers that need to be addressed in order to realize the full potential of AI:

- 1) Lack of broad-based expertise in research and application of AI;
- 2) Absence of enabling data ecosystems – access to intelligent data;
- 3) High resource cost and low awareness for adoption of AI;

⁸⁰⁰ Artificial Intelligence Task Force, Ministry of Commerce and Industry, Government of India, <https://www.aitf.org.in>.

⁸⁰¹ India, Department of Promotion of Industry and Internal Trade, *Report of Task Force on Artificial Intelligence* (Mar. 2018), <https://dipp.gov.in/whats-new/report-task-force-artificial-intelligence>

⁸⁰² NITI Aayog, (Jun. 2019), <http://164.100.94.191/niti/content/overview>

⁸⁰³ <https://niti.gov.in/sites/default/files/2019-01/NationalStrategy-for-AI-Discussion-Paper.pdf>

⁸⁰⁴ <https://niti.gov.in/national-strategy-artificial-intelligence>

⁸⁰⁵ OECD, *AI in Society* (2020).

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- 4) Privacy and security, including a lack of formal regulations around anonymization of data; and
- 5) Absence of collaborative approach to adoption and application of AI.

The discussion paper, while highlighting the ethical factors of AI such as fairness, transparency, privacy, and security, recommended creation of a multi-stakeholder marketplace, facilitating creation of a large foundational annotated data set, setting up partnerships and collaborations, spreading awareness on the advantages of AI offers and supporting start-ups. In the interim budget of 2019, the Ministry of Finance cleared funding of approximately USD 950 million towards the NITI Aayog's proposal for formation of a task force to identify projects and initiatives in which to implement AI technology.⁸⁰⁶

Finally, the 2018 strategy discusses important issues in ethics and AI—including fairness and bias, transparency and explainability, privacy, and security—and advances visions for responsible AI development in its government.

The #AIForAll strategy proposes a two-tiered framework to AI research and development: the creation of Centres of Research Excellence in AI (COREs), which will be academic research hubs; and the creation of International Centres for Transformational Artificial Intelligence, which will be industry-led.

In November 2020, NITI Aayog published an additional draft outlining its AI Strategy, *Enforcement Mechanisms for Responsible AI for All*.⁸⁰⁷ In this draft, which allowed for public participation and comments, NITI Aayog proposed an oversight body and articulated its role and proposed duties. These include:

- Manage and update Principles for Responsible AI in India,
- Research technical, legal, policy, and societal issues of AI,
- Provide clarity on responsible behavior through design structures, standards, guidelines,
- Enable access to Responsible AI tools and techniques,
- Education and awareness on Responsible AI,
- Coordinate with various sectoral AI regulators, identify gaps, and harmonize policies across sectors,

⁸⁰⁶ Finance Ministry Clears Niti Aayog's Artificial Intelligence Proposal, Sep. 17, 2019, https://www.business-standard.com/article/economy-policy/finance-ministry-clears-niti-aayog-s-artificial-intelligence-proposal-119090901345_1.html

⁸⁰⁷ NITI Aayog, *Working Document: Enforcement Mechanisms for Responsible #AIForAll* (Nov. 2020), <https://niti.gov.in/sites/default/files/2020-11/Towards-Responsible-AI-Enforcement-of-Principles.pdf>

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- Represent India and other emerging economies in International AI dialogue on Responsible AI

The 2020 draft is an important addition that adds oversight and accountability to the initial 2018 strategy, which made key recommendations to promote research, education, and protection of civil liberties in AI development, including the following:

- 1) Create two-tiered research institutes to nurture both academic and industry research;
- 2) Establish learning platforms for the workforce skill/reskill development;
- 3) Create targeted data sets and incubation hubs for start-ups to facilitate cooperation; and
- 4) Establish a regulatory framework for data protection and cyber security.

In 2021, NITI Aayog published two documents in the context of the ‘AI for All’ strategy. The first one proposed a series of principles for the responsible management of AI systems that may be leveraged by relevant stakeholders in India. These principles are: 1) Principle of Safety and Reliability; 2) Principle of Equality; 3) Principle of Inclusivity and Non-discrimination; 4) Principle of Privacy and security; 5) Principle of Transparency; 6) Principle of Accountability; and 7) Principle of protection and reinforcement of positive human values.⁸⁰⁸ The second document identified the various mechanisms needed for operationalizing these seven principles by detailing a series of actions for the government, the private sector and research institutions that must be adopted to drive responsible AI.⁸⁰⁹

In September 2021, NITI Aayog launched a ‘New Experience Studio’ in collaboration with Amazon Web Services and Intel, which will help showcase the potential of technologies such as AI, machine learning, Internet of Things (IoT), augmented reality and virtual reality, blockchain, and robotics to accelerate their application in public sector use cases.⁸¹⁰

⁸⁰⁸ NITI Aayog, *Responsible AI #AIForAll Part 1 – Principles for Responsible AI* (Feb. 2021) <https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf>

⁸⁰⁹ NITI Aayog, *Responsible AI #AIForAll Part 2 - Operationalizing Principles for Responsible AI*

<https://www.niti.gov.in/sites/default/files/2021-08/Part2-Responsible-AI-12082021.pdf>

⁸¹⁰ India News Network, *NITI Aayog, Amazon and Intel come together to accelerate digital innovation in India* (Sept, 30, 2021)

<https://www.indiavsdinformation.com/20210930/niti-aayog-amazon-and-intel-come-together-to-accelerate-digital-innovation-in-india>

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Quad Group

In 2020, at a strategic meeting the foreign ministers of India, United States, Australia, and Japan discussed a collective vision for national security (Quadrilateral Security Dialogue), and India also expressed support of AI policies that favor democratic nations.⁸¹¹ In an address at a ministerial meeting of the Quad Group in Tokyo, external affairs Minister also spoke about upholding “rules-based international order.” In addition to this, the NITI Aayog has specifically recommended that India seek out ways to harmonize its approach to AI with other emerging economies and OECD countries. In September 2021, the Quad Group released principles on Technology Design, Development, Governance and Use affirmed that the ways in which technology is designed, developed, governed, and used should be shaped by shared democratic values and respect for universal human rights. It referred to the following principles: 1) Support of universal values, such as freedom of expression, privacy, autonomy, agency, and dignity of individuals; 2) Building trust, integrity and resilience; and 3) Fostering healthy competition and international collaboration to advance the frontier of science and technology.⁸¹²

In March 2021, the U.S. - India Artificial Intelligence (USIAI) Initiative was launched to serve as a platform to discuss opportunities for bilateral AI R&D collaboration, share ideas for developing an AI workforce, and recommend modes and mechanisms for catalyzing the partnerships.⁸¹³

AI Policy Development and Oversight

As discussed previously, India's Ministry of Commerce and Industry AI commission (NITI Aayog), is charged with developing a National Program on AI to support innovative AI projects, craft a national strategy for building an AI ecosystem in India, and facilitate collaboration with experts and stakeholders in key sectors. The NITI Aayog published a draft

⁸¹¹ The Indian Express, *Jaishankar at Quad Meet: India committed to respecting territorial integrity* (Oct. 6, 2020), <https://indianexpress.com/article/india/quad-jaishankar-india-us-china-6705339/>

⁸¹² The White House, *Quad Principles on Technology Design, Development, Governance, and Use* (Sept. 24, 2021) <https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/24/quad-principles-on-technology-design-development-governance-and-use/>

⁸¹³ U.S. - India Artificial Intelligence (USIAI) Initiative <https://usiai.iustf.org/>

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report that sets out the goals, functions, and operations of India's AI Oversight Body.⁸¹⁴

In addition to the NITI Aayog, the *Ministry of Electronics and Information Technology* (MeitY) is also pursuing work on AI policy. The MeitY four AI Committees charged with promoting AI initiatives and developing policy frameworks to address 1) platforms and data on AI; 2) leveraging AI for identifying national missions in key sectors; 3) mapping technological capabilities, key policy enablers required across sectors, skilling, reskill; and 4) cybersecurity, safety, legal and ethical issues.⁸¹⁵

Recommendations have emerged from each of these committees, including:

- Development of an Open National AI Resource Platform (NAIRP) to become the central hub for knowledge integration and dissemination in AI and ML;
- Stakeholders need to deliberate on whether AI systems should be recognized as a legal person in the event of a civil liability claim;
- Sharing of best practices by the government around security, privacy, and other issues;
- Constitute a stakeholder committee to review existing laws to understand needed modifications for AI applications;
- AI framework should provide broad principles, and organizations should design their internal compliance programs to maximize flexibility with changing technologies;
- Standards should be set to address the AI development cycle. The Bureau of Indian Standards (BIS) has established a new committee for standardization in AI;
- Develop rigorous government safety parameters and thresholds so that AI applications are designed to minimize harm to people and property.

India's AI Stack and Aadhaar

In 2009, India created UIDAI (Unique Identity Authority of India) and embarked on the creation of an ambitious digital biometric identity ecosystem, the Aadhaar identity system. This ecosystem utilizes AI and machine learning techniques throughout. To facilitate a fully digital,

⁸¹⁴ NITI Aayog, *Working Document: Enforcement Mechanisms for Responsible #AIforAll* (Nov. 2020), <https://niti.gov.in/sites/default/files/2020-11/Towards-Responsible-AI-Enforcement-of-Principles.pdf>

⁸¹⁵ Government of India, Ministry of Electronics and Information Technology, *Artificial Intelligence Committee Reports*, <https://www.meity.gov.in/artificial-intelligence-committees-reports>

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cashless society and economy, a large number of open application programming interfaces or APIs were now associated with the Aadhaar ecosystem. When these APIs are linked to services or data, including those utilizing AI, it is called "The India Stack."⁸¹⁶ The India Stack is the largest system of its kind in the world, and by extension, among the largest AI/Machine Learning based systems in the world.

The Aadhaar system, originally a voluntary pilot program, became mandatory overtime and was tied to many services, which eventually created substantive human rights and privacy issues.⁸¹⁷ However, a series of landmark rulings from the Supreme Court of India, culminating in the landmark Aadhaar Privacy Decision of 2018,⁸¹⁸ attempted to curtail the negative uses of the Aadhaar system but a significant national mandate for technological, procedural, and policy improvements remained.⁸¹⁹ Because of this, throughout India there is a strong impetus toward implementing mitigations for privacy and autonomy concerns in the Aadhaar system, the India Stack, and in general, AI systems. This mandate includes public participation in, and understanding of, AI systems. Since the Aadhaar ruling, many improvements regarding have been made regarding AI-based identity systems and services, the "India Stack." However, the use and implementation of Aadhaar with AI tends to fall with the grey-zone of the Aadhaar Privacy Decision of 2018 as the said judgment prohibits the use of Aadhaar by private entities and limits the use of Aadhaar by the Government towards providing subsidies, benefits and services. In this regard, the Attorney General for India later issued a guiding opinion⁸²⁰ in 2019, the Aadhaar Act was further amended⁸²¹ make the statute comply with the Aadhaar judgment. Another concern regarding constitutional validity of the Aadhaar statute has also arisen as it was passed as a "money

⁸¹⁶ *The India Stack*, <https://www.indiastack.org/about/>

⁸¹⁷ Pam Dixon, A Failure to "Do No Harm" – India's Aadhaar biometric ID program and its inability to protect privacy in relation to measures in Europe and the U.S., *Health Technology* (May 4, 2017), <https://link.springer.com/epdf/10.1007/s12553-017-0202-6>

⁸¹⁸ Software Freedom Law Center, Full text of decision (Sept. 26, 2018),

<https://sflc.in/updates-aadhaar-final-hearing/aadhaar-judgement>

⁸¹⁹ *The Hindu*, *Reactions to the Aadhaar verdict: Original Aadhaar petitioner Justice Puttaswamy welcomes parts of the judgment* (Sept. 26, 2018),

<https://www.thehindu.com/news/national/reactions-to-aadhaar-verdict/article25046282.ece>

⁸²⁰ Opinion of the Attorney General for India, Oct. 15, 2018,

<https://uidai.gov.in/images/Circular%20->

[Use%20of%20Aadhaar%20for%20opening%20bank%20accounts%20and%20withdrawal%20of%20money%20through%20AePS-reg.pdf](https://uidai.gov.in/images/Circular%20-Use%20of%20Aadhaar%20for%20opening%20bank%20accounts%20and%20withdrawal%20of%20money%20through%20AePS-reg.pdf)

⁸²¹ The Aadhaar And Other Laws (Amendment) Act, 2019,

https://www.uidai.gov.in/images/news/Amendment_Act_2019.pdf

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bill.”⁸²² However, privacy concerns remain and this area needs to be observed in the future. In addition, the implementation of GDPR in Europe renewed the focus on implementation of privacy and data protection features within India as well.

In 2019, to further address concerns of standardization of AI development, the *Department of Telecommunications* formed an AI standardization committee to develop interface standards and design India’s *AI Stack*, a framework designed to provide standards for all sectors addressing: data privacy, protection, federation, and minimization; defined data structures; interfaces and protocols; ethical standards; digital rights; and trustworthiness.⁸²³ The committee released a report in 2020, and invited public comments on the design of India’s *AI Stack*.

In addition, in January 2020 the NITI Aayog released recommendations that an AI-explicit computer framework (AIRAWAT) be established to serve the needs of innovation hubs, AI research, and students, as well as a new discussion paper regarding the issue of *Responsible AI*.

In January 2022, the Ministry of Electronics and Information Technology (MeitY) has proposed a new model of “Federated Digital Identities” under which a citizen’s multiple digital IDs — from PAN and Aadhaar to driving licence and passport numbers could be interlinked, stored, and accessed via one unique ID envisaged under India Digital Ecosystem Architecture 2.0.⁸²⁴

Public participation

The government of India has conducted several public consultations on AI policy. Most recently, in July 2020, the AI policy commission of India (NITI Aayog) requested public comments on its working document “*Towards Responsible #AIforAll*.”⁸²⁵ In addition, the Department of Telecommunications invited public comments on the AI standardization committee’s design of India’s *AI Stack*, a framework designed to provide standards for all sectors addressing: data privacy, protection, federation, and minimization; defined data structures; interfaces and protocols; ethical standards; digital rights; and trustworthiness (AI Standardization committee, 2020). The Ministry of Electronics and Information Technology

⁸²² Decoding the Tribunal Judgment, Bar and Bench, Nov. 15, 2019, <https://www.barandbench.com/columns/column-decoding-the-tribunal-judgment>

⁸²³ AI Standardisation committee, 2020.

⁸²⁴ InDEA 2.0, India Digital Ecosystem Architecture, January 2022, https://www.meity.gov.in/writereaddata/files/InDEA%202_0%20Report%20Draft%20V6%2024%20Jan%2022_Rev.pdf

⁸²⁵ AI Standardisation committee, 2020.

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(MeitY) publishes reports from each of its four AI Committees, each charged with promoting AI initiatives and developing policy frameworks.⁸²⁶

In November 2020, the Software Freedom Law Center India (SFLC) wrote to the Chairperson of the Joint Parliamentary Committee regarding the Personal Data Protection bill.⁸²⁷ The SFLC noted “core deficiencies in the draft bill “including the lack of surveillance reforms, wide exemptions and the problems with the Data Protection Authority.” The NGO asked the Committee to invite civil society organizations that “defend the rights of citizens in the digital space for consultation on the draft Data Protection Bill.”

Further, the NITI Aayog “proposed setting up of an oversight body to set up standards, guidelines and benchmarks for use of artificial intelligence across sectors, which will be mandatory for public sector procurement. The body is expected to have field experts from computer science, AI, legal experts, sector specialists and representatives from civil societies, humanities and social science.”⁸²⁸ The overarching body would also be responsible for educating and creating awareness on responsible AI, coordinate with various sectoral AI regulators as well as identify gaps and harmonize policies across sectors. “Further, it would represent India (and other emerging economies) in International AI dialogue on responsible AI.

OECD/G20 AI Principles

As a G20 member, India endorsed the G20 AI Principles at the 2019 G20 Leader’s Summit in Japan. According to the OECD, most but not all, of the OECD AI principles are addressed in the national AI strategy.⁸²⁹ According to OECD AI Observatory, following the AIforAll initiatives, India is now addressing accountability.⁸³⁰

Data Protection

The Supreme Court of India’s Aadhaar privacy decision (2018) created meaningful opportunities for public participation in AI policy, and

⁸²⁶ Ministry of Electronics and Information Technology, *Artificial Intelligence Committees Reports*, <https://www.meity.gov.in/artificial-intelligence-committees-reports>

⁸²⁷ SFLC, *Letter to Joint Parliamentary Committee on inviting civil societies for consultation on draft Data Protection Bill*, (Nov. 18, 2020), <https://sflc.in/updates-aadhaar-final-hearing/aadhaar-judgement>

⁸²⁸ Yogima Seth Sharma, *NITI Aayog wants dedicated oversight body for use of artificial intelligence*, *The Economic Times*, <https://economictimes.indiatimes.com/news/economy/policy/niti-aayog-wants-dedicated-oversight-body-for-use-of-artificial-intelligence/articleshow/>

⁸²⁹ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

⁸³⁰ OECD.AI, *AI in India*, <https://oecd.ai/en/dashboards/countries/India>

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a series of assertive architectural, procedural, legislative, and other improvements have been undertaken. The Aadhaar privacy decision, which reaffirmed the centrality of privacy in one of the world's largest AI-based identity systems, has provided a strong legal foundation for data protection and respect of the individual. In December 2021, the Joint Parliamentary Committee submitted its report to the Indian Parliament after two years of deliberations on the draft bill with seven dissent.⁸³¹ The latest version of the bill also refers to algorithmic transparency (Clause 23), adding that companies should be transparent about the fairness of algorithms used for processing of personal data.⁸³² The bill has also been criticised because it is conflating issues and bringing in social media and non-personal data into its ambit and at the same time granting complete exemption to the government from the scope of the statute. In fact, Justice Srikrishna who had led the drafting of the original bill criticised the revision by calling it "Orwellian."⁸³³

Algorithmic Transparency

Prime Minister Modi addressed directly the issue of algorithmic transparency in October 2020.⁸³⁴ Speaking the Responsible AI for Social Empowerment (RAISE) summit, he said "It remains our collective responsibility to ensure trust in how AI is used. Algorithm Transparency is key to establishing this Trust. Equally important is accountability. We must protect the world against weaponisation of AI by Non-State Actors."

⁸³¹ Joint Parliament Committee, *Report of the Joint Committee on the Personal Data Protection Bill, 2019* (Dec. 2021) <https://www.ahlawatassociates.com/wp-content/uploads/2021/12/17-Joint-Committee-on-the-Personal-Data-Protection-Bill-2019.pdf>

⁸³² For an appraisal IAPP, *A look at proposed changes to India's (Personal) Data Protection Bill* (Jan. 5, 2022) <https://iapp.org/news/a/a-look-at-proposed-changes-to-indias-personal-data-protection-bill/>; Atlantic Council, *Experts react: India's Personal Data Protection Bill tabled in Parliament* (Jan. 4, 2022) <https://www.atlanticcouncil.org/blogs/southasiasource/experts-react-indias-personal-data-protection-bill-tabled-in-parliament/>

⁸³³ Data protection bill is Orwellian, loaded in favour of the government: Justice BN Srikrishna, Nov. 26, 2021, <https://www.moneycontrol.com/news/business/data-protection-bill-is-orwellian-loaded-in-favour-of-the-government-justice-bn-srikrishna-7763331.html>

⁸³⁴ PM Narendra Modi, *We want India to become a global hub for Artificial Intelligence* (Oct. 5, 2020), <https://www.narendramodi.in/text-of-pm-s-address-at-the-inauguration-of-responsible-ai-for-social-empowerment-2020-summit-551754>

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Human Rights

India was among the original 48 countries that voted in favor of the *Universal Declaration of Human Rights* in 1948. According to Freedom House, India receives generally high marks for political rights and civil liberties.⁸³⁵ Freedom House reports “India maintains a robust electoral democracy with a competitive multiparty system at the federal and state levels, though politics are marred by corruption. The constitution guarantees civil liberties including freedom of expression and freedom of religion, but harassment of journalists and other government critics has increased.” In 2021, India’s status declined, from 71/100 to 67/100, due to a multiyear pattern in which the Hindu nationalist government have presided over rising violence and discriminatory policies affecting the Muslim population and pursued a crackdown on expressions of dissent by the media, academics, civil society groups, and protesters.⁸³⁶

Evaluation

India has endorsed the G20 AI Guidelines. India has set out a national strategy that addresses key concerns about the use of AI, has a Constitutional guarantee for data protection, and has created meaningful opportunities for public participation in AI policy. But there are still significant gaps in the national AI policy as well as concerns about the expanded use of the Aadhaar database as well as implications of strategically linking multiple disparate databases.

⁸³⁵ Freedom House, *Freedom in the World 2020 – India (2020)*, <https://freedomhouse.org/country/india/freedom-world/2020>

⁸³⁶ Freedom House, *Freedom in the World 2021 – India (2021)*, <https://freedomhouse.org/country/india/freedom-world/2021>

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Indonesia

National AI Strategy

Indonesia published the National Strategy for Artificial Intelligence (*Stranas KA*) in August 2020.⁸³⁷ The National Strategy is aimed at advancing the Indonesian economy through leadership in AI, through the year 2045.⁸³⁸ The AI Strategy for Indonesia is intended to implement *Visi Indonesia 2024*, the country's economic, social, governance and technology development strategy. The National Strategy for AI also follows *Making Indonesia 4.0*, a government sponsored program, announced in 2018, to promote the automation of the Indonesian society. Through investments in AI, robotics and technology-based Indonesian firms as well as encourage investment from leading Japanese, Chinese and Korean tech firms.⁸³⁹

The Indonesia National AI Strategy identified four key focus areas: (1) Ethics and Policy, (2) Talent Development, (3) Infrastructure and Data, and (4) Industrial Research and Innovation. In the focus area of Ethics and Policy, the goals include implementing data sharing ethics, establishing a Data Ethics Board, strengthening laws to crack down on the abuse of technology and the misuse of data privacy.

Indonesia has already made progress in AI.⁸⁴⁰ A 2018 International Data Corporation survey found that Indonesian companies had the highest rates of AI adoption in Southeast Asia; a number of state projects employ AI, to anticipate state fires for example; and some government agencies are promoting AI development and technology-based tools at schools and other learning institutions.⁸⁴¹ However, the guidelines cite data misuse as a hurdle and note that the country has neither the provisions to regulate AI, nor an official agency to oversee AI development. They recommend establishing a data ethics board that would set national standards for AI innovation.

⁸³⁷ *KA Menuju Visi Indonesia 2045: Pusat Inovasi Kecerdasan Artifisial Indonesia*, <https://ai-innovation.id>

⁸³⁸ Made Anthony Iswara, *Indonesia Sets Sights on Artificial Intelligence Strategy*, The Jakarta Post (Aug. 14, 2020), www.thejakartapost.com/news/2020/08/13/indonesia-sets-sights-on-artificial-intelligence-in-new-national-strategy.html

⁸³⁹ Ministry of Investment/BKPM, *Making Indonesia 4.0: Indonesia's Strategy to Enter the 4th Generation of Industry Revolution*, <https://www2.investindonesia.go.id/en/why-invest/indonesia-economic-update/making-indonesia-4.0-indonesias-strategy-to-enter-the-4th-generation-of-ind>

⁸⁴⁰ Global Government Forum, *Indonesia publishes AI strategy* (Aug. 20, 2020), <https://www.globalgovernmentforum.com/indonesia-publishes-ai-strategy/>

⁸⁴¹ People Matters, *The Journey of AI Adoption in ASEAN Countries*, People Matters (Oct. 23, 2018), <https://www.peoplesmattersglobal.com/article/technology/the-journey-of-ai-adoption-in-asean-countries-19636>

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AI Initiatives

According to the OECD, Indonesia considers the availability of an integrated trustworthy health data system a key challenge for trustworthy AI in the health sector.⁸⁴² The Indonesian government is also facilitating the development of public cloud services that will provide AI services for the wider public. The services will also provide shared infrastructures and platforms through which digital companies can distribute metadata, data examples, computing and learning services that are free to use by AI developers. Indonesia is also fostering a quadruple helix collaboration in AI research and innovation initiatives.

According to the United Nations E-Government Development Index (EGDI), the country is lagging in the implementation of digital services.⁸⁴³ The country's president, Joko Widodo made the promise to create a "citizen-centric digitised service government (Pemerintahan Digital Melayani) in the next five years." After winning his second term in April 2019, President Widodo announced that government agencies have been ordered to replace top civil servants with AI during 2020. This would consolidate the current top four tiers into two tiers.⁸⁴⁴ Bureaucratic reform was also revisited in the National AI strategy, in which it is one of the five priority areas.⁸⁴⁵

Another priority area is smart cities and mobility. There are currently 98 smart cities and 416 smart districts planned under Indonesia's 100 Smart Cities Plan. In 2019, President Widodo announced a new capital on the island of Borneo, to replace Jakarta. It is planned to be a smart city that will "rely heavily on sustainable smart city systems, cleantech and infrastructure run by emerging technologies such as 5G, AI and IoT (Internet of Things)."⁸⁴⁶

⁸⁴² OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

⁸⁴³ United Nations: Department of Economic and Social Affairs, *2020 United Nations E-Government Survey* (July 2020), <https://www.un.org/development/desa/publications/publication/2020-united-nations-e-government-survey>

⁸⁴⁴ Reuters, *Indonesia aims to replace some top civil service jobs with AI in 2020* (Nov. 28, 2019), <https://uk.reuters.com/article/us-indonesia-economy/indonesia-aims-to-replace-some-top-civil-service-jobs-with-ai-in-2020-idUKKBN1Y20AE>

⁸⁴⁵ Kecerdasan Artifisial Indonesia, *AI towards Indonesia Vision 2045*, <https://ai-innovation.id/stranas-ka>

⁸⁴⁶ Forbes, *As Jakarta sinks a new futuristic capital city will be built on Borneo*, (Jan. 20, 2020), <https://www.forbes.com/sites/jimdobson/2020/01/20/as-jakarta-sinks-a-new-futuristic-capital-city-will-be-built-on-borneo/>

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Jakarta Smart City Initiative

In a bid to solve Jakarta's traffic gridlocks, flooding, and waste management, the city has turned to AI. The Indonesian government launched the Jakarta Smart City (JSC) initiative.⁸⁴⁷ Built on six pillars, the program uses AI to tackle the city's governance, people, living, mobility, economy, and environmental issues. The Smart City initiative encourages public comment to promote transparency of the local government's work and better public services. At the same time, data misuse remains a hurdle given that country has neither the provisions to regulate AI, nor an official agency to oversee AI development.

AI Summit 2020

In November 2020, the Indonesian government held the Artificial Intelligence Summit 2020.⁸⁴⁸ Speakers from several different countries representing the industry, science, academia and government took part in discussions on AI. One of the national keynote speakers spoke on "Ethics of using health data for training data on the use of artificial intelligence." Another spoke on "The trustworthy, policy and talent development for Indonesia artificial intelligence technology."

Pancasila Values

The National Strategy states that Indonesian AI policy should be based on Pancasila values. Pancasila is the philosophical theory that is the foundation of Indonesian government and policy. It is comprised of five principles: (1) Belief in The One True God, (2) A fair-minded and civilized humanity, (3) Unity of Indonesia, (4) Democracy (from the people) led by Wisdom of consultation (of the) representatives (of the people), and (5) Social justice for every person in Indonesia.⁸⁴⁹ The AI Strategy sets out the importance of establishing public trust through transparency, social and ecological welfare, robustness and technical safety, diversity, justice and non-discrimination, amongst others. The Strategy emphasize the importance of AI being reliable, safe, open and accountable. Synergy between stakeholders is also mentioned to ensure that policy is relevant and helpful.

⁸⁴⁷ Techwire Asia, *AI to be a US\$366b industry in Indonesia by 2030* (Oct. 20, 2020), <https://techwireasia.com/2020/10/ai-to-be-a-us366b-industry-in-indonesia-by-2030/>

⁸⁴⁸ Kecerdasan Artifisial Indonesia, Speakers, <https://ai-innovation.id/jadwal-ais2020>

⁸⁴⁹ Wikipedia, *Pancasila (politics)*, [https://en.wikipedia.org/wiki/Pancasila_\(politics\)](https://en.wikipedia.org/wiki/Pancasila_(politics))

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AI Oversight

According to reports, there is currently no national data protection authority. However, certain sectors have their own authorities to ensure compliance with the regulatory regime. For example, the Indonesian Financial Services Authority (FSA) has the authority to act as the regulator of data privacy in the capital markets sector and with regard to banks' customer data privacy issues.⁸⁵⁰ At the moment, the Minister of Communication and Informatics (MoCI) is responsible for overseeing compliance with the data protection regime.⁸⁵¹

The National Human Rights Commission of Indonesia, Komnas HAM, is an independent institution that carries out studies, research, counseling, monitoring and meditation of human rights.⁸⁵² Komnas HAM was established in 1993 by Presidential Decree and in 1999 the Law Number 39 established its “existence, purpose, function, membership, principles, completeness, duties and authority.” Komnas HAM also has the authority to conduct investigation into human rights violations and supervise of regional and central governmental policies. The goal of Komnas HAM is to “improve the protection and enforcement of human rights in order to develop the whole Indonesian human person and the ability to participate in various fields of life.”

Public Participation

According to the *Jakarta Post*, AI providers and experts have lauded the move to establish a foundation for AI development while urging the government and other stakeholders to improve on the strategy, fix current flaws and anticipate risks.⁸⁵³ University of Indonesia AI and robotics professor Wisnu Jatmiko described AI as an “extraordinary challenge.” He told *The Jakarta Post* that the country needs to nurture high-quality talent in the field of AI and to bolster infrastructure, including fixing internet connection issues and developing its own cloud computing system to prevent the leak of confidential information. Big Data and AI Association chairman Rudi Rusdiah and Institute for Policy Research and Advocacy

⁸⁵⁰ DLA Piper, *Data Protection Laws of the World: Indonesia* (Nov. 2020), <https://www.dlapiperdataprotection.com/?t=law&c=ID>

⁸⁵¹ Lexology, *Q&A: the data protection legal framework in Indonesia* (Aug. 2020), <https://www.lexology.com/library/detail.aspx?g=430e1444-ba8d-43d0-82dc-86ed44d416bc>

⁸⁵² Komnas Ham, *Legal Foundation*, <https://www.komnasham.go.id/index.php/about/1/tentang-komnas-ham.html>

⁸⁵³ Made Anthony Iswara, *Indonesia Sets Sights on Artificial Intelligence Strategy*, *The Jakarta Post* (Aug. 14, 2020), www.thejakartapost.com/news/2020/08/13/indonesia-sets-sights-on-artificial-intelligence-in-new-national-strategy.html

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researcher Alia Yofira Karunian said the national strategy should uphold principals of fairness, accountability and transparency as pillars of AI implementation. Karunian called on government to detect and iron out biases in automated decision-making through human intervention, and to ensure people have the right not to have AI make decisions about them. “We must learn from the mistakes of other countries,” she said.

The Agency for the Assessment and Application of Technology, coordinated the development of the National AI Strategy. The development was carried out with help of a “wide variety of public and private sector organization” who “contributed to the plan including government ministries, universities, industry associations and national telecom providers.”⁸⁵⁴

A website dedicated to the National AI Strategy illustrates the strategy and provides material from the AI Summit 2020. The website also provides an Artificial Intelligence Map that describes the research institutes, universities, industry, and communities who develop and utilize innovative Artificial Intelligence in Indonesia.

The Jakarta Smart City initiative also encouraged community participation and government responsiveness through social media, public figures and a public reporting system. Further, the “management of community complaints was conducted with effective coordination between the Jakarta Smart City team and various government departments.”⁸⁵⁵

Data Privacy Law

The Indonesian data protection regime comprises of several laws, however, there is no general law on data protection.⁸⁵⁶ The primary law is the law regarding Electronic Information and Transactions of 2008 (the EIT Law). There is a 2016 amendment and implementing regulations in 2019.

In January 2020, Indonesia’s government submitted a bill to parliament aimed at protecting consumer data. The bill includes a penalty of up to seven years in jail for distribution of personal data without consent.⁸⁵⁷ Data protection law is important, relevant in the global life as the

⁸⁵⁴ Carrington Malin, *Indonesia National AI Strategy published this month* (Aug. 16, 2020), <https://www.carringtonmalin.com/2020/08/16/indonesia-national-ai-strategy-set-in-motion-this-month/>

⁸⁵⁵ 1 World Connected, *Jakarta Smart City* (Sept. 1, 2020),

https://1worldconnected.org/project/asia_egov_jakartasmartcityindonesia/

⁸⁵⁶ DLA Piper, *Data Protection Laws of the World: Indonesia* (Nov. 2020),

<https://www.dlapiperdataprotection.com/?t=law&c=ID>

⁸⁵⁷ Jessica Damiana, *Indonesia to step up data protection with new bill amid booming digital economy*, Reuters (Jan. 28, 2020), <https://www.reuters.com/article/us-indonesia-data-idUSKBN1ZR1NL>

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economy has transformed lives in the digital era,” Communications Minister Johnny G. Plate told a news conference. Indonesia's Personal Data Protection Bill was initially planned to be issued in October 2020. Its issuance and enactment were, however, delayed.⁸⁵⁸

The Indonesian government has not signed the Council of Europe's Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data.⁸⁵⁹ Indonesia did however participate as an observer on the Council of Europe Convention 108 Consultative Committee.

OECD/G20 AI Principles

Indonesia is a member of the G20 and endorsed the G20 AI Principles in 2019. According to the OECD, the Indonesia National AI Strategy (*Strategi Nasional Kecerdasan Artifisial*) addresses several OECD AI principles.⁸⁶⁰

Indonesia will host the G20 for 2022, following the Italian presidency in 2021, and preceding the Indian presidency in 2023. The 17th G20 Heads of State and Government Summit will take place at the end of the year 2022 in Bali. The Summit will be the pinnacle of the G20 process and intense work carried out within the Ministerial Meetings, Working Groups, and Engagement Groups throughout the year. Indonesia has prioritized three priority issues for 2022: Global Health Architecture, Sustainable Energy Transition, and Digital Transformation.⁸⁶¹ The 17th G20 Heads of State and Government Summit will take place at the end of the year 2022 in Bali. Through the Sherpa track, 11 working groups, 1 initiative group, and 10 engagement groups meets to discuss and provides recommendation on the G20 agenda and priorities.⁸⁶² The Digital Economy Task Force, established in 2016, supports the work of the Ministers with competence on issues related to the digital economy and highlights the

⁸⁵⁸ Freddy Karyadi and Novario Asca Hutagalung, *Personal Data Protection Bill To Address Privacy Issues In Indonesia*, Lexology (Nov. 20, 2020), <https://www.lexology.com/library/detail.aspx?g=b2417bcf-5548-4ba8-9592-1a0a299e7115>

⁸⁵⁹ Council of Europe, *Chart of signatures and ratifications of Treaty 108* (Status as of Dec. 4, 2020), <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/108/signatures>

⁸⁶⁰ OECD AI Policy Observatory, *Indonesias National AI Strategy*, (Dec. 9, 2021), <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26968>

⁸⁶¹ G20 Presidency of Indonesia, <https://g20.org/g20-presidency-of-indonesia/>

⁸⁶² G20 *Sherpa Track*, <https://g20.org/sherpa-track/>

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central role of digital transformation in the broader context of economic and social growth.

Human Rights

Indonesia has ratified the Universal Declaration of Human Rights. According to Freedom House, Indonesia is “partly free,” with well-established safeguards for elections and political rights but lower marks for civil liberties.⁸⁶³ Freedom House reports that “Indonesia has made impressive democratic gains since the fall of an authoritarian regime in 1998, establishing significant pluralism in politics and the media and undergoing multiple, peaceful transfers of power between parties. However, the country continues to struggle with challenges including systemic corruption, discrimination and violence against minority groups.”

Evaluation

Indonesia has endorsed the G20 AI Principles and is in the early stages of AI policy development. While there is substantial AI investment and several significant government undertakings, including the Jakarta Smart City Initiative, the government has not yet developed the regulations or created the agencies necessary for trustworthy AI. However, the presidency of the G20 provides the opportunity for Indonesia to advance work on AI policy.

⁸⁶³ Freedom House, *Freedom in the World 2020 – Indonesia*, <https://freedomhouse.org/country/indonesia/freedom-world/2020>

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Iran

National AI Strategy

“Digital Iran,”⁸⁶⁴ a national road map for the advancement of technology, outlines Iran’s digital transformation agenda. This framework has three layers: Enabler, Application, and Impact. The enabler layer consists of six pillars, regulation, security, infrastructure, identity, literacy, and open data. The application layer includes digital society, digital government, and digital business and the impact layer covers the social, economic, and environmental dimensions. The vision of the framework is to build “a healthy cooperative society coupled with the smart economy, sustainable development and effective governance with transparency as a result of utilizing digital technologies.” The framework is implemented through 13 strategies, 30 policies and 42 confirmed projects.

In 2020, there was [talk](#) of launching a “National Centre for the Development of AI Innovation” by the Information Telecommunication and Technology (I.T.C) Minister,⁸⁶⁵ however, no further details have emerged about this move. There is some evidence that AI-driven technologies have been imported or are being used in Iran, both by the government and by the private sector.⁸⁶⁶

The ministry of I.T.C⁸⁶⁷, responsible for implementation of modern technologies in the IT sector, supports AI developments by hosting international technology⁸⁶⁸ conferences, cultivation and creation of new industries with the use of digital technologies, and investment in academic research.⁸⁶⁹

⁸⁶⁴ Iran Digital Transformation Project, *Digital Iran: National Roadmap Executive Summary 2020-2025*, <https://irandigitaltransformation.ir/wp-content/uploads/2020/06/Digital-Iran-Roadmap-Executive-Summary.pdf>

⁸⁶⁵ Twitter account of Ministry of I.C.T, <https://digiato.com/article/2020/02/12/چهری-بیہ-زودی-مرکز-توسعه-نوآوری-هوش-مصنوعی>

⁸⁶⁶ Iran News Agency (Sept. 2021), <https://en.irna.ir/news/84025992/Iran-Russia-to-cooperate-on-artificial-intelligence-research>

⁸⁶⁷ Information Telecommunication and Technology (I.C.T), <https://www.ict.gov.ir/en/topmainmenu/aboutus>

⁸⁶⁸ *20th International Exhibition of Telecommunications, Information Technology & Innovative CIT Solutions*, <http://www.irantelecomfair.com/en/> and <https://calendar.iranfair.com/en/companies/index/252/The-21st-International-Exhibition-of-Telecommunications-Information-Technology-Innovative-CIT-Solution>

⁸⁶⁹ AmirKabir University of Technology, *The “Simorgh” Supercomputer*, (June 2021) <https://aut.ac.ir/content/7995/The-“Simorgh”-Supercomputer-was-Launched-at-AUT>

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Freedom of Internet and Digital Rights

In February 2020, the Supreme Council for Cyberspace (SCC), Iran's top internet policymaking body, initiated meetings to set five-year targets for the expansion of the National Information Network (NIN), the country's localized internet architecture. The plan was approved by the SCC in September 2020.⁸⁷⁰ The NIN established several targets to improve internet access.⁸⁷¹

The Telecommunication Company of Iran (TCI), which is run by the I.C.T Ministry, controls internet traffic flowing in and out of the country.⁸⁷² The Internet dominance creates opportunity for TCI to monitor online activities, where the majority of TCI's shareholder is the Islamic Revolutionary Guard Corps (IRGC), a powerful branch of the security forces that also controls large portions of the economy.⁸⁷³

Data Protection

There are currently no comprehensive data protection laws in place in Iran.⁸⁷⁴ In February 2018, the I.C.T Minister unveiled the first drafts of five newly proposed bills for internet and cyberspace regulation in Iran. The legislation address e-government, electronic identification, and the responsibilities of service providers, electronic financial transactions, and data protection, respectively.⁸⁷⁵ A draft bill on data protection and privacy was presented to the cabinet in July 2018, and it is awaiting review from the Islamic Parliament of Iran without any clarifications on the expected

⁸⁷⁰ Filter Watch, *Policy Monitor* (Sept. 2020)

<https://filter.watch/en/2020/10/26/policy-monitor-september-2020/>

⁸⁷¹ Filter watch, *Policy Monitor* (Feb. 2020)

<https://medium.com/filterwatch/filterwatch-policy-monitor-february-2020-41db0293f2e0>

⁸⁷² Small Media Research, *Iranian Internet Infrastructure and Policy Report* (2015),

https://smallmedia.org.uk/media/articles/files/IIP_Jul15.pdf#page=9

⁸⁷³ Gholam Khiabany and Annabelle Sreberny, *Blogistan: The Internet and Politics in Iran*, London:IB Tauris, 2010),

p.5.<https://www.bloomsburycollections.com/book/blogistan-the-internet-and-politics-in-iran/?clearSearch>

⁸⁷⁴ Filter Watch, *Data Insecurity On Iran's Localised Internet, 2020*,

<https://filter.watch/en/2020/06/19/data-insecurity-on-irans-localised-internet/>

⁸⁷⁵ Iran I.C.T Ministry, *Protection of Personal Data - Draft Bill* (Chrome translation services),

[https://www.ict.gov.ir/fa/newsagency/21691/%D9%84%D8%A7%DB%8C%D8%AD%D9%87-%D8%B5%DB%\[...\].DB%8C-%D8%B1%D9%88%D9%86%D9%85%D8%A7%DB%8C%DB%8C-%D8%B4%D8%AF](https://www.ict.gov.ir/fa/newsagency/21691/%D9%84%D8%A7%DB%8C%D8%AD%D9%87-%D8%B5%DB%[...].DB%8C-%D8%B1%D9%88%D9%86%D9%85%D8%A7%DB%8C%DB%8C-%D8%B4%D8%AF)

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timeframe.⁸⁷⁶ The draft law provides for the establishment of the Supervisory Board of Personal Data which would be tasked with receiving and processing stakeholder complaints in order to protect personal data. In the absence of an overarching data privacy law, the legal framework for privacy derives from a combination of other laws and regulations dealing with data protection alongside additional issues. Such legislation includes the Law on Publication and Access⁸⁷⁷ to Data 2009, the Electronic Commerce Law 2004,⁸⁷⁸ and the Cybercrime Law 2009.⁸⁷⁹

Digital ID

Iran is currently working on implementing digital IDs as part of Iran's e-government program.⁸⁸⁰ Iran's Executive Council of Information Technology is building new digital platforms as part of its ongoing e-government initiatives. In addition to two pilots with the Ministry of Agriculture and the Ministry of Culture and Islamic Guidance, the council also announced the addition of the Ministry of Cooperatives Labor and Social Welfare, the Ministry of Economic Affairs and Finance, the Iranian Health Insurance Organization, the Ministry of Welfare and Social Security, and the Central Insurance of Iran for the next phase of the digital government.⁸⁸¹ Iran's Law Enforcement Forces signed an agreement with an Iranian digital ID and biometric firm, to acquire digital ID detection authentication platform.⁸⁸² The digital ID platform obtains 5 to 15-second

⁸⁷⁶ One Trust Data Guidance Solution, *Iran*

Report, <https://www.dataguidance.com/jurisdiction/iran>

⁸⁷⁷ Ministry of Culture and Islamic Guidance, *Law on Dissemination of and Free Access to Information*, (2009), (Chrome Translation Services) <https://foia.farhang.gov.ir/en/law>

⁸⁷⁸ Iran Ministry of Commerce, *Electronic Commerce Law* (2010), <https://www.wipo.int/edocs/lexdocs/laws/en/ir/ir008en.pdf>

⁸⁷⁹ International Labour Organization, *Database of National Labour, Social Security and Related Human Rights Legislation*, Criminal and penal law (2009), Law No. 71063 on Computer Crimes. (Google Translation Services) <http://ilo.org/dyn/natlex/docs/ELECTRONIC/91715/106512/F1311829502/IRN91715.pdf>

⁸⁸⁰ Biometric Update, *Iran unveils new e-government components as digital ID importance grows*, 2021,

<https://www.biometricupdate.com/202103/iran-unveils-new-e-government-components-as-digital-id-importance-grows>

⁸⁸¹ Biometric Update, *Iran unveils new e-government components as digital ID importance grows*, 2021

<https://www.biometricupdate.com/202103/iran-unveils-new-e-government-components-as-digital-id-importance-grows>

⁸⁸² Biometric Updates, *“UID to supply biometric digital ID app to Iran's national police*, 2021

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selfie videos and then runs it through an ID liveness detection algorithm to verify user identity against a user’s original image registered with Iran’s Civil Registration Organization.

Facial Recognition

Iran is one of many countries worldwide actively integrating facial recognition and biometrics into its law enforcement system for border protection.⁸⁸³ In 2015, the Iranian government launched a biometric national identity card - a card “issued to all new applicants and to anyone renewing an expired national identity card.”⁸⁸⁴ Iran’s banking sector is adopting biometric methods and requires customers to provide their smart identity for many banking transactions. Iranian officials have also announced plans that would require citizens to verify their identity using the smart identity card to access the internet.⁸⁸⁵

In January 2020, the Iranian government ceased allowing applicants for the card to choose ‘Other’ in the religion field on the application form, which had previously been one of the available options.⁸⁸⁶ Instead, applicants must now choose one of the four officially recognized religions given on the form – Islam, Christianity, Judaism or Zoroastrianism.

OECD/G20 Principles

Iran has not yet adopted OECD AI Principles, nor did it define ethical norms and standards for AI.⁸⁸⁷

<https://www.biometricupdate.com/202102/uid-to-supply-biometric-digital-id-app-to-irans-national-police> and <https://www.ilna.news/-امضای-تفاهم-1036837/158-بخش-فن-آوری-1036837/158>
نامه-همکاری-بین-پلیس-شترکت-یو-آیدی

⁸⁸³ ICAO Regional Seminar, Iranian ePassport and Border Management Technical Report, 2016. <https://www.icao.int/Meetings/icaotrip-Iran-2016/Documents/Presentations/D2%20S4%20EBRAHIMI.pdf>

⁸⁸⁴ Minority and Indigenous Trends, 2020, Case Studies, *Middle East and North Africa: Iran*, <https://minorityrights.org/trends2020/>

⁸⁸⁵ Identity Review, “Iran Begins Integrating Facial Recognition for Better Border Protection”, (secondary resource) <https://identityreview.com/iran-begins-integrating-facial-recognition-for-better-border-protection/>

⁸⁸⁶ Minority and Indigenous Trends, 2020, Case Studies, *Middle East and North Africa: Iran*, <https://minorityrights.org/trends2020/iran/>

⁸⁸⁷ State of Implementation of OECD AI Principle, June 2021, https://www.oecd-ilibrary.org/science-and-technology/state-of-implementation-of-the-oecd-ai-principles_1cd40c44-en?_ga=2.209594642.1644595301.1637327684-1452510560.1637152644

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UNESCO AI Ethics Recommendation

Iran is one of signatories to the UNESCO recommendations on ethical AI which aims to deliver the advantages of technology while reducing associated human rights risks.⁸⁸⁸

Human Rights

The Freedom House Index indicates Iran as a “Not Free” country, with a rating of 16/100, a slight drop from 2020.⁸⁸⁹ Internet freedom remained highly restricted and State-aligned cyber operations spread disinformation and manipulated the online space. Iran and its judicial system have shown little inclination to curb or confront serious rights violations perpetrated by Iranian security agencies. The country’s security and intelligence apparatus, in partnership with Iran’s judiciary, harshly crack down on any form of dissent, including through excessive and lethal force against protesters.⁸⁹⁰

Even though Iran is a signatory to the UDHR in 1948, there is scant regard for women’s/children’s rights, gender identity, and religious freedom. “The government also discriminates against other religious minorities, including Sunni Muslims and restricts cultural and political activities among the country’s Azeri, Kurdish, Arab, and Baluch ethnic minorities.”⁸⁹¹

Lethal Autonomous Weapons

The Iranian military is very interested in the development of AI & Autonomous Weapon systems in the pursuit of force-multiplying asymmetric warfare capabilities. At the Human Rights Council in May 2013, Iran expressed interest in opening multilateral talks on lethal autonomous weapons systems. Iran however has not commented on the concerns raised by removing human control from the use of force or supported proposals to negotiate a new international ban treaty. Iran is not a party to the Convention on Conventional Weapons (CCW), but it attended CCW meetings on killer robots in 2016 and 2018-2019.⁸⁹²

⁸⁸⁸ First-ever Global Agreement on the Ethics of Artificial Intelligence, November 2021, <https://news.un.org/en/story/2021/11/1106612>

⁸⁸⁹ Freedom House, *Freedom in the World – 2021: Iran*, <https://freedomhouse.org/country/iran/freedom-world/2021>

⁸⁹⁰ Human Rights Watch, *Iran Report 2020*, <https://www.hrw.org/world-report/2021/country-chapters/iran>

⁸⁹¹ Human Rights Watch, *Iran Report 2020*, <https://www.hrw.org/world-report/2021/country-chapters/iran>

⁸⁹² Human Rights Watch, *Stopping Killer Robots: Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control*, 2020,

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Evaluation

Iran has launched the “Digital Iran” framework to oversee and implement new technologies. Designing mechanisms for protecting vital data is one of the priorities under this framework, but no appropriate law is yet put in place. The absence of protections for fundamental rights as the country seeks to expand national identification and systems for facial recognition is concerning. Iran is implementing digital IDs and AI surveillance technologies, but this report has not found any evidence on implementing oversight legislation and responsible use of AI ethics standards and principle and public participation and dialogue between different stakeholders, like civil society, government and business on the topic of AI, privacy and ethical framework.

<https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and#>

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Ireland

National AI Strategy

Ireland's national enterprise strategy, the Economic Recovery Plan and Enterprise 2025 Renewed, set out Ireland's ambition to be at the frontier of disruptive technologies, including AI. In 2019, Ireland published the Future Jobs Ireland Plan, which included a commitment to develop a national AI strategy for Ireland and created a Top Team on Standards for AI to focus on increasing Ireland's AI development and assisting AI enterprises.⁸⁹³

Ireland's national AI strategy *AI - Here for Good*, sets out a long-term roadmap for artificial intelligence. It was published by the Department of Enterprise, Trade, and Employment (DETE) in 2021 after participation from a wide range of stakeholders from industry, academia, and the public in meetings and through an online public consultation.⁸⁹⁴

The aim of *AI - Here for Good* is to make Ireland "an international leader in using AI to the benefit of our population, through a people-centred, ethical approach to AI development, adoption and use."⁸⁹⁵ Its objectives are grouped into eight strands: AI and Society; A Governance Ecosystem that Promotes Trustworthy AI; Driving Adoption of AI in Irish Enterprise; AI Serving the Public; A Strong AI Innovation Ecosystem; AI Education, Skills and Talent; Supportive and Secure Infrastructure for AI; and Implementation of the Strategy.

Ireland's national AI policy states that "ensuring explainability, accountability, and fairness" and addressing discrimination are some of the main challenges to be addressed through AI regulation. Ireland's "Strategic Approach to AI" emphasizes the importance of AI that is "accountable and acceptable to society." Under its objective to create an agile AI governance and regulatory framework, Ireland recognizes the risk of unfair discrimination and unequal treatment arising from biased training data, design, and use, along with challenges of "explainability, accountability, and fairness." The Top Team on Standards for AI is responsible for developing certification schemes and codes of conduct for AI to determine

⁸⁹³ Government of Ireland, *Future Jobs Ireland 2019: Preparing Now for Tomorrow's Economy* (March 2019), <https://enterprise.gov.ie/en/Publications/Publication-files/Future-Jobs-Ireland-2019.pdf>

⁸⁹⁴ Department of the Taoiseach Press Release, *Taoiseach and Minister Troy launch Government Roadmap for AI in Ireland* (July 8, 2021), <https://www.gov.ie/en/press-release/f4895-taoiseach-and-minister-troy-launch-government-roadmap-for-ai-in-ireland/>

⁸⁹⁵ Department of Enterprise, Trade and Employment, *AI - Here for Good: National Artificial Intelligence Strategy for Ireland* (last updated September 15, 2021), <https://www.gov.ie/en/publication/91f74-national-ai-strategy/>

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or demonstrate fairness, estimate bias in training data, develop auditing mechanisms, and support GDPR rights.

Ireland's National AI Strategy favors the Council of Europe's *Ad Hoc Committee on AI (CAHAI)* for its explicit aim to ensure protection of democracy and rule of law and its "mix of binding and non-binding legal instruments." Ireland seeks to apply the Council of Europe's Ethical Charter on the Use of AI in Judicial Systems to promote rule of law in the use of AI in the justice sector.

Public Participation

To receive engagement and input in the development of its National AI Strategy, Ireland held a public consultation process from October 16, 2019, to November 7, 2019, which was open to all stakeholders and interested parties. The consultation was meant to "better understand the views of the public on the opportunities, enablers and challenges for AI in Ireland and to gather views on key areas and issues that should be addressed by the strategy."⁸⁹⁶

Strand 1 of *AI - Here for Good*, "AI and Society," asserts that Ireland "must also prioritise measures to raise awareness about AI." To that end, Ireland plans to appoint an "AI ambassador to promote awareness among the public and businesses of the potential that AI offers." The AI ambassador is expected to engage with the public, lead a "national conversation around the role of AI" with an emphasis on "an ethical and compliant approach," and champion AI as a positive force for Ireland. Ireland published a call for Expression of Interest for the AI Ambassador position on October 26, 2021, and applications were due November 12, 2021.⁸⁹⁷ There is no indication at this time that the AI Ambassador has been chosen.

Ireland plans to convene a "Youth Assembly on AI" to discuss young people's views of AI's "benefits, risks and impacts on different groups in society." University College Cork (UCC) currently hosts "The Elements of AI," a massive open online course (MOOC) made available to all EU member states. Ireland plans to use "Elements of AI," which is freely available, "to deliver AI education to at least 1% of the population."

⁸⁹⁶ Department of Enterprise, Trade and Employment, *National AI Strategy for Ireland: Public Consultation Report*, <https://enterprise.gov.ie/en/Consultations/Consultations-files/AI-Strategy-Public-Consultation-Report.pdf>

⁸⁹⁷ Department of Enterprise, Trade and Employment, *Call for Expression of Interest: Artificial Intelligence (AI) Ambassador* (Oct. 26, 2021), <https://www.gov.ie/en/publication/07668-call-for-expression-of-interest-artificial-intelligence-ai-ambassador/>

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Public Trust in AI

Strands 1 and 2 of *AI - Here for Good* are aimed at “building public trust in AI.” Strand 1 seeks to build public trust in AI through public awareness programs and research and grants to develop AI applications for societal good and sustainability, including health and climate change. Strand 2 addresses the need for a “robust governance framework to safeguard against [AI] risks and underpin public trust in AI.” It establishes three pillars that Ireland will use to ensure a strong AI governance framework: 1) “an agile and appropriate framework,” 2) “active promotion of ethics guidance and frameworks,” and 3) “a robust system of standards and certification.”

Ireland has played an active part in EU discussions of the AI Act and the EU’s prior work related to AI, and Ireland’s AI strategy states that it will continue to do so. Ireland’s National AI Strategy endorses the EU AI Act as a “‘smart mix’ of voluntary and mandatory measures [that] will help to protect our people, facilitate innovation in AI and respect our democratic values,” Strand 2 emphasized the AI Act’s voluntary and self-regulatory oversight of non-high-risk AI and its integration of impact assessments, codes of practice, and ethical guidelines.

Human Rights

According to Freedom House, Ireland is “free,” with high scores for political rights and civil liberties (97/100). Regarding transparency and openness, Freedom House reports: “The public has broad access to official information under the 2014 Freedom of Information Act, though partial exemptions remain for the police and some other agencies. A Transparency Code requires open records on the groups and individuals that advise public officials on policy. The government has been criticized for failing to consult meaningfully with civil society groups and relevant stakeholders in policy formulation, particularly regarding the Roma, Travellers, and people living with disabilities.”⁸⁹⁸

Ireland has endorsed the Universal Declaration of Human Rights and ratified seven of the nine core international human rights instruments,⁸⁹⁹

⁸⁹⁸ Freedom House, *Freedom in the World 2021-Ireland* (2021), <https://freedomhouse.org/country/ireland/freedom-world/2021>

⁸⁹⁹ UN Office of the High Commissioner for Human Rights, *Ratification Status for Ireland*, https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?CountryID=83&Lang=EN

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along with the European Convention on Human Rights.⁹⁰⁰ Strand 1 of Ireland’s national AI strategy commits to “making human rights and ethical principles a key focus” of its AI strategy, although it largely focuses on AI R&D that can improve access and inclusion, *e.g.*, AI tools that help people with impaired hearing through real-time live captioning.

G20/OECD Principles

Ireland, a member of the OECD and Council of Europe, endorsed the OECD AI Principles in May 2019. According to its National AI Strategy, Ireland’s AI policies are “underpinned by [Ireland’s] engagement” with AI policy processes at the EU, UN, and OECD.

Global Partnership on AI

Ireland is not a member of the Global Partnership on AI (GPAI). As a part of its National AI Strategy, however, Ireland stated its goal of joining GPAI as part of its effort to develop an “agile and appropriate” AI governance and regulatory environment.

Global Privacy Assembly

Ireland’s Data Protection Commissioner is an accredited member of the Global Privacy Assembly and has endorsed the Global Privacy Assembly’s 2018 *Declaration on Ethics and Data Protection in AI*. Ireland has not endorsed the Global Privacy Assembly’s 2020 *Resolution on Accountability in the Development and Use of AI*.

Algorithmic Transparency

Transparency is an important part of Ireland’s national AI strategy. Ireland views transparency as an essential component of accountability and trust in AI. Strand 1 of *AI - Here for Good* states that “AI must be developed and used with trust, transparency and accountability” and that Ireland is committed to ensuring that AI systems are “trustworthy, fair and inclusive.”

The GDPR’s transparency requirements apply to Ireland as an EU member. Ireland’s strategy incorporates the transparency requirements of the EU AI Act. Although Ireland has not created its own AI ethical guidelines, its National AI Strategy incorporates the seven requirements of the EU High-Level Expert Group (EU HLEG) on AI’s *Ethics Guidelines for Trustworthy AI*. UCC’s Insight Centre currently hosts an online version of EU HLEG’s *Assessment List for Trustworthy AI*, as an accessible checklist for adhering to the seven requirements of the *Ethics Guidelines*

⁹⁰⁰ Irish Human Rights and Equality Commission, *Understanding Rights—Human Rights*, (accessed Nov. 26, 2021), <https://www.makerightsreal.ie/understanding-rights/human-rights/>

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for Trustworthy AI. The Top Team on Standards for AI is tasked with developing codes of conduct that address explainability and transparency.

AI Oversight

Established under the Data Protection Act of 2018, the Data Protection Commission (DPC) is Ireland's national independent supervisory authority responsible for upholding the data protection rights of individuals in the EU. The DPC is charged with monitoring the application of the GDPR, including its transparency and automated decision-making provisions, and other Irish and EU regulatory frameworks and directives. The DPC has faced criticism from members of the European Parliament for failing to enforce the GDPR by choosing to bring a legal proceeding in the *Schrems II* case instead of making a decision on its own, issuing only one GDPR sanction out of thousands of complaints, and failing to reach a draft decision on any case referred to Ireland in 2018. On March 25, 2021, the European Parliament passed a resolution expressing its concern with the slow pace of the Irish DPA and calling for faster investigations to show EU citizens that “data protection is an enforceable right.”⁹⁰¹ On May 20, 2021, the European Parliament voted in favor of a resolution calling for the European Commission to open an infringement procedure against the DPC.⁹⁰² The failure of the DPC to exercise enforcement powers now raises concerns about the Commission’s ability to safeguard fundamental rights with regard to AI.

Ireland's Department of Enterprise, Trade, and Employment (DETE) is currently spearheading Ireland's national AI policy, which lists strategic actions to be conducted by various Irish agencies, including the Department of Environment, Climate and Communications, the Department of Justice, the National Standards Authority of Ireland, and the Department of Children, Equality, Disability, Integration, and Youth. It has also established the Top Team on Standards for AI to develop certification schemes and codes of conduct to address AI at different stages of development.

Strand 8 of *AI - Here for Good*, “Implementation of the Strategy,” lists several entities that compose Ireland’s “whole of Government strategy” for AI. The Enterprise Digital Advisory Board will soon be established to represent government departments, businesses, and AI experts, oversee the

⁹⁰¹ European Parliament, *Resolution on the Commission evaluation report on the implementation of GDPR two years after its application* (March 25, 2021), https://www.europarl.europa.eu/doceo/document/TA-9-2021-0111_EN.html

⁹⁰² European Parliament, *Resolution on the ruling of the CJEU of ‘Schrems II’* (May 20, 2021), https://www.europarl.europa.eu/doceo/document/TA-9-2021-0256_EN.pdf

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implementation of business elements of the National AI Strategy, and advise the Irish Government on driving enterprise adoption of AI. The AI Ambassador, a member of the Enterprise Digital Advisory Board, and the GovTech Delivery Board, which is responsible for AI adoption in the public sector, are other entities that Ireland plans to incorporate into its governance of AI.

Lethal Autonomous Weapons

Ireland is a High Contracting Party to the Convention on Certain Conventional Weapons (CCW) and has been an active participant in CCW discussions related to lethal autonomous weapons systems (LAWS). According to Human Rights Watch, Ireland has expressed interest in multilateral talks on LAWS in the UN since at least 2013 and has participated in every CCW meeting on LAWS between 2014 and 2019.⁹⁰³ In 2019, Ireland joined the other High Contracting Parties to the CCW to adopt 11 guiding principles for addressing challenges to international humanitarian law posed by LAWS.⁹⁰⁴ It also joined eight other CCW parties in finding that the 11 guiding principles were a “useful and valuable starting point” and calling for the development of a “normative and operational framework” for ensuring human control of LAWS.⁹⁰⁵ Ireland has not called for a prohibition on or new international treaty for the regulation of LAWS.

Public Services Card Facial Recognition Controversy

In March 2013, the Department of Employment Affairs and Social Protection (DEASP), Ireland’s national social security office, implemented facial image matching software with the aim of minimizing fraud and error in the use of Public Services Cards (PSC) to verify the identity of social security applicants. The Irish Council for Civil Liberties (ICCL), an independent non-profit in Ireland, has criticized the PSC for collecting and storing more data than necessary for its purpose, increasing the risk of a security breach, potentially collecting extremely sensitive biometric data,

⁹⁰³ Human Rights Watch, *Stopping Killer Robots: Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control* (Aug. 10, 2020), https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and#_ftn141

⁹⁰⁴ Meeting of the High Contracting Parties to the Convention on Certain Conventional Weapons, *Final Report* (Dec. 13, 2019), <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G19/343/64/PDF/G1934364.pdf?OpenElement>

⁹⁰⁵ Austria, Belgium, Brazil, Chile, Ireland, Germany, Luxembourg, Mexico, and New Zealand, *Joint Commentary on Guiding Principles A, B, C and D* (Sept. 1, 2020), <https://documents.unoda.org/wp-content/uploads/2020/09/GGE20200901-Austria-Belgium-Brazil-Chile-Ireland-Germany-Luxembourg-Mexico-and-New-Zealand.pdf>

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forcing economically vulnerable people to exchange their private data for access to services to which they are legally entitled, and contradicting Ireland's position on privacy at the EU.⁹⁰⁶ DEASP has not published information on the accuracy of the facial image matching software used for the PSC and has continued to use the software despite being under investigation by the Irish Data Protection Commissioner since October 2017. Human Rights Watch has documented reports of eligible applicants being denied social security support due to documentation requirements or objections to the PSC for privacy reasons.⁹⁰⁷

Evaluation

Ireland has endorsed the OECD AI Principles and recently established its national AI strategy to address issues of trust and transparency and improve Ireland's competitiveness in AI. As an EU and Council of Europe member, Ireland enjoys data protection and algorithmic transparency guarantees. Ireland has consistently advocated for comprehensive LAWS regulations. Its national AI strategy was developed with mechanisms for public participation and discussion and adopts EU HLEG-AI's *Ethics Guidelines for Trustworthy AI*. Ireland is fairly new to AI policy, having only established its strategy in 2021. As a result, implementation is in its early stages and gaps in Ireland's AI policies remain. Ireland's national AI strategy focuses heavily on business adoption of AI and the importance of trust, through safeguards and public awareness, for ensuring that Ireland will be an AI innovation hub. The continued use of facial recognition by DEASP for determining access to social services and the Irish DPC's weak GDPR enforcement record remain areas of concern.

⁹⁰⁶ Irish Council for Civil Liberties, *The Public Services Card*,
<https://www.iccl.ie/2019/the-public-services-card-contd/>

⁹⁰⁷ Human Rights Watch, *Q&A: How the EU's Flawed Artificial Intelligence Regulation Endangers the Social Safety Net* (Nov. 10, 2021),
https://www.hrw.org/sites/default/files/media_2021/11/202111hrw_eu_ai_regulation_qa_0.pdf

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Israel

National AI Strategy

Although Israel is described as one of the world's top three countries in the field of AI research,⁹⁰⁸ at present Israel does not have a national strategy for AI. In January 2018 former Prime Minister Benjamin Netanyahu stated, "Artificial intelligence is changing everything, connectivity is important and these are changing the structure of growth."⁹⁰⁹ In July 2018, Netanyahu established an AI Steering Committee with experts from academia, government, business and civil society, led by Professors (Major General retired) Izhak Ben-Israel and Eviatar Matania from the Tel-Aviv University.⁹¹⁰ Subcommittees were established to explore such topics as robotic and autonomous systems, IOT and Sensors, distributed intelligent systems, quantum computing, academic research centers, cyber-Security and AI, and ethics and regulation. The committees completed discussions in 2019.

In November 2019, Ben-Israel and Matania released a draft report, during AI Week at Tel Aviv University, announcing a focus on the digitization of government services and the agriculture sector. Ben-Israel and Matania also stated that the Steering Committee recommended a coordination agency for AI within the Prime Minister's Office, an Israeli AI cloud, the classification of an Israel city as a "trial city" for smart transportation and autonomous vehicles, and the creation of research centers in universities.

In a public statement, other members of the Steering Committee objected to the summary of the recommendations and the manner of the announcement.⁹¹¹ They pointed that the Steering Committee was one of 15 subcommittees set up to discuss the needs and best policy concerning the various aspects of promoting AI, such as professional training, ethical use of the technology, computer infrastructure, and national projects. They recalled that the purpose of the Steering Committee was to coordinate the various work committees' conclusions for submission to government

⁹⁰⁸ ASGARD, *The Global Artificial Intelligence Landscape*, <https://asgard.vc/global-ai/>

⁹⁰⁹ Srishti Deoras, *Israeli PM Benjamin Netanyahu Believes Big Data And Artificial Intelligence Will Reshape The World*, *Analytics India* (Jan. 21, 2018), <https://analyticsindiamag.com/israeli-pm-benjamin-netanyahu-believes-big-data-artificial-intelligence-will-reshape-world/>

⁹¹⁰ Uri Berkovitz, *Israel's national AI plan unveiled*, *Globes* (Nov. 20, 2019), <https://en.globes.co.il/en/article-israels-national-ai-plan-unveiled-1001307979>

⁹¹¹ Uri Berkovitz, *Critics slam draft national AI plan*, *Globes* (Nov. 24, 2019), <https://en.globes.co.il/en/article-critics-slam-draft-national-ai-plan-1001308287>.

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approval. They specifically objected to the emphasis on agriculture and the creation of an organizing agency. Ben-Israel said in response, "The report is a draft, and discussion of it has not ended. We will finish the work we started."

In October 2020, the Institute for National Security Studies (INSS) recommended setting up an agency like the National Cyber Directorate to take charge of integrating artificial intelligence into the defense establishment and maintain Israeli leadership.⁹¹² The INSS argued that developing a national strategy for artificial intelligence, including its ethical aspects, is critical for Israel's future security.

National AI Program

In December 2020, Israel launched a five-year national AI program with a budget of approximately \$1.55 billion).⁹¹³ The national program was created for TELEM (The National Infrastructure Forum for Research and Development), which is a voluntary organization that aims to promote R&D programs and projects in scientific and technological fields through establishment of national R&D infrastructures and inter-organizational, inter-departmental and international collaborations. The program was written by a committee of experts in AI, which recommended several urgent projects, including the establishing of an HPC (High Performance Computing) supercomputer, promoting generic R&D projects with a focus on NLP (Neuro-linguistic programming) capabilities and the development of training of manpower and the purchasing of advanced equipment for academia. This is because, according to the committee, despite the bustling startup industry in Israel, there are gaps in academia and research, in sophisticated computer infrastructure (mainly the lack of supercomputing) and in regulation that would enable AI applications to be used in both the public and the private sectors.

Ethical and Legal Aspect of AI

The ethical dimensions of AI have received attention from the Israeli Parliament and academics. In June 2018, the Knesset Science and Technology Committee called upon the government to examine various

⁹¹² Sagi Cohen, *AI is the next national security frontier, but Israel may be losing its edge*, Haaretz (Oct. 12, 2020), <https://www.inss.org.il/wp-content/uploads/2020/10/AI-is-the-next-national-security-frontier-but-Israel-may-be-losing-its-edge-Liran-Antebi-Haaretz-for-site.pdf>

⁹¹³ Calcalist, *Israel launches national AI program, but lack of budget threatens its implementation* (Dec. 22, 2020) <https://www.calcalistech.com/ctech/articles/0,7340,L-3883355,00.html>

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regulatory aspects of AI, including privacy and legal responsibility.⁹¹⁴ A few months later, the CEO of the Israel Innovation Authority (IIA) also urged Israel to “close the gap with other countries who already make enormous investments in artificial intelligence infrastructures. In order for Israel to continue to lead in the global technological race, it is necessary to allocate resources and a national artificial intelligence strategy shared by the government, academia, and the industry.”⁹¹⁵

The 2019 IIA Report pointed identified four challenges to Israel’s continued leadership AI: (1) a shortage of human capital skilled in the field of AI; (2) limited access to public and government databases for use by new companies; (3) inadequate supercomputing infrastructure for the development of advanced technologies; and (4) slow-changing regulation and a lack of ethical guidelines.

The IIA Report also drew attention to privacy and ethics concerns for AI: “Implementation of smart systems raises ethical concerns that call for clear regulatory definitions. Using large databases poses privacy challenges that mandate information classification by sensitivity levels. Moreover, at times, it is not clear how AI systems make decisions. The responsibility of the manufacturer or the user for the machine’s ‘independent’ activity, in the case of critical error, remains unclear (for example, in an autonomous car accident).”⁹¹⁶

The Ethics and Regulation subcommittee, chaired by Prof. Karine Nahon, released its report in November 2019.⁹¹⁷ The committee was “commissioned to suggest guiding principles in the Israeli context that would be taken into account as part of the national plan to turn Israel into an AI leader.” The Committee recommended the following ethical principles for AI:

- 1) Fairness

⁹¹⁴ Science and Technology Committee, *First discussion on the government's readiness for the field of artificial intelligence* (June 4, 2018) [GT],

<https://m.knesset.gov.il/news/pressreleases/pages/press04.06.18ec.aspx>

⁹¹⁵ Israel Innovation Authority, *2018-19 Report* (Jan. 14, 2019),

<https://innovationisrael.org.il/en/news/israel-innovation-authority-2018-19-report>

⁹¹⁶ Israel Innovation Authority, *Bolstering Artificial Intelligence: What Can Be Done for Israel to Maintain its Leading Position in the Field of AI?* (2019) (section: Changes Needed to Privacy and Ethics Policy in AI),

https://innovationisrael.org.il/en/reportchapter/bolstering-artificial-intelligence-0#footnote3_fzh0scp

⁹¹⁷ Ethics and Regulations Team, *Subcommittee of the Israeli National Intelligent Systems Project on Artificial Intelligence, Ethics and Regulation* (Nov. 19, 2020), <https://ekarine.org/wp-admin/pub/AIEthicsRegulationReport-English.pdf>

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- 2) Accountability (including *transparency, explainability, ethical and legal responsibility*)
- 3) Protecting human rights (including *bodily integrity, privacy autonomy, civil and political rights*)
- 4) Cyber and information security
- 5) Safety (including *internal safety and external safety*)
- 6) Maintaining a competitive market

The Committee found that “Privacy protection regimes are currently facing a significant gap between the principled importance of consent to collect and use information and a reality where this agreement is based on standard forms that often do not serve the purpose of agreement. This complexity also affects the AI areas, as it is based on the processing of personal information.” The Committee also recommended that the Privacy Protection Authority would be responsible for AI applications and decision involving personal data. The Committee recommended new authorities and resources for the agency. The Committee noted that “The ability to anonymize personal data, at a reasonable confidence level, is fundamental to the development and promotion of AI.”

International Cooperation

In June 2021, a bill was proposed in requiring the Department of State to establish the United States–Israel Artificial Intelligence Center.⁹¹⁸ The purpose of the Center will be to “leverage the experience, knowledge, and expertise of institutions of higher education and private sector entities in the United States and Israel to develop more robust research and development cooperation in specified areas”, such as machine learning, image classification, object detection, speech recognition, natural language processing, data labeling, computer vision and model explainability and interpretability.

In November 2021, Israel joined the Global Partnership on Artificial Intelligence in recognition of its advanced artificial intelligence technologies and its adherence to the values of equality and democracy promoted by the OECD.⁹¹⁹

⁹¹⁸ S.2120 - *United States–Israel Artificial Intelligence Center Act* (Jun. 17, 2021), <https://www.congress.gov/bill/117th-congress/senate-bill/2120/text?r=49&s=1>

⁹¹⁹ Al-Monitor, *Israel joins international artificial intelligence group: Israel was added today to the Global Partnership on Artificial Intelligence, joining 19 an alliance of technologically advanced democratic countries* (Nov. 11, 2021), <https://www.al-monitor.com/originals/2021/11/israel-joins-international-artificial-intelligence-group#ixzz7K2VqCY5k>

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Public Participation

According to the press, the Steering Committee on AI, formed by the Prime Minister in 2018, included 15 subcommittees composed of 300 senior people from the government, the Israel Defense Forces, institutions of higher education, civil society, and the technology industry. The recommendations of the AI Steering Committee were slated for submission to the government in January 2020 but that has not occurred.⁹²⁰

AI Week

Tel Aviv University's first international AI Week took place in November 2019 and explored the role of artificial intelligence in medicine, computer vision, startups, transportation, human capital development and more.⁹²¹ AI Week for 2020 was postponed. Tel Aviv University has announced AI Week for 2021, February 22-24, as a virtual event.⁹²² The 2022 edition of AI Week took place virtually in February 7-9.⁹²³

Privacy and Data Protection

Complementary laws govern data protection in Israel: legal texts and guidelines: (1) the 1992 Basic Law: Human Dignity and Liberty according to which the right for privacy is a constitutional right,⁹²⁴ (2) the 1981 Privacy Protection Law (PPL)⁹²⁵ and subsequent regulations,⁹²⁶ such as Israel's 2017 Data Security Regulation,⁹²⁷ and (3) the guidelines of the Israeli Privacy Protection Authority.⁹²⁸ Chapter 1 of the PPL covers privacy generally, while Chapter 2 concerns data in storage and sets out various

⁹²⁰ Uri Berkovitz, *Israel's national AI plan unveiled*, Globes (Nov. 20, 2019), <https://en.globes.co.il/en/article-israels-national-ai-plan-unveiled-1001307979>

⁹²¹ AAAS EurekAlert!, *First AI Week kicks off at Tel Aviv University* (Nov. 19, 2019), https://www.eurekalert.org/pub_releases/2019-11/afot-faw111919.php

⁹²² Tel Aviv University, *AI Week: Feb. 22-24, 2021*, <https://ai-week.com/>

⁹²³ Tel Aviv University, *AI Week: Feb. 7-9, 2022*, <https://ai-week.com/>

⁹²⁴ The Knesset, *Basic Law: Human Dignity and Liberty* (Mar. 17, 1992) http://www.knesset.gov.il/laws/special/eng/basic3_eng.htm

⁹²⁵ The Knesset, *Protection of Privacy Law 1981* (unofficial English translation), <https://www.gov.il/BlobFolder/legalinfo/legislation/en/ProtectionofPrivacyLaw57411981unofficialtranslatio.pdf>

⁹²⁶ IAPP, *Protection of Privacy Regulations (Data Security) 2017* (Unofficial translation), https://iapp.org/media/pdf/resource_center/IS-PROTECTION-OF-PRIVACY-REGULATIONS.pdf

⁹²⁷ Assaf Harel, *5 takeaways from the Israeli Privacy Protection Regulations*, IAPP (Aug. 5, 2019), <https://iapp.org/news/a/five-takeaways-on-the-first-anniversary-of-the-israeli-privacy-protection-regulations/>

⁹²⁸ Yoram Shiv and Shira Nager, *Israel - Data Protection Overview*, OneTrust (Oct. 2020), <https://www.dataguidance.com/notes/israel-data-protection-overview>

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registration, purpose-limitation, transparency and security requirements, as well as individual rights of access and rectification.⁹²⁹ Other Chapters address procedural and enforcement matters as well as the disclosure or sharing of information by public bodies and liabilities for the publication of privacy-infringing material in newspapers.

In 2011, the European Commission determined that Israel satisfied the “adequacy requirement” according to the European Directive 95/46, but this status is under examination currently due the changes in the new European Data Protection Regulation (GDPR). The Israeli Ministry of Justice proposed updates of the PPL, due to the major gap between GDPR and the current Israeli Law. In 2021, the Israeli Ministry of Justice announced approval of updates to the Privacy Protection Law. The amendments include significant new administrative enforcement powers for the Privacy Protection Authority, including the authority to impose financial sanctions, updating technological and social definitions, and reducing the bureaucratic burden on organizations' obligation to register databases.⁹³⁰ In January 2022, the Israeli government introduced a substantial amendment to the Protection of Privacy Law (Bill No. 14) aimed to align the PPL with the EU GDPR at least in part.⁹³¹

Israel's Privacy Protection Authority (PPA) is the primary regulator for matters relating to privacy and data security.⁹³² The PPA sits within the Israeli Ministry of Justice and is headed by the Registrar of Databases. The PPA regulates and enforces data protection across all sectors, private and public, according to the provisions of the Privacy Protection Law.

Algorithmic Transparency

There are no provisions relating to automated decision-making in the Privacy Protection Law, but the inspection powers granted to inspectors can be applied to disclose the usage of personal information by the database owner. Similar powers are granted to the credit services regulator at the Bank of Israel, according to the Credit Data Law of 2016.⁹³³

⁹²⁹ The Privacy Protection Authority, *Legislation* (Oct. 3, 2017) (unofficial translation), <https://www.gov.il/en/Departments/legalInfo/legislation>

⁹³⁰ IAPP, *Israel pushes forward privacy law amendments* (Nov. 8, 2021), <https://iapp.org/news/a/israel-pushes-forward-privacy-law-amendments/>

⁹³¹ For criticism see IAPP, *A turning point for privacy laws in Israel* (Jan. 26, 2022) <https://iapp.org/news/a/a-turning-point-for-privacy-laws-in-israel/>

⁹³² The Privacy Protection Authority, https://www.gov.il/en/departments/the_privacy_protection_authority

⁹³³ The Knesset, *Credit Data Law, 5776-2016* (Mar. 29, 2016) (unofficial translation), <https://www.boi.org.il/en/CreditRegister/Documents/Credit%20Data%20Law,%205776-2016.pdf>

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Medical Data

In 2018, Israel's Prime Minister announced the establishment of a \$300 million initiative to make Israel's large pool of de-identified clinical data available to researchers, entrepreneurs, and medical institutions to develop new treatments and personalized medicine among other goals. "With all records in a common format, AI systems – using machine learning algorithms – will be able to parse the data, seeking correlations in conditions and treatments to discern which treatments are likely to be most effective" said the Director of the Israel Ministry of Health.⁹³⁴

The initiative will encompass a number of projects, including the establishment of the "Mosaic" health project, which will create a national information infrastructure for health research in the field of genetics and medical information. Regulators will work together to make sure information can be accessed anonymously, maintaining privacy and securing information and access permissions. Participation in all of the projects will be exclusively on a voluntary basis.⁹³⁵ Israel's plans to combine health maintenance organizations' digital health records of most Israelis into a single system for AI and data analytics to tap were confirmed by the press in September 2019.⁹³⁶

Covid-19 Tracking Controversy

Beginning with emergency measures taken in March 2020, the Israeli police used mobile-phone location data and AI techniques to attempt to determine whether those in quarantine were indeed staying in quarantine. The police arrested 203 people based on this phone location tracking. A month after the tracking was authorized, the parliamentary committee in charge of overseeing the practice halted the mobile phone tracking. The Committee argued that the harm done to privacy outweighed the benefits of the tracking.⁹³⁷

⁹³⁴ Moshe Bar Siman Tov, *How Israel Turned Decades Of Medical Data Into Digital Health Gold*, Forbes (Mar 26, 2019), <https://www.forbes.com/sites/startupnationcentral/2019/03/26/how-israel-turned-decades-of-medical-data-into-digital-health-gold/?sh=1b576d873ee4>

⁹³⁵ <https://www.timesofisrael.com/despite-privacy-concerns-israel-to-put-nations-medical-database-online/>

⁹³⁶ Dov Lieber, *Israel Prepares to Unleash AI on Health Care*, Wall Street Journal (Sept. 15, 2019), <https://www.wsj.com/articles/israel-prepares-to-unleash-ai-on-health-care-11568599261>

⁹³⁷ Knesset News, *Foreign Affairs and Defense Committee suspends bill allowing police to surveil civilian phones to enforce quarantine orders* (Apr. 23, 2020), <https://main.knesset.gov.il/EN/News/PressReleases/Pages/press23420b.aspx>

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Israel then turned to Shin Bet, the Israeli Security Agency, to monitor the general population and track potential Covid patients and their contacts.⁹³⁸ This action was criticized by human rights activists, as well as medical associations.

On April 26, 2020, Israel's Supreme Court banned the intelligence agency from tracing the phone location of those who may be infected with Covid-19, until new laws are passed.⁹³⁹ "The state's choice to use its preventative security service for monitoring those who wish it no harm, without their consent, raises great difficulties and a suitable alternative... must be found," the court said.⁹⁴⁰ The Association for Civil Rights in Israel, one of the groups which brought the court challenge, welcomed the decision, saying: "Israel must not be the only democracy operating its secret security service to monitor its citizens, even in the fight against the coronavirus."

However, the decision simply ended the program under the emergency powers authorized in March. In July, Israel's parliament voted to allow the country's Internal Security agency to track the contact relations of Israeli cellphone users for the rest of the year amid a resurgence in new cases.⁹⁴¹ Human rights organizations renewed their objections.⁹⁴²

In a September 2020 opinion, the national Privacy Protection Authority also objected to the use of the Israeli Internal Security Service location tracking tool.⁹⁴³ The PPA said that the measure cannot be justified, and that use would adversely impact the public's trust in public authorities. The PPA also questioned the effectiveness of the location tracking tool.

⁹³⁸ Jonathan Lis, *Israel Extends Security Service Tracking of Coronavirus Cases for Three More Weeks* (May 27, 2020), <https://www.haaretz.com/israel-news/.premium-israel-extends-security-service-tracking-of-coronavirus-cases-for-three-more-weeks-1.8875700>

⁹³⁹ BBC News, *Coronavirus: Israeli court bans lawless contact tracing* (Apr. 27, 2020), <https://www.bbc.com/news/technology-52439145>

⁹⁴⁰ Cardoza Law School, Versa, *Ben Meir v. Prime Minister, HCJ 2109/20*, (Apr. 26, 2020), <https://versa.cardozo.yu.edu/opinions/ben-meir-v-prime-minister-0>

⁹⁴¹ Reuters, *Israel approves cellphone tracking of COVID-19 carriers for rest of year* (July 20, 2020), <https://www.reuters.com/article/us-health-coronavirus-israel-surveillanc/israel-approves-cellphone-tracking-of-covid-19-carriers-for-rest-of-year-idUSKCN24L2PJ>

⁹⁴² Privacy International, *Israel's coronavirus surveillance is an example for others - of what not to do* (updated July 21, 2020), <https://privacyinternational.org/long-read/3747/israels-coronavirus-surveillance-example-others-what-not-do>

⁹⁴³ Pearl Cohen, *Israel: Privacy Protection Authority Objects to Shabak-Run Location Tracking for Coronavirus Epidemiological Investigations* (Sept. 1, 2020) (includes link to opinion in Hebrew), <https://www.pearlcohen.com/israel-privacy-protection-authority-objects-to-shabak-run-location-tracking-for-coronavirus-epidemiological-investigations/>

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Social Ranking

Following a proposal to use scoring technologies for Israelis who may be infected with COVID-19, in April 2020, the PPA also published a review on the use of technologies for the social ranking of citizens to achieve social and governmental goals, and the impact of this on the right to privacy.⁹⁴⁴ The April 2020 Review indicated that social ranking systems have increased in an era of Big Data and are present, in Israel, in forms such as the credit data rating system or a potential future AI-based system aimed to rate an individual's likelihood of contracting COVID-19. Specifically, the Review outlined that such a system, which would process location, medical, and personal data, would constitute a serious violation of the privacy of citizens and should be avoided as far as possible and, where it cannot be avoided, it must be compliant with data protection law.

Facial recognition

Facial Recognition in Israel is implemented in border control and Israel has a biometric database of face photos and fingerprints of citizens and residents, as well as foreigners accessing Israel. A biometric database was enacted in law in 2009.⁹⁴⁵ The law provides the basis for the Israeli national ID-Card. The database includes biometric face-photos, and voluntary supplied fingerprints. According to the biometric database law, the information can be used for severe crime enforcement, and for state security tasks. In May 2020 the Israeli State Comptroller reported that the data of about 4.5 million Israeli drivers' licenses, including facial pictures, are not sufficiently protected from misuse or outside hacking.⁹⁴⁶

Still, Israel's military has invested tens of millions of dollars to upgrade West Bank checkpoints with AnyVision facial recognition technology to verify Palestinian workers' identities and ease their entry into Israel. The new system, which began rolling out late 2018, drew criticism about the role the controversial technology plays in Israel's military control over Palestinians.⁹⁴⁷

⁹⁴⁴ OneTrust, *Israel: PPA publishes background review on the use of social ranking systems* (Apr. 24, 2020) (includes links to report and summary, in Hebrew), https://www.gov.il/he/departments/publications/reports/social_ranking

⁹⁴⁵ Wikipedia, *Biometric Database Law*, https://en.wikipedia.org/wiki/Biometric_Database_Law

⁹⁴⁶ The Jerusalem Post, *4.5 million citizens' details insufficiently protected, comptroller says* (May 4, 2020), <https://www.jpost.com/Israel-News/45-million-citizens-details-insufficiently-protected-comptroller-says-626847>

⁹⁴⁷ Daniel Estrin, *Face Recognition Lets Palestinians Cross Israeli Checkposts Fast, But Raises Concerns* (Aug. 22, 2019), <https://www.npr.org/2019/08/22/752765606/face-recognition-lets-palestinians-cross-israeli-checkposts-fast-but-raises-conc>

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Microsoft, which was part of a group that had invested \$74 million in AnyVision, hired a team of lawyers to audit the Israeli firm and determine whether AnyVision's technology applications complied with Microsoft's ethical principles against using facial recognition for mass surveillance. In March 2020, Microsoft said it was pulling investments from AnyVision although the outcomes of the audit did not substantiate claims that the startup's technology was used unethically.⁹⁴⁸

In 2021, the Washington Post released further information on the program.⁹⁴⁹ The initiative involves a smartphone technology called Blue Wolf that captures photos of Palestinians' faces and matches them to an image database. The phone app flashes in different colors to alert soldiers if a person is to be detained, arrested or left alone. To create the database, soldiers competed in 2020 in photographing Palestinians, including children and the elderly. The total number of people photographed is unclear. The Israeli military has also installed face-scanning cameras in the divided city of Hebron to assist soldiers at checkpoints identify Palestinians before they present their ID cards. A wider network of closed-circuit television cameras, provides real-time monitoring of the population and can sometimes see into private homes.

A new security tool is also under development: body cameras with facial recognition technology to enable police to scan crowds and detect suspects in real time, even if their faces are obscured.⁹⁵⁰

OECD AI Principles

Israel has endorsed the OECD AI Principles. Israel has not joined the Global Partnership on AI. Also, the OECD did not identify any examples of implementation of the AI Principles in the summary 2020 report. In the 2021 report, the OECD noted that Israel is investing in language technologies. The AI R&D Framework and Activities of the

⁹⁴⁸ Matt O'Brien, *Microsoft divests from Israeli facial-recognition startup* (March 28, 2020), <https://www.timesofisrael.com/microsoft-divests-from-israeli-facial-recognition-startup/>

⁹⁴⁹ Washington Post, *Israel escalates surveillance of Palestinians with facial recognition program in West Bank* (Nov. 27, 2021), https://www.washingtonpost.com/world/middle-east/israel-palestinians-surveillance-facial-recognition/2021/11/05/3787bf42-26b2-11ec-8739-5cb6aba30a30_story.html

⁹⁵⁰ France24, *Israeli firm develops body cams with facial recognition* (Jan. 23, 2022) <https://www.france24.com/en/live-news/20220123-israeli-firm-develops-body-cams-with-facial-recognition>

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Innovation Authority is supporting the development of Hebrew-language Natural Language Processing tools.⁹⁵¹

Human Rights

Israel is a signatory to many international human rights treaties and conventions and is considered a free country, receiving a score of 76/100 for political rights and civil liberties.⁹⁵² Freedom House reports that “Israel is a multiparty democracy with strong and independent institutions that guarantee political rights and civil liberties for most of the population. Although the judiciary is active in protecting minority rights, the political leadership and many in society have discriminated against Arab and other minorities, resulting in systemic disparities in areas including political representation, criminal justice, education, and economic opportunity.”

Autonomous Weapons

Israel is developing lethal autonomous weapons, including both the Iron Dome defensive system⁹⁵³ and the Harop suicide drone.⁹⁵⁴ The Israeli mission to the GGE on LAWS of the Convention on Certain Conventional Weapons clarified Israel’s position in August 2019.⁹⁵⁵ In August 2020, Israel expressed further views on the Eleven Guiding Principles Adopted by the Group of Government Expert concerning lethal autonomous weapons system. Israel’s view is that “the law of armed conflict, or international humanitarian law (IHL), applies to the potential development and use of emerging technologies in the area of LAWS; that human judgment will always be an integral part of any process regarding emerging technologies in the area of LAWS, and will be applied during their life-cycle; and that

⁹⁵¹ OECD, State of Implementation of the OECD AI Principles – Insights from National Ai Policies (2021) <https://www.oecd-ilibrary.org/docserver/1cd40c44-en.pdf>

⁹⁵² Freedom House, *Freedom in the World 2021 – Israel* (2021), <https://freedomhouse.org/country/israel/freedom-world/2021>

⁹⁵³ Yaniv Kubovich, *Israel Deploys Iron Dome Amid Islamic Jihad Leader's Assassination Anniversary*, *Haaretz* (Nov. 11, 2020), <https://www.haaretz.com/israel-news/israel-iron-dome-gaza-islamic-jihad-leader-s-assassination-hamas-1.9303330>

⁹⁵⁴ The Week India, *Why Indian Army is eyeing a mini ‘suicide drone’ from Israel* (July 14, 2020), <https://www.theweek.in/news/india/2020/07/14/why-indian-army-is-eyeing-a-mini-suicide-drone-from-israel.html>

⁹⁵⁵ Group of Governmental Experts of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, *Draft Report of the 2019 session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems* (Aug. 21, 2019) (Annex IV) [https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/5497DF9B01E5D9CFC125845E00308E44/\\$file/CCW_GGE.1_2019_CRP.1_Rev2.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/5497DF9B01E5D9CFC125845E00308E44/$file/CCW_GGE.1_2019_CRP.1_Rev2.pdf)

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humans will always be responsible for the use of LAWS.” Moreover, in Israel’s view, “besides the potential risks that may be associated with LAWS, there are also operational advantages to the use of LAWS as well as clear advantages from the humanitarian perspective.”⁹⁵⁶

According to New York Times, Israel used an AI-equipped, remotely operated gun to kill an Iranian nuclear scientist.⁹⁵⁷ The Israeli system used AI to correct for more than a second and a half of input delay, allowing the system’s operator to fire the gun at a moving target while stationed more than 1,000 miles away. As assassins able to kill targets from afar, such attacks may become much easier to carry out and, therefore, more frequent.

Evaluation

The current circumstances of Israel’s AI policies and practices are confusing and complex. Although Israel is a leader in AI research and development, efforts to develop a coherent national AI strategy are still lagging behind other countries. There is good work underway on AI ethics and a well-established legal system for data protection, but the general population tracking for sensitive medical condition by the internal security agency with AI technique is of concern. Also troubling is the use of facial recognition technology without clear legal basis, the reluctance to support limits on lethal autonomous weapons, and the deployment of new techniques for AI-assisted assassination. Israel has endorsed the OECD AI principles, and works in cooperation with other countries on AI policy, but has not yet expressed support for the Universal Guidelines for AI, particularly with the US and the countries participating in the Global Partnership for AI.

⁹⁵⁶ Permanent Mission of Israel to the UN, *Israel Considerations on the Operationalization of the Eleven Guiding Principles Adopted by the Group of Governmental Experts* (Aug. 31, 2020), <https://documents.unoda.org/wp-content/uploads/2020/09/20200831-Israel.pdf>

⁹⁵⁷ The New York Times, *The Scientist and the A.I.-Assisted, Remote-Control Killing Machine* (Sep. 23, 2021), <https://www.nytimes.com/2021/09/18/world/middleeast/iran-nuclear-fakhrizadeh-assassination-israel.html>

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Italy

National AI Strategy

In July 2020, the Italian Ministry of Economic Development issued the National Strategy for Artificial Intelligence.⁹⁵⁸ The document is the result of the public consultation closed in September 2019 on the draft version,⁹⁵⁹ and a background paper providing initial guiding principles and policy recommendations as a basis for Italy's AI strategy.⁹⁶⁰ The Italian strategy fits within the lines of the White Paper on Artificial Intelligence of the European Commission. The National Strategy is part of the European Coordinated Plan for Artificial Intelligence and must be placed in the context of a synergy between Member States and European institutions. It therefore arises from the awareness that only with joint and coordinated actions Europe will be able to compete with the most advanced countries. Besides, the strategy is the result of the debate and negotiation at the international level like the OECD and cooperation within the G7 and G20, precisely the Global Partnership on AI, in which Italy participates together with 13 other states and the European Union.

It is worth mentioning the White Paper on Artificial Intelligence, presented by the Agency for Digital Italy (AgID) in 2018, underlining the opportunities offered by AI for improvement of public services and the relationship between public administration and citizens.⁹⁶¹ The Italian Ministry of Economic Development will monitor and evaluate the progress of the national AI strategy on a continuous basis and update its implementation where needed.

⁹⁵⁸ Italian Ministry of Economic Development, *Proposte per una strategia nazionale per l'intelligenza artificiale* (2019),

⁹⁵⁹ Italian Ministry of Economic Development, *Strategia Nazionale per l'Intelligenza Artificiale. Ministero dello Sviluppo Economico* (2019), <https://www.mise.gov.it/images/stories/documenti/Strategia-Nazionale-Intelligenza-Artificiale-Bozza-Consultazione.pdf>

⁹⁶⁰ Italian Ministry of Economic Development, *Proposte per una strategia italiana per l'intelligenza artificiale. Gruppo di Esperti MISE sull'intelligenza artificiale* (2019), <https://www.mise.gov.it/images/stories/documenti/Proposte-per-una-strategia-italiana-2019.pdf>

⁹⁶¹ Agency for Digital Italy, *White Paper on Artificial Intelligence* (2018), <https://ia.italia.it/assets/librobianco.pdf>.

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The document provided 82 recommendations which will constitute the Italian strategy within the European Coordinated Plan on Artificial Intelligence.⁹⁶² The document is structured in three parts:

- 1) analysis of the global, European and national market of artificial intelligence;
- 2) description of the national strategy on artificial intelligence;
- 3) policy recommendations monitoring of the national strategy.

The strategy on AI aims to achieve not only industrial competitiveness in the aforementioned sectors but also the well-being of humanity and the planet, the so called “RenAIssance.” The strategy calls for anthropocentric approach to AI based on three pillars driving the development of technologies and policies:

- AI for human beings: The first level concerns the individual and the relationship with “the machine.” AI technologies must be at the service of people, guaranteeing human supervision, preventing social and territorial imbalances deriving from unaware and inappropriate uses. It is about defining and implementing initiatives related to safety, public administration, health and medicine, education, new skills, policies for work and digital humanities, media and the cultural and creative industry.
- AI for a reliable, productive and sustainable digital ecosystem: The second level includes industrial policies for the manufacturing sector (Industry 4.0). AI must be designed and implemented in a reliable and transparent way, so that it can be adopted in any area productive. This concerns the promotion of robotics and autonomous systems, software, data processing, IoT, finance, pharmaceuticals and biotech.
- AI for sustainable development: The third level focuses on sustainability. AI technologies must generate opportunities of growth and well-being for all individuals, in line with the principles contained in Article 3 of Italian Constitution and the United Nations Sustainable Development Goals. This goal includes actions related to environmental protection and sustainable infrastructures such as smart cities, transport, agriculture, space.

The budget provides a starting point based on a mixed public and private investment which amounts to 888 million euros in 5 years. Besides, the strategy underlines the need of 605 million (121 million per year) of private contributions. There are six areas of investment: 1) IoT,

⁹⁶² Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, Coordinated Plan on Artificial Intelligence COM(2018) 795 final.

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manufacturing and robotics; 2) services, health and finance; 3) transports, agriculture and energy; 4) aerospace and defense; 5) public administration; 6) culture, creativity and digital humanities.

Strategic Programme on AI 2022-2024

Building on the earlier National Strategy for Artificial Intelligence, in November 2021, the Italian government announced its Strategic Programme on AI for 2022-2024.⁹⁶³ The Programme recognised that the Italian AI ecosystem has vast potential, yet not fully exploited. The ecosystem is characterized by vibrant research communities but these often lack scale, struggle to attract foreign talent and could also benefit from improvements in the gender representation and patenting performance. With regard to AI solution providers, the Italian industry is growing rapidly but its economic contribution still remains below its potential, especially compared to peer countries in Europe. The current Italian context and international position thus call for a radical upgrade and update of Italy's national AI strategy characterised by the need to build on the positive elements of its ecosystem while focusing on reforms and investments on the specific areas of weakness. To that end, the Strategic Programme indicated 6 objectives of the Italian strategy in line with an EU-centred approach to AI. These are to:

- 1) Advance frontier research in AI;
- 2) Reduce AI research fragmentation;
- 3) Develop and adopt human-centred and trustworthy AI;
- 4) Increase AI-based innovation and the development of AI technology;
- 5) Develop AI-driven policies and services in the public sector; and
- 6) Create, retain and attract AI talent in Italy.

Furthermore, the Strategic Programme identified 11 priority areas: industry and manufacturing; education system; agri-food; culture and tourism; health and well-being; environment, infrastructures and networks; banking, finance and insurance; public administration; smart cities, areas and communities; national security; and information technologies. The Strategic Programmes also stated three areas of intervention: strengthening and attracting the talents and competences that will enable the AI-driven economy; expanding funding of advanced research in AI; and favouring the adoption of AI and its applications both in the public administration and in the Italian economy at large.

⁹⁶³ OECD, *Strategic Programme on Artificial Intelligence 2022-2024* (2021) https://wp.oecd.ai/app/uploads/2021/12/Italy_Artificial_Intelligence_Strategic_Programme_2022-2024.pdf

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National AI Ecosystem

Several centers of excellence characterize the Italian AI research ecosystem, precisely, the Artificial Intelligence and Intelligent Systems Laboratory (AIIS) of the Italian Interuniversity Consortium for Informatics (CINI), the Italian Institute of Technology (IIT) and the Institute for Calculation and Networks for High Services (ICAR) of the National Research Council (CNR). The Italian government will reinforce public funding and encourage public-private venture capital support in the field of artificial intelligence, blockchain and Internet of Things. For instance, Smart&Start Italia is government-funded scheme for new businesses in the digital economy.⁹⁶⁴ The National Innovation Fund established in 2019 is another source of resources up to €1 billion.⁹⁶⁵ The government is also setting up advisory services through the appointment of innovation managers that will help SMEs during the technological and digital transformation process. Concerning the public sector, the Agency for Digital Italy recently released a white paper on artificial intelligence at the service of citizens (see below).

In terms of networking, 8 Competence Centers, established by the Ministry of Economic Development, and 12 European Technology Clusters, set up by the Ministry of Education, will form the basis for a national network for knowledge exchange and collaboration. These integrate the Digital Europe Programme for the period 2021-2027,⁹⁶⁶ together with the establishment of Digital Innovation Hubs. The Italian strategy mentions its proactive support to European initiatives like the Confederation of Artificial Intelligence Laboratories in Europe (CLAIRE) and the public-private partnerships for electronic components and systems (ECSEL).

The strategy also aims to encourage the development of the data economy by supporting the creation of a Common European Data Space.⁹⁶⁷ This is based, for instance, on improving the interoperability and

⁹⁶⁴ Sostegno alle startup innovative (Smart & Start Italia), <https://www.mise.gov.it/index.php/it/incentivi/impresa/smart-start>.

⁹⁶⁵ Fondo Nazionale Innovazione, <https://www.mise.gov.it/index.php/it/incentivi/impresa/fondo-nazionale-innovazione>.

⁹⁶⁶ *Proposal for a regulation of the European Parliament and of the Council establishing the Digital Europe programme for the period 2021-2027*, COM/2018/434 final (June 6, 2018), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A434%3AFIN>

⁹⁶⁷ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Towards a common European data space* (COM 2018), <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A52018DC0232>

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accessibility of public administration data through API interfaces. To facilitate data exchanges, it is proposed to focus on Data Sharing Agreements, in particular in strategic sectors, and Data Trust models to ensure data sharing in a fair, safe and equitable way.

Concerning the development of digital infrastructures, the Italian government is participating in the Joint Undertaking to develop a competitive European computing ecosystem (EuroHPC).⁹⁶⁸ Italy is further expanding its ultra-broadband optical fibre network and 5G network. The plan also considers high-performance computing (HPC). The worldwide excellences such as Eni's Green Data Center in Ferrera Erbognone and Cineca's Leonardo supercomputer are two examples showing how Italy weighs 1.2% in the global HPC panorama (around 50 petaflops). The plan proposes to double this capacity by investing € 70 million in 5 years.

The OECD notes that Italy has an increasing number of healthcare applications and AI technologies, leveraging data in the research sector, hospital medical records, reports and laboratory tests. Italy's Ministry for University and Research has launched a National AI Doctoral Program which aims at recruiting around 200 doctoral candidates all over the country. There is now a Memorandum of Understanding between the Minister of Technological Innovation and Digitization and Fondazione Leonardo to shape the framework and boundaries for AI adoption in Public Administration. There is also exploration of a specific platform to improve the level of citizen education on AI matters, with a view to fostering idea generation for future adoption and ensuring a better understanding of trustworthiness on use cases where AI is used.⁹⁶⁹

Human capital

The development and implementation of AI technologies firmly depends on skills and competences. The Government has already shown its intention to strengthen the provision of AI competences at all education levels. At the primary and secondary education level, the government has launched the National Plan for the Digital School to update school curricula and promote new skills in digital education and AI-related courses.⁹⁷⁰ At higher education levels, the government is encouraging the integration of courses with AI-related themes in bachelors, masters and doctoral

⁹⁶⁸ *The European High Performance Computing Joint Undertaking*, <https://ec.europa.eu/digital-single-market/en/eurohpc-joint-undertaking>

⁹⁶⁹ OECD, *Examples of National AI National Policies* 61-62 (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

⁹⁷⁰ *Scuola Digitale*, https://www.istruzione.it/scuola_digitale/allegati/Materiali/pnsd-layout-30.10-WEB.pdf

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programs. The planned budget also aims to support projects among PhDs, researchers and professors.

Besides, literacy campaigns will be fostered via broadcasting and multimedia. Special attention will be devoted to informing about fake news and issues of cyber security. At the same time, the strategy underlines the need of new plans to support small and mid-size business in the AI deployment and update the skills of the workforce. To increase the international attractiveness of Italy in the field of AI, Italy will focus on attracting foreign talents through instruments such as the EU Blue card,⁹⁷¹ and the Italian Startup Visa.⁹⁷²

The Italian Institute for Artificial Intelligence (I3A)

The strategy also includes the creation of the Italian Institute for Artificial Intelligence as a single point of contact at the international level which can collect different interests and perspectives on AI technologies. The Institute aims to become one of the leading research institutes in Europe. It will consist of a hub with central laboratories and 7 centers specialized in the priority sectors identified by the Strategy who will work in connection with universities or other institutes already active.

The Institute will work according to a multi-year strategic plan with periodically updated objectives and an autonomous governance but synchronized with the strategic lines of national governance and with universities and other centers of excellence already active also to be able to seize opportunities for development in connection with other technological trends (e.g., 5G, Industry 4.0, cybersecurity).

White Paper on Public Administration

In 2018, the AgID launched the White Paper on Artificial Intelligence. The objective is to give an important impulse to innovation in the public sector. The White Paper defines a plan to facilitate the adoption of AI technologies in the Italian Public Administration and improve the quality of public services. Artificial intelligence technologies can indeed be implemented in healthcare, education, security, urban management. The White Paper includes a set of recommendations defining the challenges for developing and implementing AI technologies in the public sector. The White paper defines nine challenges:

- The ethical challenge: the anthropocentric vision on artificial intelligence technologies leads to look at AI technologies as at the

⁹⁷¹ EU Blue Card Network, Italy, <https://www.apply.eu/BlueCard/Italy/>

⁹⁷² The Italian Government policies to attract and retain innovative entrepreneurs from all over the world, <http://italiastartupvisa.mise.gov.it/#homepage>

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service of humans. In this case, it is important to ensure that these technologies meet universal needs. The characteristics of AI technologies leads to raising questions concerning the quality of data, transparency and accountability, as well as protection of rights and freedoms. This step is critical in the public sector to ensure transparency and the respect of individuals' rights and freedoms.

- The technological challenge: AI technologies cannot still replicate the functioning of the human mind. There is the interest in improving and implementing these technologies to make the work of the Public Administration more effective.
- The skills challenge: citizens increasingly deal with digital technologies. Therefore, it is critical they understand how the Public Administration implements and uses artificial intelligence technologies to take decisions or provide public services. Civil servants need to constantly improve their skills to ensure they can effectively be aware of the opportunities and challenges of the implementation of AI technologies in the public sector.
- The data challenge: data quality is one of the primary issues when implementing artificial intelligence technologies. Open data of public bodies can provide important information that would be very useful to generate applications of artificial intelligence at the service of the citizens. Therefore, it is critical to ensure equal and non-discriminatory access to public data.
- The legal challenge: in the field of AI technologies, is necessary to reconcile the principle of transparency of administrative acts and procedures with the protection of privacy and personal data. A second issue of transparency concerns intellectual property rights over algorithms. Moreover, when the public administration implements decision-making process, it is necessary to deal with accountability.
- The implementation challenge: training public employees, particularly officials and managers, on the functioning, benefits, as well as ethical and technical implications on the use of AI technologies is critical to ensure the development of the public sector.
- The inequalities challenge: AI solutions can reduce social inequalities in the field of education and training, health and disability, knowledge and human rights. However, AI technologies can also increase inequalities like in the case of biased outputs. Therefore, the Public Administration should focus on implementing

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these technologies ensuring inclusiveness, accessibility, transparency, non-discrimination.

- The measurement challenge: The implementation of new technologies impact on citizens and institution. The Public Administration has not always the instruments to measure these effects. However, the introduction of AI technologies in the public sector can provide more information while requiring an impact assessment.
- The human being challenge: citizens and institutions should be aware of the effects of automated systems. Artificial intelligence systems are not only a matter of technology but also social innovation.

The Rome Call for Ethics

This initiative is aimed at increasing awareness of the role of ethics in AI.⁹⁷³ The document was signed in February 2020 by the Pontificia Accademia per la Vita, Microsoft, IBM, FAO and the Italian Government and proposes a more human-centric approach to AI. The Declaration sets out a program of “Algorithm Ethics” according to the “fundamental principles of good innovation,” including Transparency, Responsibility, Impartiality, Reliability, Security and privacy. The Call is based on three principles:

- Ethics: All human beings are born free and equal in dignity and rights.
- Education: Transforming the world through the innovation of AI means undertaking to build a future for and with younger generations.
- Rights: The development of AI in the service of humankind and the planet must be reflected in regulations and principles that protect people – particularly the weak and the underprivileged – and natural environments.

Public Participation and Access to Documents

The national AI strategy followed a 2018 consultation. The Italian Ministry of Economic Development formed a 30-member group of experts to draft a national strategy on AI.⁹⁷⁴ The group was comprised of ten

⁹⁷³ Pontificia Accademia per la Vita, *Rome Call for AI Ethics* (Feb. 28, 2020), <http://www.academyforlife.va/content/pav/it/events/workshop-intelligenza-artificiale.html>

⁹⁷⁴ Governo Italiano, Ministry of Economic Development, *Artificial intelligence (AI): call for experts* (Sept. 14, 2018), <https://www.mise.gov.it/index.php/en/news/2038605-artificial-intelligence-ai-call-for-experts>

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representatives of enterprises operating in the field of AI, ten representatives of research centres / think tanks or academia, and ten representatives of the labour market, professions, consumers and civil society.⁹⁷⁵ The group was tasked with developing recommendations on:

- improving, coordinating and strengthening the research in the AI field;
- promoting public and private investments in AI, also benefitting from the dedicated EU funds;
- attracting talent and developing business in the field of AI;
- encouraging the development of the data-economy, paying particular attention to the spreading and valorisation of non-personal data, adopting the better standards of interoperability and cybersecurity;
- the legal framework with specific regard to safety and responsibility related to AI-based products and services;
- the socio-economic impact of development and widespread adoption of AI-based systems, along with proposals for tools to mitigate the encountered issues.

A 2020 survey of Italian consumers by BEUC, the European Consumer organization, found substantial public concern about the deployment of AI.⁹⁷⁶ More than half of respondents disagreed or strongly disagreed that current regulation is adequate to efficiently regulate AI. Over 70% of respondents in Italy “strongly agreed that users should be able to say ‘no’ to automated decision-making.” More than half “(strongly) agreed that companies use AI to manipulate consumer decisions.”

In 2021, Italy hosted the G20 summit. Research institutions in Italy and around the world participated actively in the preparations for the Summit. Recognizing the “benefits stemming from the responsible use and development of trustworthy human-centered Artificial Intelligence (AI),” the G20 Leaders said in Rome they would encourage competition and innovation, “as well as diversity and inclusion.”⁹⁷⁷ Artificial intelligence figured prominently in the G20 Declaration of the Digital Ministers who

⁹⁷⁵ At 14-15. <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

⁹⁷⁶ BEUC, *Artificial Intelligence: what consumers say – Finding and policy recommendations of a multi-country survey on AI* (2020), https://www.beuc.eu/publications/beuc-x-2020-078_artificial_intelligence_what_consumers_say_report.pdf

⁹⁷⁷ *G20 Rome Leaders Advance AI Policy, Elevate Privacy, Gender Equality*, CAIDP Update 2.40 (Oct. 31, 2021), <https://www.caidp.org/app/download/8352831663/CAIDP-Update-2.40.pdf>

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met in Trieste, Italy. They stated, “We reaffirm our willingness to implement trustworthy Artificial Intelligence (AI) and to commit to a human-centred approach, as decided in 2019 under the Japanese G20 Presidency, guided by the G20 AI Principles, drawn from the OECD Recommendations on AI.”⁹⁷⁸ The Ministers further said, “In the design of our policies, we consider the specific needs of MSMEs and start-ups, for the implementation of trustworthy AI that is human-centred, fair, transparent, robust, accountable, responsible, safe and secure and protects privacy, so as to encourage competition, innovation, diversity and inclusion.”

Facial Recognition

According to Privacy International, the municipality of Como, Italy, purchased a facial recognition system “with little transparency and despite the lack of a clear legal framework.”⁹⁷⁹ Privacy International reported that Como “embraced a narrative of technological innovation pushed by Huawei” within the broader concept of smart city and innovation tech, but was forced, after the intervention of the Italian Data Protection Authority, to suspend the system. The Garanti determined that there was no legal basis to collect facial images. Subsequent reporting by Wired indicated that the municipality had changed vendors and also that the system installed most recently failed to work as proposed.⁹⁸⁰ In September 2020, AlgorithmWatch also reported that Italy is exploring the use of facial recognition in football stadiums.⁹⁸¹

In January 2021, EDRi reported how the Italian Police are deploying dehumanizing biometric systems against people at Italy’s borders.⁹⁸² These systems use Automatic Image Recognition System (SARI), initially

⁹⁷⁸ G20 Information Centre, *Declaration of G20 Digital Ministers: Leveraging Digitalisation for a Resilient, Strong, Sustainable and Inclusive Recovery* (Aug. 5, 2021), <http://www.g20.utoronto.ca/2021/210805-digital.html>

⁹⁷⁹ Privacy International, *How facial recognition is spreading in Italy: the case of Como* (Sept. 17, 2020), <https://privacyinternational.org/case-study/4166/how-facial-recognition-spreading-italy-case-como>

⁹⁸⁰ Laura Carrer, *The Municipality of Como has discovered that his facial recognition system is not what he had bought: The testing of the video surveillance system with facial recognition revealed inconsistencies and discrepancies with the tender specifications* (Sept. 28, 2020), <https://www.wired.it/attualita/tech/2020/09/28/como-riconoscimento-facciale-collaudo/>

⁹⁸¹ AlgorithmWatch, *In Italy, an appetite for face recognition in football stadiums* (Sept. 16, 2020), <https://algorithmwatch.org/en/story/italy-stadium-face-recognition/>

⁹⁸² European Digital Rights, *Chilling use of face recognition at Italian borders shows why metric mass surveillance* (Feb. 10, 2021) <https://edri.org/our-work/face-recognition-italian-borders-ban-biometric-mass-surveillance/>

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acquired by the Italian police in 2017, and employed to monitor arrivals of migrants and asylum seekers on the Italian coasts and related activities. In doing so, according to EDRi, the Italian Ministry of Interior has ignored the questions of the national Data Protection Authority (DPA) that is investigating the facial recognition system that the police wants to use.

In April 2021, the Italian DPA blocked the deployment of the Sari Real Time system, a facial recognition system that would rely on several cameras installed in a particular geographical area and capable of scanning individuals' faces in real time and then compared against a governmental biometric database available to law enforcement agencies.⁹⁸³ The DPA acknowledged that the system would immediately delete images of individuals who are not deemed as suspects. However, the data protection agency added that the fact that everyone's faces would be scanned indiscriminately in the first place may lead to an evolution of the very nature of surveillance, marking a shift from targeted surveillance of certain individuals to the possibility of universal surveillance.

In December 2021, the Italian parliament introduced a moratorium on video surveillance systems that use facial recognition technologies. This law introduces for the first time in an EU Member State, a temporary ban for private entities to use these systems in public places or places accessible to the public.⁹⁸⁴ The moratorium will be in force until December 31, 2023 at the latest, unless a new law is introduced before that date. As reported by EDRi, this is an important development, yet the moratorium contains major exceptions: it only covers video surveillance systems with facial recognition and the moratorium allows the police to use such systems subject to a case-by-case approval by the Italian DPA and exempts judicial authorities and public prosecutors from any control.

OECD/G20 AI Principles

Italy endorsed the OECD and the G20 AI Principles and is a founding member of the Global Partnership for AI. Italy will host the G20 Ministers in 2021. Progress on the implementation of the AI Principles will be considered.

⁹⁸³ DigWatch, *Italian data protection authority: Sari facial recognition system proposed by Ministry of Interior could lead to mass surveillance* (Apr. 16, 2021) <https://dig.watch/updates/italian-data-protection-authority-sari-facial-recognition-system-proposed-ministry-interior/>

⁹⁸⁴ European Digital Rights, *Italy introduces a moratorium on video surveillance systems that use facial recognition* (Dec. 15, 2021) <https://edri.org/our-work/italy-introduces-a-moratorium-on-video-surveillance-systems-that-use-facial-recognition/>

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Data Protection

In January 2021, an Italian court determined that an algorithm to evaluate employee performance violates labor laws.⁹⁸⁵ The case concerned the ranking algorithm of the food delivery service Deliveroo. The judge [ruled](#) that the algorithm unfairly assessed absent workers noting that it failed to take account of permissible reasons for absence. The court ordered the company to pay a fine and legal costs and to post the judgment.

In May 2021, the Supreme Court released its judgment in *Garante per la Protezione dei Dati Personali v. Associazione Mevaluate Onlu*.⁹⁸⁶ The case concerned the Italian DPA's 2016 order to Mevaluate Italia s.r.l., which was originally quashed by the Court of Rome, to suspend the implementation of its online Artificial Intelligence system capable of analysing documents voluntarily uploaded by users to provide reputational ratings. The Court quashed the ruling of the Court of Rome, which had opined in favour of the lawfulness of the system as data subjects had provided their consent, and found that the lack of transparency regarding Mevaluate's algorithms invalidates such consent, thus violating Article 8 of the EU Charter of Fundamental Rights, a series of articles of Legislative Decree No. 196 of 2003, and the GDPR. It was further found that consent can only be valid if the data subject is appropriately informed about the purposes of processing and freely and specifically expresses their consent to the same. Consent cannot be considered as informed, if the logic involved in the algorithm remains unknown to the data subjects, as was the case in Mevaluate reputational ranking system.

In July 2021, the Italian DPA issued a 2.6 million Euros penalty to the on-demand delivery company Foodinho, which was ordered to make a number of changes to how it operates in the market and amend how its algorithms function.⁹⁸⁷ One of the issues of concern was the risk of discrimination arising from a rider rating system and of relevance has been the decision by the Supreme Court, a discussed above.

⁹⁸⁵ Forbes, *Deliveroo Rating Algorithm Was Unfair To Riders, Italian Court Rules* (Jan. 5, 2021), <https://www.forbes.com/sites/jonathankeane/2021/01/05/italian-court-finds-deliveroo-rating-algorithm-was-unfair-to-riders/?sh=34eb0a9e22a1>

⁹⁸⁶ Data Guidance, *Italy: Court of Cassation rules that algorithm must be transparent for consent to be valid* (May 25, 2021), <https://www.dataguidance.com/news/italy-court-cassation-rules-algorithm-must-be> For the judgment (in Italian) see <http://www.italgiure.giustizia.it/xway/application/nif/clean/hc.dll?verbo=attach&db=snciv&id=./20210525/snciv@s10@a2021@n14381@tO.clean.pdf>

⁹⁸⁷ IAPP, *Italian DPA fines food delivery app 2.6M euros for GDPR violations* (Jul. 6, 2021), <https://iapp.org/news/a/italian-dpa-fines-food-delivery-app-3m-euros-for-gdpr-violations/>

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Italy was a primary sponsor of the 2018 GPA Declaration on Ethics and Data Protection in Artificial Intelligence and a signatory to the 2020 GPA Resolution on Accountability in the Development and Use of Artificial Intelligence.⁹⁸⁸

Algorithmic Transparency

Italy is a member of the European Union and has ratified Council of Europe Convention 108+. Italians have a general right to obtain access to information about automated decision-making and to the factors and logic of an algorithm. There is a data protection agency in Italy with independent authority. In 2021, the Italian DPA ruled that opaque automated decision-making violated the GDPR.⁹⁸⁹

Human Rights

Italy is a signatory to the major international human rights instruments, and generally ranks highly for the defense of human rights. Freedom House rated Italy 90/100 in 2021, for political rights and civil liberties, a slight increase from 2020.⁹⁹⁰

Evaluation

Italy has emerged as a leader in the field of AI policy. Italy has endorsed the OECD/G20 AI Principles. The national strategy incorporates a strong commitment to fundamental rights and reflects the active participation of many public and private constituencies. Italy is subject to the GDPR and has ratified the modernized Council of Europe Convention 108, providing a high level of protection for personal data and specific right of algorithmic transparency. Moreover, the Rome Call for AI Ethics, undertaken by Pope Francis with the support of the Italian government and private companies, sets out a powerful vision for AI that is human-centric and that diminishes social inequality.

⁹⁸⁸ International Conference on Data Protection and Privacy Commissioners, *Declaration on Ethics and Data Protection in Artificial Intelligence* (Oct. 23, 2018), https://globalprivacyassembly.org/wp-content/uploads/2018/10/20180922_ICDPPC-40th_AI-Declaration_ADOPTED.pdf; Global Privacy Assembly, *Resolution on Accountability in the Development and Use of Artificial Intelligence* (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>

⁹⁸⁹ *Id.*

⁹⁹⁰ Freedom House, *Freedom in the World 2021 – Italy* (2021), <https://freedomhouse.org/country/italy/freedom-world/2021>

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Japan

National AI Strategy

Under the direction of former Prime Minister Shinzo Abe, Japan has emerged as a global leader for both AI policy and data governance. Abe declared in 2019 that “Artificial Intelligence (AI) must be used solely for humans and humans must be held responsible for its outcome. We will take the lead in establishing human-centered ethical principles for AI.”⁹⁹¹

Earlier, in 2016, Prime Minister Abe called for the Japanese government to establish an “Artificial Intelligence Technology Strategy Council.”⁹⁹² The Council set out an Artificial Intelligence Technology Strategy and Industrialization Roadmap.⁹⁹³ The Roadmap focuses on public-private collaboration along the AI “full pipeline from Rresearch and development to social implementation.” Priority areas include productivity; health, medical care, and long-term care; mobility; and information security. The roadmap includes three phases: (1) the development and application of AI within various domains, (2) the public use of data and AI across those domains, and (3) the creation of ecosystems that integrate domains together. In August 2018, an action plan specified the objectives and timetable for accomplishment for each initiative under the Strategy.

The government established in parallel separate opportunities for examination of ethical aspects of AI technology, intellectual property rights, personal information protection, and promotion of open data, as cross-sectional items.⁹⁹⁴

Japan’s updated the AI Strategy in 2019⁹⁹⁵ and again 2021.⁹⁹⁶ “AI for Everyone: People, Industries, Regions and Governments” focuses on the measures that the Japanese government should immediately take in a

⁹⁹¹ Prime Minister of Japan, Speeches and Statements by the Prime Minister, *Policy Speech by Prime Minister Shinzo Abe to the 198th Session of the Diet* (Jan. 28, 2019), https://japan.kantei.go.jp/98_abe/statement/201801/00003.html

⁹⁹² Prime Minister of Japan, *Council for Science, Technology and Innovation* (Sept. 15, 2016), https://japan.kantei.go.jp/97_abe/actions/201609/15article2.html

⁹⁹³ Strategic Council for AI Technology, *Artificial Intelligence Technology Strategy* (Mar. 31, 2017), <https://www.nedo.go.jp/content/100865202.pdf>; MIC, *AI Strategy and Related Activities in Japan* (Oct. 25, 2017), <http://events.science-japon.org/dlai17/doc/MIC%20-%20France-Japan%20Symposium%2020171025.pdf>

⁹⁹⁴ Strategic Council for AI Technology, *Artificial Intelligence Technology Strategy* (Mar. 31, 2017), <https://www.nedo.go.jp/content/100865202.pdf> (top page 6)

⁹⁹⁵ Prime Minister’s Office, Japan, *AI Strategy 2019: AI for Everyone: People, Industries, Regions and Governments* (June 11, 2019), https://www.kantei.go.jp/jp/singi/ai_senryaku/pdf/aistrategy2019en.pdf

⁹⁹⁶ Cabinet Office, Science and Technology / Innovation, *AI Strategy 2021*, <https://www8.cao.go.jp/cstp/ai/index.html>

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concerted manner. It “establishes an integrated policy package for AI that encompasses educational reform, research and development (R&D) and social implementation in order to contribute to the world, overcome challenges, and ultimately improve Japan's industrial competitiveness.”

The 2019 strategic objectives are: (1) to align human resources with the needs of the AI era; (2) to strengthen industrial competitiveness; (3) to achieve a sustainable society that incorporates diversity; (4) to build international research, education, and social infrastructure networks in the AI field, and (5) to accelerate AI-related R&D. The Strategy notes that it respects the basic principles set out by the government in the "Social Principles of Human-Centric AI."

AI R&D Guidelines

The Japanese AI R&D Guidelines influenced global AI policies. The Japanese government proposed international discussion on AI policy at the G-7 ICT Ministers' meeting in 2016 and presented the Guidelines to the G-7 Leaders meeting in Turin, Italy in 2017.⁹⁹⁷ The Japanese AI R&D Guidelines also contributed significantly to the development of the OECD AI Principles, the first global framework for AI Policy. The OECD AI Principles were adopted by 42 countries in May 2019, and then by G-20 Nations at the Leaders' Summit hosted at Osaka, in June 2019. OECD Secretary General thanked Prime Minister Abe and said that the OECD AI Principles, endorsed by the G-20 nations, are “affirming that the AI we want is centered on people, respects ethical and democratic values, is transparent, safe and accountable.”

Social Principles of Human-Centric AI

Japan's 2019 "Social Principles of Human-Centric AI"⁹⁹⁸ were developed by the “Council for Social Principles of Human-centric AI” chaired by Professor Osamu Sudoh. The Social Principles specify the form of society that Japan should aim for, discuss impacts on society, present a set of AI social principles and identify issues to consider in AI R&D and social implementation. They call for all relevant stakeholders to cooperate and interact closely.

The philosophy that underpins the Social Principles of Human-Centric AI consists of three basic principles: (1) Dignity - a society in which human dignity is respected; (2) Diversity and Inclusion - a society in which

⁹⁹⁷ Conference toward AI Network Society, *Draft AI R&D Guidelines* (July 28, 2017) https://www.soumu.go.jp/main_content/000507517.pdf

⁹⁹⁸ Cabinet Secretariat, Government of Japan, *Social Principles of Human-Centric AI* (Feb. 15, 2019), <https://www.cas.go.jp/jp/seisaku/jinkouchinou/pdf/humancentricai.pdf>

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people with diverse backgrounds can pursue their own well-being; and (3) Sustainability - a sustainable society.

The social principles themselves are meant to be implemented across the Japanese society, including national and local governments, as well as in multilateral frameworks. They include seven principles for AI: (1) Human-Centric - the utilization of AI must not infringe upon the fundamental human rights guaranteed by the Constitution and international standards and AI should be developed, utilized, and implemented in society to expand the abilities of people and allow diverse people to pursue their own well-being; (2) Education/Literacy – all stakeholders must have an accurate understanding of AI, knowledge and ethics permitting appropriate use of AI in society; (3) Privacy Protection – AI should not infringe on a person's individual freedom, dignity or equality, AI using personal data should have mechanisms to ensure accuracy and legitimacy, and to allow individuals to be substantially involved in managing the privacy of their personal data, personal data must be protected appropriately according to its degree of importance and sensitivity; (4) Ensuring Security – a risk management approach is necessary; (5) Fair Competition; (6) Fairness, Accountability, and Transparency - it is necessary to ensure fairness and transparency in decision-making, appropriate accountability for the results, and trust in the technology, so that people who use AI are not subject to undue discrimination with regard to personal background, or to unfair treatment in terms of human dignity; and (7) Innovation.

AI R&D Guidelines and AI Utilization Guidelines

The original AI R&D Guidelines are directed at developers.⁹⁹⁹ They include 9 principles related to: (1) collaboration; (2) transparency; (3) controllability; (4) safety; (5) security; (6) privacy; (7) ethics (respect human dignity and individual autonomy); (8) user assistance; and (9) accountability.

The more recent (2019) AI Utilization Guidelines¹⁰⁰⁰ provide practical guidance on matters to be considered by various stakeholders, including developers, end users, and data providers. Aimed to promote the benefits of AI and mitigate risk, the Guidelines aim to help AI service providers and business users to establish their own AI development and utilization guidelines, based on the Social Principles for Human-centric AI.

⁹⁹⁹ The Conference toward AI Network Society, *Draft AI R&D GUIDELINES for International Discussions* (July 28, 2017), https://www.soumu.go.jp/main_content/000507517.pdf

¹⁰⁰⁰ The Conference toward AI Network Society, *AI Utilization Guidelines Practical Reference for AI utilization* (Aug. 9, 2019), https://www.soumu.go.jp/main_content/000658284.pdf

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The Guidelines set out ten principles to be considered, in full or in part, according to the purpose and social context of AI utilization: (1) proper utilization; (2) data quality; (3) collaboration; (4) safety; (5) security; (6) privacy; (7) human dignity and individual autonomy; (8) fairness; (9) transparency; and (10) accountability.

Data Free Flows with Trust

Prime Minister Abe also put forward the concept of Data Free Flows with Trust (DFFT) in a speech at the World Economic Forum in January 2019.¹⁰⁰¹ Abe said, “We must, on one hand, be able to put our personal data and data embodying intellectual property, national security intelligence, and so on, under careful protection, while on the other hand, we must enable the free flow of medical, industrial, traffic and other most useful, non-personal, anonymous data to see no borders, repeat, no borders.” Abe underscored the importance of privacy protection, explaining that the DFFT regime should be built on “non-personal data.” Abe further emphasized that the appropriate framework for protection and governance on data according to their sensitivity would allow higher freedom of data flow across borders.

At the 2019 G20 Summit in Osaka, OECD Secretary Gurría described Abe’s vision for Data Free Flows with Trust as “ambitious and timely.”¹⁰⁰² The G20 Leaders adopted the concept at the 2019 Summit,¹⁰⁰³ and reaffirmed the goal at the 2020 Summit in Riyadh.¹⁰⁰⁴ The phrase “Data Free Flows with Trust” also appears, with emphasis, in the December 2020 Joint Communication from the European Commission, proposing a New US Agenda for Global Change.¹⁰⁰⁵

¹⁰⁰¹ Ministry of Foreign Affairs, Japan, *Speech by Prime Minister Abe at the World Economic Forum Annual Meeting: Toward a New Era of "Hope-Driven Economy"* (Jan. 23, 2019), https://www.mofa.go.jp/ecm/ec/page4e_000973.html

¹⁰⁰² OECD, *2019 G20 Leaders’ Summit - Digital (AI, data governance, digital trade, taxation), Remarks by Angel Gurría* (June 28, 2019), <https://www.oecd.org/g20/summits/osaka/2019-g20-leaders-summit-digital-osaka-june-2019.htm>

¹⁰⁰³ The Japan Times, *Full text of the G20 Osaka leaders’ declaration* (June 29, 2019), <https://www.japantimes.co.jp/news/2019/06/29/national/full-text-g20-osaka-leaders-declaration/>

¹⁰⁰⁴ G20 Riyadh Summit, *Leaders’ Declaration* (Nov. 21-22, 2020), https://g20.org/en/media/Documents/G20_Riyadh_Summit_Leaders_Declaration_EN.pdf

¹⁰⁰⁵ European Commission and High Representative of the Union for Foreign Affairs and Security Policy, *Joint Communication to the European Parliament, the European Council and the Council: A New EU-US Agenda for Global Changes*, (Dec. 2, 2020) (emphasis in the original), https://ec.europa.eu/info/sites/info/files/joint-communication-eu-us-agenda_en.pdf

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Public Participation

Japan organized a conference with public participation in advance of the 2016 G-7 Ministerial.¹⁰⁰⁶ The conclusions of the conference informed the 2016 Takamatsu Declaration.¹⁰⁰⁷ The G7 ICT Ministers agreed to promote ICT technology R&D for Artificial Intelligence. In October 2016, Japan¹⁰⁰⁸ also launched a new public conference on the theme “Toward AI Network Society” with the participation of experts from industry, academia, and citizens to examine the social, economic, ethical, and legal implications of AI.¹⁰⁰⁹ The AI Network Society conference, chaired by Dr. Osamu Sudoh,¹⁰¹⁰ formulated the AI R&D Guidelines. The Japanese government presented AI R&D Guidelines to the G-7 meeting in Turin, Italy in 2017.¹⁰¹¹ A subsequent meeting of the Toward AI Network Society conference produced the AI Utilization Guidelines, “a commentary on the principles expected to be taken into consideration in the utilization of AI.”¹⁰¹²

Japan’s AI R&D Guidelines and the AI Utilization Guidelines influenced the development of AI policy frameworks at the OECD and elsewhere. The Guidelines promoted the development of AI and addressed public concerns, with the goal of building trust in the technology. The Conference is continuously studying the safe, secure, and trustworthy implementation of AI in the society.¹⁰¹³

In 2021, the Ministry of Economy, Trade, and Industry issued a call for Public Comments on Call for Public Comments on "AI Governance

¹⁰⁰⁶ The event was organized by the Institute for Information and Communications Policy (IICP) of the Ministry of Internal Affairs and Communications (MIC).

¹⁰⁰⁷ G7 Information Center, *Joint Declaration by G7 ICT Ministers (Action Plan on Implementing the Charter)* (Apr. 30, 2016), <http://www.g8.utoronto.ca/ict/2016-ict-declaration.html>

¹⁰⁰⁸ The event was organized by the Institute for Information and Communications Policy (IICP) of the Ministry of Internal Affairs and Communications (MIC).

¹⁰⁰⁹ Ministry of Internal Affairs and Communications, Japan, *The Conference toward AI Network Society—Release of 2020 Report* (July 21, 2020), https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2020/7/21_1.html

¹⁰¹⁰ Professor at the Faculty of Global Informatics, Chuo University and Project Professor at the Graduate School of Interdisciplinary Information Studies, University of Tokyo.

¹⁰¹¹ The Conference toward AI Network Society, *Draft AI R&D GUIDELINES for International Discussions* (July 28, 2017), https://www.soumu.go.jp/main_content/000507517.pdf

¹⁰¹² The Conference toward AI Network Society, *AI Utilization Guidelines Practical Reference for AI utilization* (Aug. 9, 2019), https://www.soumu.go.jp/main_content/000658284.pdf

¹⁰¹³ Ministry of Internal Affairs and Communications, Institute for Information and Communications Policy, *The Conference toward AI Network Society—Release of 2020 Report* (July 21, 2020), https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2020/7/21_1.html

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Guidelines for Implementation of AI Principles Ver. 1.”¹⁰¹⁴ The call was undertaken to gather a wide range of opinions and to clarify the trends in Japan and overseas regarding AI principles and rule-making and to present an overall picture of how Japan should approach AI governance, including creating interim guidelines for implementing the Social Principles of Human-Centric AI.

On February 1, 2022, the Japanese Government published the AI Governance Guidelines. The guideline clarifies and presents the whole picture of AI governance that Japan should be, including the creation of intermediate guidelines for the implementation of human-centered AI social principles.¹⁰¹⁵ The Governance Guidelines reflect the advice of companies, academics, legal experts and auditors. Further consultations will be conducted with experts in standards and consumer protection.

Data Protection

The Act on the Protection of Personal Information (APPI) governs data processing in the private sector. The 2020 amendments to the APPI bring the law closer to the EU’s General Data Protection Regulation (GDPR).¹⁰¹⁶ The amendments upgrade individuals’ rights, introduce the concept of pseudonymization, reinforce data breach reporting and increase penalties for offenders. The updated APPI also broadens the definition of personal data to capture facial recognition/biometric data. In January 2019, the European Commission adopted an adequacy decision on Japan’s APPI, allowing personal data to flow freely between the two economies.¹⁰¹⁷

Two laws regulate data processing by government.¹⁰¹⁸ The APPI also requires national and local governments to be “responsible for

¹⁰¹⁴ METI, *Call for Public Comments on "AI Governance Guidelines for Implementation of AI Principles Ver. 1.0" Opens* (July 9, 2021) [GT], https://www.meti.go.jp/english/press/2021/0709_004.html

¹⁰¹⁵ METI, *Governance Guidelines for the Practice of AI Principles Ver. 1.1" has been compiled* (Jan. 28, 2022) [GT], <https://www.meti.go.jp/press/2021/01/20220125001/20220124003.html>; see also IAPP, *Japan publishes AI governance guidelines*, <https://iapp.org/news/a/japan-publishes-ai-governance-guidelines/>;

¹⁰¹⁶ https://www.ppc.go.jp/files/pdf/overview_amended_act.pdf - The 2020 Amendments will come into force on a date specified by a cabinet order, within two years after promulgation (June 12, 2020).

¹⁰¹⁷ European Commission, *European Commission adopts adequacy decision on Japan, creating the world's largest area of safe data flows* (Jan. 23, 2019), https://ec.europa.eu/commission/presscorner/detail/en/IP_19_421.

¹⁰¹⁸ *Act on the Protection of Personal Information Held by Incorporated Administrative Agencies, etc., No 59* (May 30, 2003), http://www.japaneselawtranslation.go.jp/law/detail_main?re=&vm=2&id=3397

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comprehensively formulating and implementing the necessary measures to ensure the proper handling of personal information in conformity with the purport of this Act.”

The Personal Information Protection Commission (PPC), established in 2016, supervises the implementation of the APPI. The members of the PPC exercise their official authority independently. The PPC also supervises the implementation of the My Number Act, which regulates the use numeric identifiers for social security and taxation.¹⁰¹⁹

OECD/G20 AI Principles

Japan endorsed the OECD and the G20 Principles and is a member of the Global Partnership on AI (GPAI). Japan was also a catalyst for the adoption of the OECD AI Principles by the G20 Ministerial meeting in Tsukuba and the G20 Leader’s Summit in Osaka, Japan, in 2019.¹⁰²⁰

Algorithmic Transparency

Japanese law does not contain a general right of algorithmic transparency. However, there are specific provisions for certain sectors. For example, for financial services, the "Comprehensive Guidelines for Supervision over Major Banks" require that the concerned individual be provided with specific explanations on the reasons for the rejection of a request to conclude a loan agreement.¹⁰²¹

Use of AI for policy decisions

The government is considering a data analysis system developed by Palantir for public agency decision-making, according to Japan Times.¹⁰²² AI systems are also under consideration for defense, national security, trade management, and public health. The move complements the plans by the

¹⁰¹⁹ Personal Information Protection Commission, *Act on the Use of Numbers to Identify a Specific Individual in the Administrative Procedure*,

<https://www.ppc.go.jp/files/pdf/en3.pdf>

¹⁰²⁰ CAIDP Update 1.7, *Prime Minister Abe’s AI and Data Governance Legacy* (Aug. 30, 2020), <https://dukakis.org/center-for-ai-and-digital-policy/caidp-update-prime-minister-abes-ai-and-data-governance-legacy/>

¹⁰²¹ Official Journal of the European Union, *Commission Implementing Decision (EU) 2019/419 of 23 January 2019 pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council on the adequate protection of personal data by Japan under the Act on the Protection of Personal Information* (March 19, 2019) (par. 93), <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L:2019:076:FULL&from=DE>

¹⁰²² The Japan Times, *Japan considers using AI for speedy policy decisions* (Nov. 2, 2020), <https://www.japantimes.co.jp/news/2020/11/02/national/japan-ai-policy-government/>.

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administration of Prime Minister Yoshihide Suga to accelerate digitalization.¹⁰²³

Facial Recognition

Japan has deployed facial recognition in several sectors, including transportation, banking (ATMs), police and immigration. According to Japan Times, Japan planned to use facial recognition technology, originally intended for security purposes, to prevent the spread of the novel coronavirus when it hosted the Tokyo Olympics and Paralympics in 2021.¹⁰²⁴ ¹⁰²⁵ Osaka Metro Co. has developed automated ticket gates with facial recognition with a view to equip all metro stations in Osaka by 2024, ahead of the 2025 World Expo.¹⁰²⁶ Likewise, the Japanese Ministry of Economy, Trade and Industry is testing facial recognition ticketing on driverless buses in several cities across the country.¹⁰²⁷

In September 2020, Japan Times reported that Japanese Police Forces have been using facial recognition technology across the nation since March 2020 to locate criminal suspects. Critics warned that the system could transform the country into a surveillance society unless it run under strict regulations, a senior National Police Agency (NPA) official said “we are using the system only for criminal investigations and within the scope of the law. We discard facial images that are found to be unrelated to cases.”¹⁰²⁸ The NPA manages and utilizes facial images under rules set by the National Public Safety Commission,¹⁰²⁹ as it does with fingerprints and

¹⁰²³ Analytics India Magazine, *Use Of Algorithmic Decision Making & AI In Public Organisations* (Nov 11, 2020), <https://analyticsindiamag.com/use-of-algorithmic-decision-making-ai-in-public-organisations/> - 13/11/2020

¹⁰²⁴ The Japan Times, *Facial Recognition*, <https://www.japantimes.co.jp/tag/facial-recognition>.

¹⁰²⁵ Find Biometrics, *Japan to Pair Face Recognition with Mask and Temperature Detection During Tokyo Olympic* (Oct. 22, 2020), s <https://findbiometrics.com/japan-pair-face-recognition-mask-temperature-detection-during-tokyo-olympics-102209/>

¹⁰²⁶ The Japan Times, *Osaka Metro unveils ticket gate with facial recognition tech* (Dec. 10, 2019), <https://www.japantimes.co.jp/news/2019/12/10/business/corporate-business/osaka-metro-facial-recognition/#:~:text=on%20Tuesday%20started%20testing%20a,around%201%2C200%20Osaka%20Metro%20employees>.

¹⁰²⁷ NFCW, *Japanese passengers test facial recognition ticketing on driverless buses* (Sept. 10, 2020) <https://www.nfcw.com/2020/09/10/367826/japanese-passengers-test-facial-recognition-ticketing-on-driverless-buses/>

¹⁰²⁸ Biometric Update, *Police in Japan reveal use of facial biometrics in criminal probes* (Sept. 16, 2020), <https://www.biometricupdate.com/202009/police-in-japan-reveal-use-of-facial-biometrics-in-criminal-probes>

¹⁰²⁹ The National Public Safety Commission is a Japanese Cabinet Office commission which guarantees the neutrality of the police system by insulating the force from political

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DNA. The agency's database currently holds 10 million facial images of criminal suspects.

Japan does not have specific legislation for facial recognition in the government sector. As of September 2020, the Japanese APPI covers the use of facial biometric data gathered from security cameras.¹⁰³⁰ Law enforcement is however exempt from this type of privacy regulations. The APPI also allows the use of anonymized facial recognition data beyond the intended purposes if such data is sufficiently protected from being restored to its original form.

Human Rights

Japan is signatory to many international human rights treaties. According to Freedom House, Japan rates among the top countries in the world for political rights and civil liberties.¹⁰³¹

Evaluation

Japan is a pioneer in the field of AI policy and has endorsed the OECD/G20 AI Principles. The Conference toward AI Network Society, established in 2016, is broadly influential. The Japanese R&D Guidelines provided the basis for the OECD AI Principles. Japan also hosted the G20 Leaders' meeting in Osaka in 2019 at which time the G20 nations endorsed the OECD AI Principles. And former Prime Minister Shinzo Abe promoted the concept of Data Free Flow with Trust (DFFT), a core concept for human-centric AI, that carries forward in the policy recommendations of the OECD, the G20, and the European Commission. However, concerns about the unregulated use of facial recognition remain. While there has been no express support for the Universal Guidelines for AI, Japan's policies reflect elements found in the UGAI.

pressure and ensuring the maintenance of democratic methods in police administration. It administers the National Police Agency, and has the authority to appoint or dismiss senior police officers.

[https://en.wikipedia.org/wiki/National_Public_Safety_Commission_\(Japan\)](https://en.wikipedia.org/wiki/National_Public_Safety_Commission_(Japan))

¹⁰³⁰ Biometric Update, *Police in Japan reveal use of facial biometrics in criminal probes* (Sept. 16, 2020), <https://www.biometricupdate.com/202009/police-in-japan-reveal-use-of-facial-biometrics-in-criminal-probes>

¹⁰³¹ Freedom House, *Freedom in the World 2021 – Japan (2021)*, <https://freedomhouse.org/country/japan/freedom-world/2021>

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Kazakhstan

Overview and National AI Strategy

In recent years, Kazakhstan has taken an active interest in AI and new technologies to reform the country's economy and extend internal security and policing.¹⁰³² Kazakhstan has also expressed interest in Russia's AI development.¹⁰³³ Although the precise AI strategy has not yet been defined, the government has set out an AI and other smart technologies agenda. This includes the cultivation and creation of new industries with the use of digital technologies, and productivity growth through the widespread introduction of automation, robotics, AI, and the exchange of big data.¹⁰³⁴ The state program "Digital Kazakhstan" describes the implementation of this agenda through the realization of the following projects in the AI sector:¹⁰³⁵

- Creation of an international technopark of IT start-ups (Astana Hub)
- Creation of model factories based on Industry 4.0 technologies
- Development of open platforms (Open API), Big Data, and AI
- Development of telecommunications infrastructure, including broadband internet access
- Development of innovative financial technologies
- Implementation of Smart City components

The country has established several IT and research centers that are planned to be the flagships for the development of AI in Kazakhstan: Nazarbayev University, Astana International Financial Centre, Astana International Technology Park of IT Startups Despite these aspirations, Kazakhstan has only scored 46.55 out of 100 in the Government AI

¹⁰³² Trend News Agency, *Work is underway in Kazakhstan to introduce the concept of "Data-Driven Government"* (Dec. 4, 2020),

<https://www.trend.az/casia/kazakhstan/3345220.html>

¹⁰³³ Tass, *Kazakhstan interested in Russia's experience in AI development* (Dec. 4, 2020) ("President Kassym-Jomart Tokayev pointed out that digitalization of the Eurasian Economic Union (EAEU) should become a top priority for the Eurasian Economic Commission"), <https://tass.com/world/1231509>

¹⁰³⁴ The President of Kazakhstan Nursultan Nazarbayev's Address to the Nation of Kazakhstan. (Jan. 31, 2017), *Third Modernization of Kazakhstan: Global Competitiveness* http://www.akorda.kz/en/addresses/addresses_of_president/the-president-of-kazakhstan-nursultan-nazarbayevs-address-to-the-nation-of-kazakhstan-january-31-2017

¹⁰³⁵ On approval of the State Program "Digital Kazakhstan" (Об утверждении Государственной программы "Цифровой Казахстан") <http://adilet.zan.kz/rus/docs/P1700000827>

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Readiness Index, with the lowest score in the technology sector.¹⁰³⁶ A dearth of qualified IT specialists¹⁰³⁷ and low R&D spending (2.70 out of 100)¹⁰³⁸ are two significant barriers to a dynamic and innovative technology sector. According to the prime minister Askar Mamin, Kazakhstan simply does not have financial resources for the development of its own AI technologies.¹⁰³⁹ The country is trying to address this problem with the help of foreign investors¹⁰⁴⁰ and international partners.¹⁰⁴¹

It was announced in 2020 that World Bank will work with Nazarbayev University to create a National Cluster of Artificial Intelligence with its own laboratory, a data processing research center and a science park for the development of artificial intelligence.¹⁰⁴² Among other plans was establishing active cooperation in developing common standards, rules, and policies in the field of data exchange and integration. In April of the same year, the Kazakh Ministry of Education and Science, along with the World Bank, launched the Fostering Productive Innovation Project (FPIP)¹⁰⁴³ to support and develop high-quality scientific research on, and the commercialization of new technologies.

AI Core Values

One of Kazakhstan's primary purposes of embracing AI is to spark foreign investment in the country to diversify the economy and reduce its

¹⁰³⁶ The Government AI Readiness Index 2020, Oxford Insights

<https://www.oxfordinsights.com/government-ai-readiness-index-2020>

¹⁰³⁷ В будущем «цифровом Казахстане» не хватает IT-специалистов The future, "digital Kazakhstan" lacks IT specialists, Radio Free Europe, <https://rus.azattyq.org/a/programma-cifrovoi-kazakhstan-deficit-it-specialistov/28625463.html>

¹⁰³⁸ Research and development expenditure (% of GDP) – Kazakhstan, The World Bank <https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?locations=KZ&view=map>

¹⁰³⁹ Готов ли Казахстан к технологической гонке? Is Kazakhstan ready for a technology race? https://forbes.kz/process/intellektualnaya_zadacha_1588745463/?

¹⁰⁴⁰ Caspian Policy Center, *Kazakhstan — The Buckle in the Belt and Road Initiative Seeks Investment and Growth* (Jan. 31, 2020), <https://www.caspianpolicy.org/kazakhstan-the-buckle-in-the-belt-and-road-initiative-seeks-investment-and-growth/>

¹⁰⁴¹ *Kazakhstan seeks high-tech, agricultural cooperation with China, says Tokayev during Beijing Business Council meeting*, <https://www.euractiv.com/section/central-asia/news/kazakhstan-seeks-high-tech-agricultural-cooperation-with-china-says-tokayev-during-beijing-business-council-meeting/>

¹⁰⁴² EAEU prime ministers participate in Digital Almaty Forum

<https://primeminister.kz/en/news/premer-ministry-caes-prinyali-uchastie-v-forume-digital-almaty1>

¹⁰⁴³ Kazakhstan: Fostering Productive Innovation Project

<https://projects.worldbank.org/en/projects-operations/project-detail/P150402>

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economic dependence on natural resources.¹⁰⁴⁴ Social governance and welfare is another purpose of developing AI. 2017's AI agenda mentions the threat of terrorism growth and the prevention of religious extremism propaganda on the Internet and social networks.¹⁰⁴⁵

Facial Recognition and Smart Cities

Facial recognition surveillance technology is becoming increasingly widespread in Kazakhstan. In October 2019, facial recognition technologies were first installed on buses.¹⁰⁴⁶ Notably, President Tokayev had even paid a visit and discussed future cooperation with Hikvision,¹⁰⁴⁷ a Chinese state-owned surveillance company under U.S. sanctions¹⁰⁴⁸ that provided the hardware for Kazakhstan's newly established surveillance system. In the same year, the small city of Akkol was proclaimed the first complete "Smart City" in Kazakhstan. Akkol is digitally monitored by an AI-based facial recognition surveillance system, the functions of which include thermal imaging, searching for a car by number plates, recognizing missing persons, detecting the presence of weapons in schools, hospitals and other public places.¹⁰⁴⁹ Similarly, over 4,000 cameras blanket Nur-Sultan, the capital.¹⁰⁵⁰ In 2020, the authorities announced that Kazakhstan would be

¹⁰⁴⁴ Kazakhstan's Ai Aspirations <https://www.rebellionresearch.com/blog/kazakhstan-s-ai-aspirations>

¹⁰⁴⁵ The President of Kazakhstan Nursultan Nazarbayev's Address to the Nation of Kazakhstan *Third Modernization of Kazakhstan: Global Competitiveness* (Jan. 31, 2017), http://www.akorda.kz/en/addresses/addresses_of_president/the-president-of-kazakhstan-nursultan-nazarbayevs-address-to-the-nation-of-kazakhstan-january-31-2017

¹⁰⁴⁶ The Four Big Issues Central Asia Faced In 2019 (And They're Not Going Away), Radio Free Europe, <https://www.rferl.org/a/central-asia-2019-challenges-security-china-facial-recognition/30356077.html>

¹⁰⁴⁷ «Распознает даже людей в масках». Нужны ли Казахстану камеры Hikvision? "It even recognizes people in masks." Does Kazakhstan need Hikvision cameras? Radio Free Europe, <https://rus.azattyq.org/a/kazakhstan-china-surveillance-camera/30210035.html>

¹⁰⁴⁸ Bloomberg, *U.S. Blacklists Eight Chinese Tech Companies on Rights Violations: Move comes as U.S.-China high-level trade talks set to resume Action targets Chinese surveillance companies, public entities* (Oct. 7, 2019), <https://www.bloomberg.com/news/articles/2019-10-07/u-s-blacklists-eight-chinese-companies-including-hikvision-k1gvpq77>

¹⁰⁴⁹ Видеонаблюдение, безопасность и комфорт. Как живет самый умный город Казахстана - Smart Aqkol Video surveillance, security and comfort. How the smartest city of Kazakhstan lives - Smart Aqkol, Tengrinews, <https://tengrinews.kz/article/videonablyudenie-bezopasnost-komfort-jivet-samyiy-umnyiy-1353/>

¹⁰⁵⁰ Как работает проект "Сергек". Репортаж Informburo.kz How the Sergek project works. Informburo.kz report <https://informburo.kz/stati/kak-rabotaet-proekt-sergek-reportazh-informburokz.html>

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spending \$23 million to install facial recognition software in its largest city, Almaty.¹⁰⁵¹

While the government insists that the main goal is to maintain public safety, many activists are worried that this will ultimately create a totalitarian surveillance state,¹⁰⁵² especially since the companies that are behind the surveillance system in Kazakhstan are under U.S. sanctions for unethical use of AI technology.

Medical AI

Since mid-March 2020, Kazakhstan's government has been fighting the novel coronavirus. The Kazakhstani Ministries of Health and Internal Affairs ultimately turned to AI technological solutions to confront the coronavirus outbreak. The range of technologies being reoriented to enforce quarantine and curfews include traffic cameras, facial recognition technologies, and smartphone apps.¹⁰⁵³ The ministry has required the 8,000 or so Kazakhstani citizens currently under quarantine to use the SmartAstana tracking app allowing officials to guarantee these individuals remain in isolation and monitored citizens through facial recognition video surveillance technology to find violators of the quarantine regime in Almaty. By the end of the country's two-month state of emergency on May 11, 2,424 people had been charged with violating quarantine in Almaty and 3,347 in Nur-Sultan.¹⁰⁵⁴ According to experts, the pandemic exacerbated the existing arbitrary and uneven policing practices as surveillance is augmented by national and municipal authorities without public oversight.¹⁰⁵⁵

AI Ethics

Kazakhstan has not yet adopted OECD AI Principles, nor did it define ethical norms and standards for AI. Nevertheless, the country's major AI research center, Institute of Smart Systems and Artificial Intelligence at

¹⁰⁵¹ На камеры с распознаванием лиц в Алма-Ате выделили \$23 млн (Alma-Ata allocated \$ 23 million for cameras with face recognition), (Feb. 8, 2019), <http://fergana.agency/news/105020/>

¹⁰⁵² Kazakhstan embraces facial recognition, civil society recoils, Eurasianet, <https://eurasianet.org/kazakhstan-embraces-facial-recognition-civil-society-recoils>

¹⁰⁵³ Technology and Policing a Pandemic in Central Asia <https://thediplomat.com/2020/05/technology-and-policing-a-pandemic-in-central-asia/>

¹⁰⁵⁴ World Politics Review, *Police States Expand Under the Cover of COVID-19* (July 14, 2020), <https://www.worldpoliticsreview.com/articles/28910/across-central-asia-police-states-expand-under-the-cover-of-covid-19>

¹⁰⁵⁵ The Diplomat, *Technology and Policing a Pandemic in Central Asia* (May 13, 2020), <https://thediplomat.com/2020/05/technology-and-policing-a-pandemic-in-central-asia/>

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Nazarbayev University,¹⁰⁵⁶ states that it operates in accordance with the following ethical principles:

- Societal Well-being
- Human Centered Values
- Transparency
- Technical Resilience and Robustness
- Accountability

Data Protection

In 2019, the country experienced a wave of major data breaches from the databases of the CEC and the Prosecutor General's Office.¹⁰⁵⁷ Soon after that, the personal information of 11 million people were published online and could be accessed by anyone through a published database.¹⁰⁵⁸

These incidents led to the amendment of the existing data protection law, which was revised to mostly align with the GDPR.¹⁰⁵⁹ Amendments to the regulation of digital technologies and to the Personal Data Law entered into force on July 7, 2020.¹⁰⁶⁰ The new regulations establish a data protection agency, create rules for the collection and processing of personal data and introduce the concept of “personal data safety protection service.” The Personal Data Law includes a requirement that the content and amount of personal data collected strictly correspond to the specific, previously declared and legal purposes of their processing. Nevertheless, the GDPR requires “the appropriate data protection training to personnel having permanent or regular access to personal data” whereas Kazakhstan’s amendments do not require data protection training. Training is important because human error is one of the major causes of data breaches across the world.

¹⁰⁵⁶ Nazarbayev University, Institute of Smart Systems and Artificial Intelligence, <https://issai.nu.edu.kz/about/>

¹⁰⁵⁷ Catalin Cimpanu, *Extensive Hacking Operation Discovered in Kazakhstan*, ZDNet, (Nov. 23, 2019), <https://www.zdnet.com/article/extensive-hacking-operation-discovered-in-kazakhstan/>.

¹⁰⁵⁸ Злоумышленники выложили в сеть данных миллионов казахстанцев Attackers have posted data of millions of Kazakhstanis to the network <https://kursiv.kz/news/obschestvo/2019-07/zloumyshlenniki-vylozhili-v-set-dannye-millionov-kazakhstancev>

¹⁰⁵⁹ The Law of the Republic of Kazakhstan No. 94-V dated May 21, 2013 “On Personal Data and Their Protection” (hereinafter, the “Personal Data Law”).

¹⁰⁶⁰ Dentons, *Amendments on Personal Data Protection Issues in Kazakhstan* (July 14, 2020), <https://www.dentons.com/en/insights/articles/2020/july/14/amendments-on-personal-data-protection-issues-in-kazakhstan>

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Algorithmic Transparency

Although Kazakhstan is not directly subject to the GDPR, the Personal Data Law reflects modern concepts of transparency and data subject access. Kazakhstan is also eligible to ratify the Council of Europe Modernized Convention on Privacy.¹⁰⁶¹

OECD AI Principles

Kazakhstan has not endorsed the OECD AI Principles. According to the OECD AI Observatory, the national initiatives also do not address any of the OECD AI principles.¹⁰⁶²

Human Rights

According to Freedom House, Kazakhstan rates poorly (23/200) for political rights and civil liberties.¹⁰⁶³ Freedom House reports “Parliamentary and presidential elections are neither free nor fair, and major parties exhibit continued political loyalty to the government. The authorities have consistently marginalized or imprisoned genuine opposition figures. The dominant media outlets are either in state hands or owned by government-friendly businessmen. Freedoms of speech and assembly remain restricted, and corruption is endemic.” On transparency, Freedom House states “The government and legislature offer little transparency on their decision-making processes, budgetary matters, and other operations. The media and civil society do not have a meaningful opportunity to provide independent commentary and input on pending laws and policies. A law on public access to government information was adopted in 2015, but it is poorly implemented in practice.”

Kazakhstan is eligible for admission to the Council of Europe. In recent years, Kazakhstan has increased cooperation with the Council of Europe. A previous agreement was limited to criminal justice. The Neighbourhood Co-operation Priorities for Kazakhstan 2019-2022 introduces new areas of co-operation, including the fight against economic crime, promoting a common legal space and human rights standards, and assistance in the electoral field. The document was adopted by the Committee of Ministers in April 2019. Kazakhstan participates in the

¹⁰⁶¹ Council of Europe, Chart of signatures and ratifications of Treaty 108 (Status as of Nov. 11, 2019), https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/108/signatures?p_auth=UMypWMxn

¹⁰⁶² OECD AI Policy Observatory, “*Digital Kazakhstan Government Programme* (Oct. 6, 2021), <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-25280>

¹⁰⁶³ Freedom House, *Freedom in the World 2021 – Kazakhstan* (2021), <https://freedomhouse.org/country/kazakhstan/freedom-world/2021>

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Central Asia Rule of Law Programme, launched in 2020, which has the goal of “Improving the lives of citizens by reinforcing human rights, democracy and rule of law.”¹⁰⁶⁴

Evaluation

Kazakhstan has set an ambitious goal of embracing new technologies and boosting productivity. As Kazakhstan rushed into the digital future by quickly importing and implementing AI surveillance technologies, it failed to implement oversight legislation, responsible use of AI ethics standards and principles and allow broad public discussion of what constitutes public safety and privacy. While AI can provide security and prosperity, advanced surveillance technologies and deep troves of identifying data can pose a threat to citizens if oversight mechanisms and ethical standards are not properly established.

¹⁰⁶⁴ Council of Europe / European Union, *Central Asia Rule of Law Programme*, <https://pip-eu.coe.int/en/web/central-asia>

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Kenya

National AI Strategy

Kenya does not have legislation, national policy or strategy on Artificial Intelligence (AI).¹⁰⁶⁵ However, Kenya is one of the top five African countries in the 2021 global Government Artificial Intelligence Readiness Index, ranking 71st.¹⁰⁶⁶ It is estimated that over the last decade, Kenya's total value of investment in AI is Sh13 billion (US\$120 million).¹⁰⁶⁷ In February 2018, the government empanelled a blockchain and AI taskforce.¹⁰⁶⁸ The task force's mandate was to provide the government with recommendations on harnessing the emerging technologies of blockchain and AI in Kenya. In addition, the taskforce was tasked to explore the use of AI in public service delivery, financial inclusion, cyber-security, and election processes.¹⁰⁶⁹

In July 2019, the taskforce published its report which identified three domains of AI development and application. First, it identified the need to leverage blockchain and AI in the fight against corruption.¹⁰⁷⁰ Secondly, the report identified the critical role of AI in the financial sector.¹⁰⁷¹ Lastly, the report explores the application of AI in elections and states that AI could “bolster election fairness through fast tallying and providing real-time polling results, and by extension, strengthen democracy”.¹⁰⁷² The report also avers that effective regulation of the technologies will potentially balance citizen protection and private sector innovation.¹⁰⁷³ The report recommended:

¹⁰⁶⁵ J Kabubu, *Official Intelligence in Kenya* (Jan. 26, 2021), <https://mman.co.ke/content/artificial-intelligence-ai-kenya>.

¹⁰⁶⁶ A Gwagwa & Others ‘Artificial intelligence (AI) deployments in Africa: Benefits, challenges and policy dimensions’ (2020) 26 *The African Journal of Information and Communication (AJIC)* at 1-28.

¹⁰⁶⁷ F Ngila ‘Kenya, Africa hurdles in artificial intelligence race’ *Business Daily* 7 January 2021 <https://www.businessdailyafrica.com/bd/corporate/technology/kenya-africa-hurdles-in-artificial-intelligence-race-3249180> .

¹⁰⁶⁸ Kabubu

¹⁰⁶⁹ Ibid

¹⁰⁷⁰ Ibid

¹⁰⁷¹ K Abuya, *Kenya Blockchain Taskforce Findings Rally for Use Cases in Poll Transparency*, Teckweez 26 July 2019 <https://techweez.com/2019/07/26/blockchain-taskforce-report/>.

¹⁰⁷² Abuya (n 2).

¹⁰⁷³ D Mpala ‘Kenyan taskforce calls for state to regulate AI and blockchain’ <https://ventureburn.com/2019/08/kenya-report-blockchain-ai/>.

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- 1) Drafting a digital asset framework that will enable Kenyan citizens to raise funds through initial coin offerings (ICOs)¹⁰⁷⁴;
- 2) Create a digital locker (complementing a digital ID) for every citizen to securely store official documents like credit reports and birth certificates;
- 3) Use blockchain to track agricultural produce from end-to-end (from seeds to marketplace) and to use AI and analytics to detect fraud, trace unsafe products;
- 4) Distribute farming subsidies through a blockchain controlled agri-token;
- 5) Introduce blockchain technology to enable customers to trace the supply chain of medication;
- 6) Develop a health token incentive to reward citizens who maintain a healthy lifestyle; and
- 7) Use blockchain supply-chain networks to flag and report counterfeit goods.¹⁰⁷⁵

Although the taskforce presented the report to the government, the proposed recommendations have not been translated into any public policy, legislation or strategy on AI.¹⁰⁷⁶

In addition, in November 2019, Kenya enacted the Data Protection Act, establishing some protections for personal data.¹⁰⁷⁷ AI systems use private data to perform better, and this has considerable privacy and social risks. As Das observes, this is particularly associated with “how some organizations are collecting and processing a vast amount of user data in their AI-based system without their knowledge or consent, which can lead to concerning social consequences”.¹⁰⁷⁸ However, the Act does not include AI. According to Ngila: “Kenya’s Data Protection Act of 2019 only takes care of data privacy, totally leaving out AI, with the two becoming increasingly inseparable”.¹⁰⁷⁹

¹⁰⁷⁴ Initial Coin Offerings (ICOs) are a popular fundraising method used primarily by startups wishing to offer products and services, usually related to the cryptocurrency and blockchain space. See <https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp>

¹⁰⁷⁵ D Mpala ‘Kenyan taskforce calls for state to regulate AI and blockchain’ <https://ventureburn.com/2019/08/kenya-report-blockchain-ai/>.

¹⁰⁷⁶ Kabubu

¹⁰⁷⁷ Freedom House, *Freedom in the World 2020*,

<https://freedomhouse.org/country/kenya/freedom-world/2020>

¹⁰⁷⁸ S Das ‘The Social Impact of Artificial Intelligence and Data Privacy Issues’ <https://www.red-gate.com/simple-talk/development/data-science-development/the-social-impact-of-artificial-intelligence-and-data-privacy-issues/>

¹⁰⁷⁹ Ngila (n 3 above).

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Public Participation

The development of Kenya’s AI report by the Blockchain and Artificial Intelligence taskforce followed a public consultation process. The taskforce reported that it received 150 presentations and consulted with about 90 stakeholders.¹⁰⁸⁰ There is no clarity on whether the input from the stakeholder consultations was incorporated in the report. The composition of the taskforce was also inclusive and diverse. It consisted of 14 experts including four women drawn from academia, research institutions, tech entrepreneurs, consultants and private businesses such as Safaricom, Cisco, IBM Research Africa, the African Development Bank. The taskforce membership also includes four women namely: Juliana Rotich, Dr Charity Wayua, Elizabeth Ondula, and Lesley Mbogo. The Taskforce is led by an academic and former ICT permanent secretary, Bitange Ndemo.¹⁰⁸¹ In addition, there are around 31 AI startups operating in various sectors of Kenyan economy including agriculture, finance, accounting, health, communications, education, business development, and law.

In April 2019, the Artificial Intelligence for Development Africa,¹⁰⁸² held a regional conference in Nairobi, Kenya. The theme of the conference was ”Toward a Network of Excellence in Artificial Intelligence for Development (AI4D) in sub-Saharan Africa.” It was attended by 60 African and international experts. The conference was aimed at deepening the African conversation on AI primarily on: policy and regulations; skills and capacity building; and the application of AI in Africa. Delegates to the conference had several aspirations: to have 30 African countries develop AI specific policies and strategies by 2024; to “create a pipeline of 400 African PhDs in AI, data science, and other interdisciplinary fields”; to create “a collective investment of US\$ 1 billion dollars in collaborative innovation and research prioritizing solution areas for sustainable development in Africa”; to establish an AI Centre of Excellence in each African country by 2030;¹⁰⁸³ and to invest in capacity building in AI policy and regulatory frameworks that are relevant for the African context.¹⁰⁸⁴

¹⁰⁸⁰ C Tanui, *The Kenya Blockchain Taskforce Concludes Its Report*, Wall Street (Nov. 20, 2018), <https://kenyanwallstreet.com/the-kenya-blockchain-taskforce-concludes-report-on-blockchain-technology/>.

¹⁰⁸¹ Mpala (n 2).

¹⁰⁸² Artificial Intelligence for Development Africa is tech organization whose object it “to improve the quality of life for all in Africa and beyond by partnering with Africa’s science and policy communities to leverage AI through high-quality research, responsible innovation, and strengthening talent”. See <https://africa.ai4d.ai/>

¹⁰⁸³ <https://africa.ai4d.ai/blog-africa-roadmap/>

¹⁰⁸⁴ <https://tracxn.com/explore/Artificial-Intelligence-Startups-in-Kenya> (accessed 24 April 2021).

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However, in the absence of a policy and legal framework, it is difficult to establish mechanisms for public participation in AI processes.

International Partnership on AI

The 2014 African Union Convention on Cyber Security and Personal Data Protection is the core regional instrument with relevance to AI. In a continent widely viewed as a safe haven for cyber criminals, the Convention aims to harmonise cyber regulation aimed at addressing three major areas of concern: (1) electronic transactions, (2) personal data protection, and (3) cyber security and cybercrime.¹⁰⁸⁵ It also empowers states to regulate the collection, processing, and storage of private data.¹⁰⁸⁶ Also, article 11 of the Convention calls on member states to establish national administrative bodies charged with protection of personal data, while article 24 urges state parties to develop national cyber security policies. Considering that AI often relies on data, this Convention is crucial in AI on the African continent. However, Kenya has not ratified the Convention.¹⁰⁸⁷

In an effort to position Africa for the global shift towards AI, the African Union has established the AI Working Group to facilitate the regional approach to AI. The Group held its inaugural meeting in 2019 and Kenya, a member of the AU with fast growing interest in AI, stands the opportunity to join this regional initiative on AI. Through this group, the AU intends to foster collaboration among African states that “could help countries develop AI strategies, identify other regulatory and governance issues, and learn from regional best practice.”¹⁰⁸⁸

Data Protection

Kenya has a data protection law based on the GDPR. The Data Protection Bill 2019 make Kenya the third country in East Africa to have

¹⁰⁸⁵ CCDCOE, *Mixed Feedback on the ‘African Union Convention on Cyber Security and Personal Data Protection’*

<https://ccdcoe.org/incyber-articles/mixed-feedback-on-the-african-union-convention-on-cyber-security-and-personal-data-protection/>

¹⁰⁸⁶ Article 12 of African Union Convention on Cyber Security and Personal Data Protection.

¹⁰⁸⁷ African Union, *African Union Convention on Cyber Security and Personal Data Protection* (June 27, 2014),

<https://au.int/en/treaties/african-union-convention-cyber-security-and-personal-data-protection>

¹⁰⁸⁸ Ngila (n 3 above).

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legislation dedicated to data protection.¹⁰⁸⁹ The Act seeks to: give effect to Article 31(c) and (d) of the Constitution that contain the right to privacy; establish the Office of the Data Commissioner; regulate the processing of personal data; provide for the rights of data ‘subjects’; and create obligations of data ‘controllers’ and ‘processors.’¹⁰⁹⁰ However, the law does not provide a right of access to the logic of the processing, as would be found in the GDPR.

Human Rights

Kenya’s Constitution contains the Bill of Rights under Chapter 4. The Bill of Rights contains a catalogue of fundamental civil and political rights on the one hand, and socio-economic and cultural rights on the other. These rights among others include: Freedom and security of the person, right to Privacy, Freedom of expression, Freedom of the media, right to access to information, and right to dignity.¹⁰⁹¹ Kenya has a Human Rights Commission which has an oversight mandate on human rights protection and promotion. Kenya is also a signatory to various regional and international human rights treaties and conventions including the African Charter on Human and Peoples Rights, International Convention on Civil and Political Rights (ICCPR) and International Covenant on Economic, Social and Cultural Rights (ICSECR).

According to Freedom House, Kenya is “Partly Free” with a score of 48/100 for political rights and civil liberties.¹⁰⁹² The country’s media and civil society sectors are vibrant, even as journalists and human rights defenders remain vulnerable to restrictive laws and intimidation. There are also concerns on government’s interference with right to privacy of individuals. In addition, the government frequently uses cybercrime laws to crackdown online critics of the government.

Evaluation

Despite a global movement towards automation, Kenya is yet to take off in Artificial Intelligence (AI). It ranked 71 out of 172 nations on the Government AI Readiness Index 2020. Notably, Kenya does not have AI

¹⁰⁸⁹ Deloitte, *Kenya Data Protection Act: Quick Guide* (2021),

<https://www2.deloitte.com/content/dam/Deloitte/ke/Documents/risk/Kenya%20Data%20Protection%20Act%20-%20Quick%20Guide%202021.pdf>

¹⁰⁹⁰ Kenya Gazette Supplement, *Data Protection Act*, 2019 (Nov. 11, 2019),

http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/2019/TheDataProtectionAct_No24of2019.pdf

¹⁰⁹¹ Chapter 4 of the Constitution of the Republic of Kenya

¹⁰⁹² Freedom House, *Freedom in the World 2021 – Kenya* (2021),

<https://freedomhouse.org/country/kenya/freedom-world/2021>

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legislation and policy. It has also not ratified the African Union Convention on Cyber Security and Personal Data Protection. However, Kenya has established a task force with a mandate to advise the government on AI development and the report was produced in 2018. There are also about 39 AI startups in Kenya, which signals the growing interest in AI interventions in the country. Also, the Data Protection Act, enacted in 2018 provides safeguards for personal data protection, despite not having clear provisions for AI. In addition, Kenya's constitution contains a strong Bill of Rights and has an established Human Rights Commission which has an oversight mandate over human rights protection and promotion. However, in the absence of AI legal and policy framework, actual AI practices are difficult to evaluate.

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Korea

*National AI Strategy*¹⁰⁹³

Korea's "National Strategy for Artificial Intelligence" was announced in December 2019. While its main focus is building a world class AI technical capacity through ambitious targets such as 'achieving a world top 3 digital competitiveness by 2030', it also aims to address AI ethics and algorithmic transparency related issues under the pillar of realizing people centered AI.

This national strategy materializes the "Presidential Initiative for AI" that President Moon Jae-in announced on October 28, 2019. During his remark, he stated "AI is moving beyond scientific and technological advancements and is approaching us as a new civilization... AI will not only affect industrial sectors but also solve many issues facing our society: public health in an aging society, welfare for senior citizens living alone, the safety of women living by themselves, and the prevention of crimes that are becoming more sophisticated."

Korea's "National Strategy for Artificial Intelligence" has nine major strategies and 100 major tasks in three major areas. The major areas are (1) fostering a global-leading AI ecosystem, (2) becoming a country unrivaled for its use of AI, and (3) realizing people-centered AI. This "National Strategy for Artificial Intelligence" is a result of the cooperation of the entire Korean ministries and offices including the Ministry of Science and ICT, the Ministry of the Interior and Safety, and the Ministry of Education, and the 'Presidential Committee on the Fourth Industrial Revolution' that deliberates upon and coordinates important policy matters pertaining to the development of AI.¹⁰⁹⁴

In 2021, the Ministry of Science and ICT has shared the consensus on AI ethics in the annual review meeting and cooperated with UNESCO's project by participating in the intergovernmental sessions. At the 11th Annual Review Meeting, held by UNESCO headquarter and 14 Korean Ministries, the Korean government presented the results of ongoing projects supported by various public donors and identified new opportunities for cooperation. The Ministry of Science and ICT informed their support and future collaboration for the UNESCO Recommendation.

¹⁰⁹³ Ministry of Science and ICT, *Policies, National Strategy for Artificial Intelligence* (Mar. 23, 2020)

<https://www.msit.go.kr/english/msipContents/contentsView.do?cateId=tst60&artId=2771576>

¹⁰⁹⁴ Presidential Committee on the Fourth Industrial Revolution, *About PCFIR* (2020)
<https://www.4th-ir.go.kr/home/en>

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In 2021, the Ministry of Science and ICT and Korean Information Science Development Institute (KISDI) also participated in two Intergovernmental Meetings and Intersessional Consultations for intergovernmental negotiation for the Recommendation. Previously, the Ministry also organized Asia-Pacific Consultation with UNESCO.

Also, the Ministry of Science and ICT provided in-depth comments on the draft to make the Recommendation actionable to refer to future AI policy. In that process, the Korean government consented with the purpose and values of the Recommendation and provided feedback to clarify policy actions for the draft.

Korea's National Strategy to Realize Trustworthy AI (2021) includes several strategies which could be in line with the Recommendation.¹⁰⁹⁵ In May 2021, the Ministry of Science and ICT announced the national strategy to build social trust in the era of AI, and it included strategies for AI impact assessment and AI ethics. We do not have an English translation of this strategy, but it is in line with the purposes of 'Part IV. Areas of Policy Action' in the Recommendation.

The national law for intelligent information society also has applicable provisions to build the Social Impact Assessment of Intelligent Information Services framework

AI R&D Strategy

To strengthen its national technological competitiveness, expand infrastructure, and secure AI talents, Korea announced the AI R&D Strategy in May 2018 in which the government will invest 2.2 trillion won for five years (2018 – 2022) in the sectors of brain science, industrial mathematics, infrastructure, AI technology and talents, and AI service and industry.¹⁰⁹⁶ Furthermore, Korea plans to promote the Next AI R&D Project¹⁰⁹⁷ (2022 – 2026) on the scale of 1 trillion won to go beyond the limitation of the current AI technology and to become the world's leading AI technology country. Above all, it emphasizes the importance of ensuring explainability, robustness, and fairness of AI R&D activities.

¹⁰⁹⁵ Korea, Artificial Intelligence-Based Policy Division, *Announcing Trustworthy AI Implementation Strategies* (May 13, 2021),

<https://www.msit.go.kr/bbs/view.do?sCode=user&mId=113&mPid=112&pageIndex=&bsSeqNo=94&nttSeqNo=3180239&searchOpt=ALL&searchTxt=>

¹⁰⁹⁶ HRST Policy Platform, *AI R&D Strategy* (May 2018),

<https://hrstpolicy.re.kr/kistep/kr/policy/policyPlanKorDetail.html>

¹⁰⁹⁷ (footnote #1) National Strategy for Artificial Intelligence, p. 22

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Amendments to the Three Major Data Privacy Laws

The Korean government amended the major three data privacy laws in February 2020 to protect personal information and improve the personal data protection and privacy governance system in the era of the 4th industrial revolution.¹⁰⁹⁸ The three laws are the *Personal Information Protection Act* (PIPA), the *Act on the Promotion of the Use of the Information Network and Information Protection* (“the Network Act”), and the *Credit Information Use and Protection Act* (the “Credit Information Act”). The amendments are the legislative measure that reflects the outcomes of the “Hackathon agreements” (February and April 2018) in which related ministries, civil organizations, professionals from industry and the legal circles participated, and the recommendations of the Presidential Committee on the Fourth Industrial Revolution (May 2018). It focuses on introducing the concept of using fictitious names to foster the use of data, reviewing related laws and unifying the regulatory system, and strengthening the responsibility of the users.

Personal Information Protection Commission (PIPC)

The amendments to the three major data privacy laws in February 2020 brought together personal information protection functions scattered across ministries and launched the new organization, PIPC, on August 5, 2020.¹⁰⁹⁹ The PIPC an integrated supervisory authority with the primary role of the protection and supervision of personal information. PIPC was originally under the President as a body run based on compromise and agreement, but now it has the independent authority for its operation.

The PIPC passed the adequacy decision of the European Commission, which means that Korea and the EU shared a commitment to a high level of data protection.¹¹⁰⁰ Based on the decision, the personal data will be able to transfer from the EU to Korea safely under the GDPR.

In 2021, the PIPC published AI Personal Information Protection Self-checklist to provide guidelines for the protection of personal information gathered and used by artificial intelligence. The checklist presents 16 specific items to check and 54 items to verify safe handling of

¹⁰⁹⁸ Ministry of Culture, Sports and Tourism, “Data 3 Act” (Mar. 30, 2020)

<http://www.korea.kr/special/policyCurationView.do?newsId=148867915>

¹⁰⁹⁹ Personal Information Protection Commission, *2019 Personal Information Protection Policy Performance at-a-glance* (Sept. 18, 2020)

<http://www.pipc.go.kr/cmt/english/news/selectBoardArticle.do>

¹¹⁰⁰ European Commission, *Joint Press Statement by Didier Reynders, Commissioner for Justice of the European Commission, and Yoon Jong In, Chairperson of the Personal Information Protection Commission of the Republic of Korea* (Dec. 17, 2021),

https://ec.europa.eu/commission/presscorner/detail/en/statement_21_6915

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personal information along with the life cycle of AI: design, development, and operation of AI. The PIPC also imposed a monetary penalty on an AI startup (Scatter Lab) for a massive personal data breach in 2021.¹¹⁰¹ It was the first case in Korea that the government has sanctioned the indiscriminate use of personal information by companies using AI technology.

The Korea Personal Information Protection Commission (PIPC) signed up for Global Privacy Assembly (GPA) as a regular member since 2012. As a member country, the 34th International Conference of Data Protection and Privacy Commissioners (ICDPPC) granted accreditation to the Korean PIPC. In 2018, the PIPC attended the ICDPPC as accredited members. In 2020, the GPA held the 42nd closed session and adopted a resolution on the privacy and data protection challenges arising in the context of the COVID-19 pandemic. The PIPC co-sponsored the resolution and participated in the GPA COVID-19 taskforce 2020. Furthermore, the PIPC serves as a member of the GPA's Policy Strategy Working Group 1: Global frameworks and standards¹¹⁰² and Digital Education Working Group,¹¹⁰³ enhancing data protection and AI accountability in general.

The PIPC is not the only independent agency for AI oversight. The National Human Rights Commission is a national advocacy institution for human rights protection.¹¹⁰⁴ The NHRC was established in 2001 as an independent agency that does not belong to any legislative, administrative, or judicial branch. The NHRC continues to advocate the non-discriminatory use of AI and warn against the risk of bias and deep fake technology.¹¹⁰⁵

¹¹⁰¹ YonhapNews Agency, *Developer of AI chatbot service fined for massive personal data breach* (Apr. 28, 2021), <https://en.yna.co.kr/view/AEN20210428009500315>.

¹¹⁰² Global Privacy Assembly, *Policy Strategy Working Group 1: Global frameworks and standards* (Oct. 2020), https://globalprivacyassembly.org/wp-content/uploads/2020/10/Day-1-1_2a-Day-3-3_2b-v1_0-Policy-Strategy-Working-Group-WS1-Global-frameworks-and-standards-Report-Final.pdf

¹¹⁰³ Global Privacy Assembly, *Digital Education Working Group* (Oct. 2020), https://globalprivacyassembly.org/wp-content/uploads/2020/10/DEWG-2019-2020-Annual-Report-GPA-20200921-finalannexes_Oct-2020_final-en-211020-1.pdf

¹¹⁰⁴ National Human Rights Commission of Korea, <https://www.humanrights.go.kr/site/main/index002>

¹¹⁰⁵ National Human Right Commission of Korea, <http://humanrights.go.kr/site/program/webzine/subview?menuid=003001&boardtypeid=1016&boardid=7605775&searchissue=7605780>; Human Rights Commission should put human rights protection in AI bill... "Severe threats such as 'deep fake porn'" ("The National Human Rights Commission of Korea officially expressed its opinion that there is a possibility of discrimination, monitoring, and human rights violations behind the development of artificial intelligence (AI), and that the National Assembly should reflect human rights protection regulations when enacting the related fostering law"), <https://view.asiae.co.kr/article/2020060110251892308>

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Lastly, the Presidential Committee on the Fourth Industrial Revolution coordinates important policy matters pertaining developing and acquiring of new science and technology, including AI and data technology. The PCFIR recommends government promote a trustworthy AI and safe ecosystem for the AI industry.

Global Partnership – OECD, G20, GPAI, and UNESCO

As a member of the global community, the Korean government has been actively participating in international cooperation in the AI sector to promote responsible development and use of AI. Korea endorsed the OECD Principles in 2019¹¹⁰⁶ as well as the G20 principles and actively participates in international cooperation to set up the global AI principles. Furthermore, the Korean government is one of the founding members of the Global Partnership on AI (GPAI), the world’s first international AI initiative.¹¹⁰⁷

In July 2020, the Korean government co-organized the Virtual Asia-Pacific Consultation on the first draft of the UNESCO Recommendation on the Ethics of AI with the UNESCO, and led the discussions on values, principles, and policy tasks regarding the UNESCO Recommendation on the Ethics of AI.¹¹⁰⁸

At the Ministerial Council Meeting in October 2021, Korea Ministry of Science and ICT presented the “Progress over the past two years in implementing the OECD AI Principles and Future Direction.”¹¹⁰⁹ A general director of the AI policy bureau at the Ministry of Science and ICT, Ms. Kyunhee Song, presented Korea’s progress in accordance with OECD AI Principles. As part of the effort to implement the OECD AI Principles, the Korean government also established ‘National Strategy of Artificial Intelligence (2019)’ and ‘Digital New Deal Strategy (2020) (Data Dam Projects).

The Korean government has actively participated in the global discussions on AI ethics, including both the OECD AI principles and the UNESCO AI recommendation. As result, the Korean government also

¹¹⁰⁶ OECD, *Forty-two countries adopt new OECD Principles on Artificial Intelligence* (May 22, 2019) <https://www.oecd.org/science/forty-two-countries-adopt-new-oecd-principles-on-artificial-intelligence.htm>

¹¹⁰⁷ OECD, *OECD to host Secretariat of new Global Partnership on Artificial Intelligence* (June 15, 2020) <https://www.oecd.org/going-digital/ai/oecd-to-host-secretariat-of-new-global-partnership-on-artificial-intelligence.htm>

¹¹⁰⁸ Ministry of Science and ICT, *Launch of first global AI initiative, GPAI* (June 15, 2020) <https://www.msit.go.kr/english/msipContents/contentsView.do?cateId=tst56&artId=2996961>

¹¹⁰⁹ OECD, *Putting the OECD AI Principles into practice: progress and future perspectives* (Oct. 4, 2021), <https://oecd.ai/en/mcm>

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established Human-centered AI Ethics Standards (2020).¹¹¹⁰ Based on the Ethics Standards, the Korean government implemented action plans for AI ethics, such as drafting a developer checklist and promoting education for AI ethics. As part of the Korean government's effort to implement trustworthy AI, it plans to disseminate a guidebook that AI developers can refer to when they confront technological and ethical issues.

AI Ethics

On October 28, 2019, in his “Presidential Initiative for Artificial Intelligence” President Moon Jae-in stated “The Korean government will pay special attention to change in the job market and AI-related ethical issues.”¹¹¹¹ In particular, Korea's “National Strategy for Artificial Intelligence” includes 'preventing AI dysfunction and establishing AI ethics' as one of nine major actions and aims to set up AI Ethics Principles through a public consultation.

As a follow-up action to establish the comprehensive AI ethical standards which all members of society – developers, providers, and users – can refer to, from development to use of AI, the Korean government has formed an AI ethics research team and analyzed the commonalities and differences in OECD AI Principles and 25 global major AI ethical principles. As a result, it has drafted the Korean AI ethical standard that embraces the existing domestic and international ethical principles. The Korean government plans to announce the Korean AI ethical standards in December 2020 after hearing opinions of the academia, industry, and civil organizations.¹¹¹²

Meanwhile, the Korean government takes a stance that the AI development should refrain from developing lethal autonomous weapons, but rather focus on supporting non-weapon systems such as the human decision-making process and effective management of military supplies. To this end, it will continue to conduct research activities that correspond to the

¹¹¹⁰ *Ministry of Science and ICT unveils “National Artificial Intelligence Ethics Standard” (draft) centered on people,*

<https://www.msit.go.kr/bbs/view.do?sCode=user&mId=113&mPid=112&pageIndex=&bbsSeqNo=94&nttSeqNo=3179630&searchOpt=ALL&searchTxt=>

¹¹¹¹ Cheong Wa Dae, Remarks by President Moon Jae-in at Korean Artificial Intelligence Developers Conference “DEVIEW 2019” (Oct. 28, 2019)

<https://english1.president.go.kr/Briefingspeeches/Speeches/682>

¹¹¹² National Strategy for Artificial Intelligence, p.49 (Dec. 2019)

https://www.msit.go.kr/cms/english/pl/policies2/_icsFiles/afieldfile/2020/03/23/National%20Strategy%20for%20Artificial%20Intelligence_200323.pdf

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international norms, including discussions on lethal autonomous weapons at the meetings of the expert group under the UN.¹¹¹³

Algorithmic Transparency

The Korean government outlined the regulation to secure accountability, interoperability, and safety of intelligence information technology in the newly drafted *Framework Act on Intelligence Informatization*.¹¹¹⁴ The Korean government will determine the details and level of regulation as a form of ministerial decree after hearing opinions from the related parties and considering the technology development progress, AI industry vitalization, and infringement of business' autonomy.

Korea recently amended the law to reflect new demands of algorithmic transparency. The Credit Information Use and Protection Act introduced the right to challenge decisions based on automated processing. Details regarding the right to challenge decisions based on automated processing, such as credit extension, and the methods and procedures for exercising such rights.¹¹¹⁵ The Credit Information Act recognizes the data subject's right to challenge an automated credit assessment. It defines "automated credit assessment" as a "credit information company's or other act of evaluating a credit information and other data using an information processing device (such as a computer) without actually involved in the evaluation of the human individual." The amendments to the Credit Information Act do not cover other automated decision-making beyond the financial sector. However, it is meaningful in the sense that it is the first law that empowers individual users toward AI transparency.

The PIPC also proposed a bill to amend to Personal Information Protection Act (PIPA). At the Public institution Affiliated organization Information Security Conference (PASCON) in 2021, the PIPC proposed to amend the PIPA.¹¹¹⁶ One of the main amendments entails the rights of data subjects, including rights to request explanation of automated decisions

¹¹¹³ ZDNet, *University boycott ends after 'KAIST' confirms no 'killer robot' development* (April 10, 2018) <https://www.zdnet.com/article/university-boycott-ends-after-kaist-confirms-no-killer-robot-development/>

¹¹¹⁴ National Law Information Center, (Name of the Law) (June 9, 2020) <https://www.law.go.kr/lsSc.do?section=&menuId=1&subMenuId=15&tabMenuId=81&eventGubun=060101&query=%EC%A7%80%EB%8A%A5%EC%A0%95%EB%B3%B4#undefined>

¹¹¹⁵ Chambers and Partners, *Data Protection & Privacy 2021, South Korea* (Mar. 9, 2021), <https://practiceguides.chambers.com/practice-guides/comparison/627/6273/10386-10395-10401-10406-10414>.

¹¹¹⁶ https://www.dailysecur.com/form/html/pascon/image/2021/pascon_2021_01.pdf

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and rights to object. The proposed bill (2112723) was introduced at the National Assembly on September 2021, and it is under review.¹¹¹⁷

Improvement of Policies and Laws for the Era of AI

In May 2020, the Korean government amended the *Framework Act on National Informatization*¹¹¹⁸ with the new name of the *Framework Act on Intelligence Informatization* to provide fundamental law for the era of intelligence information. This Act presents the definition of intelligence information technology and the basis of all regulations that address the development and use of AI, such as the basic principles of the intelligence information society, technical requirement, standardization, and personal data protection. Moreover, the Korean government has introduced the ‘future-oriented legal system’¹¹¹⁹ to review and revise regulations to address the issues of using AI in (1) data, (2) intellectual property, (3) accountability, (4) regulation of algorithms and trade secret, (5) finance, (6) platform, (7) labor, (8) healthcare, and (9) welfare.

Human Rights Advocacy

The Korean government has established the National Human Rights Commission of Korea (NHRCK) in 2001 as a national advocacy institution for human rights protection.¹¹²⁰ During his congratulatory remark on 2018 Human Rights Day in December, President Moon Jae-in stated “when human rights are realized in everyday lives, their value is demonstrable... Human rights are guaranteed through peace, and peace is secured through human rights.” He also extended his gratitude to NHRCK for “fully demonstrating the history and significance of the *Universal Declaration of Human Rights*.”¹¹²¹

¹¹¹⁷ Legal Business Information, *Partial amendment to the Personal Information Protection Act (draft)*,

<https://www.moleg.go.kr/lawinfo/makingInfo.mo?lawSeq=62160&lawCd=0&&lawType=TYPE5&mid=a10104010000>

¹¹¹⁸ National Law Information Center, *Framework Act on National Informatization* (2015)

<http://www.law.go.kr/lsInfoP.do?lsiSeq=172205&lsId=000028&chrClsCd=010202&urlMode=engLsInfoR&viewCls=engLsInfoR#0000>

¹¹¹⁹ (footnote #1) National Strategy for Artificial Intelligence, p. 26

<https://www.msit.go.kr/SYNAP/skin/doc.html?fn=14acc067ebaf2780a558e24993a560f0&rs=/SYNAP/sn3hcv/result/202010/>

¹¹²⁰ National Human Rights Commission of Korea, *Purpose* (2001)

<https://www.humanrights.go.kr/site/homepage/menu/viewMenu?menuid=002001001001>

¹¹²¹ Cheong Wa Dae, *Congratulatory Remarks by President Moon Jae-in on 2018 Human Rights Day* (December 10, 2018)

<https://english1.president.go.kr/Briefingspeeches/Speeches/101>

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In addition, the Korean government has been an active member in the seven core international human rights instruments including the “International Covenant on Civil and Political Rights” and “International Covenant on Economic, Social, and Cultural Rights.” Especially since its entry into the United Nations (UN) in 1991 and the Commission of Human Rights (CHR) in 1993, Korea has been engaged in various international cooperation activities for improvement of human rights, especially the rights of the vulnerable and the North Koreans.¹¹²²

Evaluation

Korea is one of the leading countries in national AI policies. Korea has adopted a comprehensive National Strategy for AI and has promoted a “future-oriented” legal system. Korea has updated national privacy laws, established a Personal Information Protection Commission, and maintains a leading role in the defense of human rights. Korea has endorsed the OECD and the G20 AI principles, and works in cooperation with other countries on AI policy. While Korea has not yet expressed support for the Universal Guidelines for AI, elements of the UGAI are reflected in the national AI policies.

¹¹²² Ministry of Foreign Affairs, *Human Rights Diplomacy*, http://www.mofa.go.kr/eng/wpge/m_5648/contents.do

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Malaysia

National AI Strategy Overview

The Government of Malaysia does not have a National AI Strategy, but has embraced AI-enabled technology as part of its future success, nesting the development of its national AI strategies, including the National AI Roadmap (AI-Rmap) under the Malaysian whole-of-government strategy, known as the "Twelfth Malaysia Plan, 2021-2025" ("12 Plan") with the aim of "*a prosperous, inclusive and sustainable Malaysia*,"¹¹²³ which was introduced in September 2021.

According to 12 Plan, "national strategies on artificial intelligence (AI) and blockchain will be developed to guide the growth of every sector in the economy." 12 Plan mentions that measures will be implemented to strengthen guidelines and regulations on personal data protection and data sharing with the aim of "ensuring data safeguards against cyber-attacks and unethical uses." According to the Plan, "an ethical framework and standards on technology development, deployment and utilisation will also be introduced to ensure responsible use of technology."

Background and Related National Policies

In 2017 the Malaysian Government announced plans to develop a National AI Framework complementary to its National Big Data Analytics Framework.¹¹²⁴ Digitalization and AI objectives are covered under the Malaysian Digital Economy Blueprint, operated in coordination with the Economic Planning Unit (EPU) and various other plans, as illustrated below.

- **Malaysian Digital Economy Blueprint (2021-2031):** The Malaysian government, via its Economic Planning Unit (EPU), recently launched its digital economy blueprint. MyDIGITAL is a comprehensive 104-page document that lays the road map to achieve the country's grand vision to become a regional leader in the digital economy and attain an inclusive, responsible, and sustainable socio-economic development, nationally. The intent is to "transform

¹¹²³ Government of Malaysia, *Twelfth Malaysia Plan* (2021)

<https://rmke12.epu.gov.my/bm>

¹¹²⁴ OpenGOVAsia.com, *Plans for cloud-first strategy and national AI framework revealed at 29th MSC Malaysia Implementation Council Meeting* (Oct. 28, 2017), <https://opengovasia.com/plans-for-cloud-first-strategy-and-national-ai-framework-revealed-at-29th-msc-malaysia-implementation-council-meeting/>

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Malaysia into a digitally-driven, high-income nation and a regional leader in digital economy."¹¹²⁵

- **National Fourth Industrial Revolution (2021):** The Malaysian government, via its Economic Planning Unit (EPU), also introduced its National 4IR Policy, designed to “steer strategic socio-economic transformation through the ethical use of 4IR policies.” Using a whole-of-nation approach, the plan intends to: support balanced, responsible, and sustainable growth for business; provide socio-environmental well-being for all, and create a fit-for-future government. Notably, the Policy draws on reference from the World Economic Forum (WEF), OECD, UN, and the World Bank.¹¹²⁶
- **National Big Data Analytics (BDA) Framework (2016-):** Introduced by the Malaysia Digital Economy Corporation (MDEC), the BDA has four focus areas: architecting a data-driven culture; identifying roles for a data-driven organization; turning information into action; accessing tools and partners.¹¹²⁷
- In 2021, the Ministry of Science, Technology, and Innovation (MOSTI) awarded selected researchers grants to formulate National Artificial Intelligence (AI) Roadmap for Malaysia.¹¹²⁸

AI-Rmap

AI-Rmap has six overall strategies to execute: establishing AI governance, advancing AI R&D, escalating a digital infrastructure to enable AI, fostering AI talents, acculturating AI, enhancing quadruple helix, and global collaboration.¹¹²⁹ While the strategy of the report does not overtly address human rights, it does state that it needs to be “human-centric” in design, and must incorporate the factors of being “explainable, transparent, and ethical.”¹¹³⁰

¹¹²⁵ Government of Malaysia, *Malaysia Digital Blueprint Economy*, <https://www.epu.gov.my/sites/default/files/2021-02/malaysia-digital-economy-blueprint.pdf>

¹¹²⁶ Government of Malaysia, *National 4IR Policy* (July 1, 2021), https://www.epu.gov.my/sites/default/files/2021-07/4IR_Presentation.pdf

¹¹²⁷ Malaysia Digital Economy Corporation, *Malaysia’s National Big Data Analytics Initiative* (Oct. 2016), <https://calabarzon.neda.gov.ph/wp-content/uploads/2016/10/02-Big-Data-Analytics-MDEC.pdf>

¹¹²⁸ University of Technology, Malaysia, *UTM Experts Entrusted by MOSTI to Develop the National Artificial Intelligence (AI) Roadmap for Malaysia* (Dec. 1, 2020), <https://news.utm.my/2020/12/utm-experts-entrusted-by-mosti-to-develop-the-national-artificial-intelligence-ai-roadmap-for-malaysia/>

¹¹²⁹ Id.

¹¹³⁰ Government of Malaysia, *Malaysia’s AI Roadmap* (Mar. 15, 2021), <https://airmap.my/st1/>

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AI-Rmap has a distinct action plan through 2025, with benchmarks set for horizon 1 (2021-2022), horizon 2 (2023-2024), and horizon 3 (2050 onwards). Within those benchmarks are four strategic initiatives, with Strategic Initiative 1.4 being the establishment of an AI code of ethics. Notably, in horizon 1 for this initiative, Malaysia will “study AI code of ethics in international organizations and major countries” and “establish AI ethical standards that are consistent with global norms.” Finalizing the AI Code of Ethics is not due to be completed until 2023-2024.¹¹³¹

OECD/G20 AI Principles

Malaysia has not endorsed OECD AI and G20 AI principles. According to OECD AI Policy Observatory, Malaysia does not have any AI initiatives.¹¹³²

Human Rights

Malaysia is a member of the United Nations and has endorsed the Universal Declaration of Human Rights. In 2021, Freedom House scored Malaysia at 51/100 (in 2020, 51) included in the group of partly free countries.¹¹³³ Freedom House raised concerns that laws, policies, and practices do not guarantee equal treatment of various segments of the population. On transparency, Freedom House noted, “the government was initially open and transparent regarding Malaysia’s COVID-19 status and the state’s response, however, observers faulted the government’s data transparency as the late-year coronavirus wave accelerated.”

AI in healthcare

In 2017, the Ministry of Health launched the Malaysian Health Data Warehouse (MyHDW) as part of a national healthcare information gathering system. The system is designed to share a patient’s healthcare records among all public health institutions, ensuring any doctor had full access to medical records. The Malaysian government also initiated several public-private collaborations, including the signing of a Memorandum of Understanding (MoU) between Microsoft Malaysia and CREST (Collaborative Research in Engineering, Science & Technology) to create a first-of-its-kind digital health hub, and the creation of Malaysia’s largest digital health platform, DoctorOnCall, which connects patients with an

¹¹³¹ Id.

¹¹³² OECD, *OECD AI Policy Observatory*, <https://oecd.ai>

¹¹³³ Freedom House, “Malaysia: Freedom in the World 2021 [Malaysia: Freedom in the World 2021 Country Report | Freedom House](#)”

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extensive network of over 1,500 Specialists in private hospitals and more than 100 GP doctors throughout the country.¹¹³⁴

To combat the spread of COVID-19, the Malaysian government led a multi-agency effort to create the MySejahtera app, which was linked to the MyTrace app (developed by the Malaysian Ministry of Science, Technology, and Innovation (MOSTI)) to “enables the identification of those who have been in close proximity to an infected person using Bluetooth technology.”¹¹³⁵ As of December 2020, the Malaysian government cites that there are 24.5 million users of Mysejahtera, with a strong push by the government for increased usage.¹¹³⁶

MOSTI also plans aggressive use of AI-enabled apps to detect those who may have been in close contact with a COVID-19 patient, and a geofencing app to enforce and monitor quarantines.” In May 2021, the Malaysian government launched the Hotspot Identification for Dynamic Engagement (“HIDE”) system, as an early warning system to preemptively identify COVID-19 hotspots using predictive technology, big data analytics, and AI.¹¹³⁷ MOSTI is also planning to add “artificial intelligence and big data analytics into the HIDE system to produce more accurate predictions of coronavirus hotspots based on Bluetooth contact tracing. HIDE currently uses MySejahtera check-in data.¹¹³⁸

Finally, in August 2021, the Malaysian government introduced a new mobile app, the Vaccine Certificate Verifier app, to combat a rise in the production and selling of fake certificates in the country.¹¹³⁹ While the government has rolled out the use of AI-enabled technology to assist the healthcare industry and COVID-29 response, there has been little

¹¹³⁴ HealthcareITnews.com, *An overview of Malaysia’s digital health landscape* (July 1, 2020), <https://www.healthcareitnews.com/news/asia/overview-malaysia-s-digital-health-landscape>

¹¹³⁵ HealthcareITnews.com, *COVID-19: Malaysia’s pandemic approaches and its impact on telehealth* (June 08, 2020), <https://www.healthcareitnews.com/news/asia/covid-19-malaysia-s-pandemic-approaches-and-its-impact-telehealth>

¹¹³⁶ Yahoo News, *Health Ministry source: MySejahtera covers 24.5 million users with up to 30,000 daily downloads despite misconceptions* (Dec. 3, 2020), <https://malaysia.news.yahoo.com/health-ministry-source-mysejahtera-covers-020809774.html>

¹¹³⁷ Mondaq.com, *Malaysia: Covid-19: Nowhere To HIDE?* (May 24, 2021) <https://www.mondaq.com/government-measures/1071572/covid-19-nowhere-to-hide>

¹¹³⁸ Code Blue, *Government Plans Bluetooth Covid-19 Contact Tracing, Geofencing Self-Quarantine App* (Nov 2, 2021), <https://codeblue.galencentre.org/2021/11/02/government-plans-bluetooth-covid-19-contact-tracing-geofencing-self-quarantine-app/>

¹¹³⁹ HealthcareITnews.com, *Malaysia launches vaccine certificate verification app* (Aug. 24, 2021), <https://www.healthcareitnews.com/news/asia/malaysia-launches-vaccine-certificate-verification-app>

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communication from the government on a focus on human rights, data privacy, and algorithmic transparency.

AI System for Surveillance

In 2018, Auxiliary Force Sdn Bhd (AFSB), a member of Royal Malaysia Police Cooperative Bhd., became the first Malaysian security force in the country to integrate body-worn cameras with facial recognition technology.¹¹⁴⁰ In 2019, the state of Penang launched the first public facial recognition to help police combat crime. The system: uses AI to identify faces captured by the CCTV network operated by Penang Island City Council (MBPP)”, with a plan to have hundreds of new cameras installed at major roads, intersections, and hotspots for criminal activity.¹¹⁴¹ The Malaysian business sector has also integrated the use of facial recognition across the nation, including facial recognition “check-ins” at events¹¹⁴², and the Malaysian Ministry of Transport introduced a public-private facial recognition program in 2019, allowing users to take selfies of themselves for recognition.¹¹⁴³ While there is an increase in facial recognition technology in Malaysia, there is no overarching AI Policy focused on human rights and democratic values governing the use of this technology.

Data Protection Laws

Data protection in Malaysia stems from the Personal Data Protection Act of 2010 (PDPA),¹¹⁴⁴, =its first comprehensive personal data protection legislation, by the Malaysian Parliament on June 2, 2010, and came into force on November 15, 2013. The PDPA seeks to safeguard personal data and confer certain rights to users regarding personal data. In addition to the

¹¹⁴⁰ OpenGOVAsia.com, *Auxiliary Force of Malaysian Police integrates facial recognition technology with body-worn cameras* (Apr. 16, 2018),

<https://opengovasia.com/auxiliary-force-of-malaysian-police-integrates-facial-recognition-technology-with-body-worn-cameras/>

¹¹⁴¹ Biometricupdate.com, “Malaysian state launches facial recognition to CCTV network” (Jan 3, 2019), <https://www.biometricupdate.com/201901/malaysian-state-launches-facial-recognition-to-cctv-network>

¹¹⁴² The Malaysian Reserve, *Facial recognition tech grows amid concerns*” (Dec. 5, 2019), https://themalaysianreserve.com/2019/12/05/facial-recognition-tech-grows-amid-concerns/?_cf_chl_jschl_tk_=DAhg_QRUGomGzvz0vzL53vheCQUq1lvw25Aloim.rTw-1636370158-0-gaNycGzNCIE

¹¹⁴³ Grab.com, *Grab partners with Ministry of Transport to implement facial recognition technology in Malaysia* (Apr 11, 2019), <https://www.grab.com/my/press/social-impact-safety/grab-mot-facial-recognition-technology/>

¹¹⁴⁴ Malaysia Ministry of Communications and Multimedia, *Personal Data Protection Act 2010* (June 2010), <https://www.kkmm.gov.my/pdf/Personal%20Data%20Protection%20Act%202010.pdf>

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PDPA, five pieces of subsidiary legislation were also enforced on November 15, 2013.

Additional legislation passed to date include the Personal Data Protection Regulations 2013 ('the 2013 Regulations'); the Personal Data Protection (Class of Data Users) Order 2013 ('the Order'); the Personal Data Protection (Registration of Data User) Regulations 2013 ('Registration Regulation'); the Personal Data Protection (Fees) Regulations 2013; the Personal Data Protection (Compounding of Offences) Regulations 2016 ('Compounding of Offences Regulations'); the Personal Data Protection (Class of Data Users) (Amendment) Order 2016 ('the Order Amendment'); and the Personal Data Protection (Appeal Tribunal) Regulations 2021.¹¹⁴⁵

The PDPA imposes strict requirements on any person who collects or processes personal data (data users) and grants individual rights to 'data subjects', and is enforced by the Commissioner of the Department of Personal Data Protection (the Commissioner). It is observed that the PDPA is similar in sense to the Data Protection Directive 95/46/EC of the European Union (EU), leading the PDPA to be described as European-style privacy law.¹¹⁴⁶

Issues with the PDPA are that it does not apply to federal and state governments,¹¹⁴⁷ exempts the processing of information by a credit reporting agency and the PDPA does not constrain government access to data. part of an ongoing review of the PDPA, the Personal Data Protection Commissioner of the Ministry of Communications and Multimedia Malaysia has issued Public Consultation Paper No. 01/2020 – Review of Personal Data Protection Act 2010 (PC01/2020) dated February 14, 2020, to seek the views and comments of the public on 22 issues set out in PC01/2020.

Autonomous vehicles

According to the Malaysian Investment Development Authority ("MIDA"), Malaysia supports efforts to become a regional leader in manufacturing, engineering, and technological innovation. To this end, the National Automotive Policy 2020 (NAP 2020) aims to develop the Malaysian auto industry "through research and development of new technologies, especially in the areas of Next-Generation Vehicles (NxGV),

¹¹⁴⁵ DataGuidance.com, "Personal Data Protection Act 2010", Jun 2021, <https://www.dataguidance.com/notes/malaysia-data-protection-overview>

¹¹⁴⁶ The Law Reviews, *The Privacy, Data Protection and Cybersecurity Law Review: Malaysia* (Nov 5, 2021), <https://thelawreviews.co.uk/title/the-privacy-data-protection-and-cybersecurity-law-review/malaysia>

¹¹⁴⁷ Id.

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Industrial Revolution 4.0 (IR 4.0) and mobility -as a service (MaaS)".¹¹⁴⁸ According to the MIDA, the first autonomous vehicle (AV) testing route of Malaysia, which will allow tech companies to test the capabilities of their vehicles, has been approved by the Ministry of Transport of Malaysia and the Sepang Municipal Council.¹¹⁴⁹

Besides, as mentioned by the Government of Malaysia on its official website, AI will be a key technology in the development of autonomous or self-driving vehicles. The government of Malaysia mentions that “not only is AI capable of collecting and analysing data through sensors and cameras but it is also capable of adapting to situations and learning through machine learning.”¹¹⁵⁰

Evaluation

Malaysia has rapidly introduced technology into its public and private sectors and has constructed numerous digital policies and taken action to map out and support its digital economy and support business growth. While there is no national AI framework currently, the AI-Rmap is ongoing and part of the overall 12 Plan. In October 2021, the Malaysian Ministry of Science, Technology, and Innovation (Mosti) announced it is developing 17 technology roadmaps in line with the 10 science and technology drivers, and the 10 socio-economic drivers in the 10-10 Malaysian Science, Technology, Innovation, and Economy (MySTIE) Framework. This includes “artificial intelligence (AI), blockchain, electrical and electronics (E&E), advanced materials, robotics, and vaccines.”¹¹⁵¹ Malaysia has rolled out facial recognition in its public sector, but the absence of an overall strategy for use and guidelines for human-based values is troubling. Finally, Malaysia has rolled out several public and private sector collaborative efforts to support the healthcare industry and COVID-19 response but has provided little insight on efforts to ensure data privacy, human rights, and algorithmic transparency.

¹¹⁴⁸ Malaysia Industrial Development Authority, *Malaysia steering towards autonomous vehicle technology*, <https://www.mida.gov.my/malaysia-steering-towards-autonomous-vehicle-technology/>

¹¹⁴⁹ Id.

¹¹⁵⁰ Government of Malaysia, *Capacities for Digital Transformation, Autonomous Car*, <https://www.malaysia.gov.my/portal/content/30713>

¹¹⁵¹ The Malaysian Reserve, *Dr Adham: 17 tech roadmaps in pipeline* (Oct. 18, 2021), <https://themalaysianreserve.com/2021/10/18/dr-adham-17-tech-roadmaps-in-the-pipeline/>

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Mexico

National AI Strategy

In 2018, Mexico became the first Latin American country to announce a national AI strategy. *Towards an AI Strategy in Mexico: Harnessing the AI Revolution* was commissioned by the United Kingdom's Embassy in Mexico City in collaboration with the Office of the Mexican President under the Peña Nieto administration.

The AI Strategy report provides a preliminary outline of how Mexico should become a leader in AI. Mexico's manufacturing-centric economy, the report argues, faces grave risks amid growing automation and should take a clear, strategic position in developing AI. The AI Strategy sets out six thematic areas: governance, government, and public services; research and development; capacity, skills, and education; data infrastructure; and ethics and regulation. Within the category of ethics and regulation, the report recommends that the Mexican government bring data assets inside the scope of Mexican competition law (COFEC) in recognition of the fact that data is a competitive asset. The report also called for the creation of an AI Ethics Council which would "set guidelines and limits which reflect Mexican Values" and "award a quality mark for AI companies who abide by the standards."¹¹⁵²

The AI Strategy report set out five key actions for the Mexican government: develop an inclusive governance framework; identify the needs of AI in industry; open the recommendations of the Policy Report for public consultation; support Mexico's AI leadership in international forums; and promote continuity through changing administrations, by working with all interested stakeholders towards an official AI National Policy.¹¹⁵³

Implementation of the National AI Strategy

The AI strategy for Mexico was initially published in 2018 under the former Peña Nieto presidential administration, which ended that same year. The current government administration under President López Obrador (2018-2024) has neither implemented the OECD AI principles nor any of the goals originally outlined in the AI strategy of 2018. There are no current government metrics or identifiable progress made on the achievement of AI policies under the current government administration.

¹¹⁵² Oxford Insights, *Towards an AI Strategy in Mexico: Harnessing the AI Revolution* (June 2018) <https://www.oxfordinsights.com/mexico>

¹¹⁵³ CAF- Development Bank of Latin America, *Mexico: the story and lessons behind Latin America's first AI strategy* (June 2020) <https://www.cminds.co/reports>

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No recent information regarding AI is available on any official website of the federal government. The only publicly available information from the government is a blog post announcing the publication of the National Strategy posted during the previous administration.¹¹⁵⁴ The federal government has reoriented its policy priorities away from AI and has cut the funding allotted to the implementation of the National Strategy.

Public Participation

The effort to maintain momentum for increased AI development and policymaking is spearheaded by Coalition IA2030Mx, a multisectoral coalition made up of professionals, academic institutions, companies, startups, public agencies and other key actors of the digital ecosystem and Artificial Intelligence in Mexico.¹¹⁵⁵ The IA2030Mx goals include (1) the participation of all member states of Mexico, (2) the creation of a National AI agenda for 2030, and (3) the promotion of the OECD AI Principles. The IA2030Mx said “The members of this movement have been working since the beginning of 2018 under a philosophy of co-responsibility of government, academia, industry and civil society, seeking that Mexico does not lag behind in the 4th Industrial Revolution, strategically take advantage of the benefits of AI and mitigate the possible ethical and social risks.”

In 2019, the IA2030 coalition conducted a mass survey to determine the major areas of concern in Mexico regarding AI.¹¹⁵⁶ This knowledge was then mobilized in the creation of a 2020 National Agenda for AI. The central themes of the agenda are data, digital infrastructure, and cybersecurity; ethics; governance, government, and public services; capabilities and education; and the collaboration of Mexicans outside of the Republic. This agenda was created with the input of over 400 different actors but had no collaboration by the federal government. Different levels of government, like the state of Jalisco and some Senatorial committees, have expressed interest in AI governance and have participated in projects with C Minds on the matter; however, non-state actors have been the major participants in shaping the future of AI in Mexico.

In December 2021, Centro LATAM Digital and *Iniciativa Latinoamericana por los Datos Abiertos* (ILDA) with the financial support

¹¹⁵⁴ Enrique Zapata, *Estrategia de Inteligencia Artificial MX 2018* (Mar. 18, 2018) <https://datos.gob.mx/blog/estrategia-de-inteligencia-artificial-mx-2018>

¹¹⁵⁵ IA2030Mx, *Artificial Intelligence in Mexico: A National Agenda* (Nov. 2020) (English translation), <https://www.ia2030.mx/>

¹¹⁵⁶ IA2030Mx, *Artificial Intelligence in Mexico: A National Agenda* (Nov. 2020) (English translation), <https://www.ia2030.mx/>

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of the International Development Research Centre (IDRC) and the Inter-American Development Bank (IADB) published a report on public policy on AI of Mexico. The main purpose of this report is to identify the main challenges and obstacles for the design of public policies on AI that includes a human rights-based approach and that may serve to support and resume Mexico's national AI strategy by the government of AMLO. The report contains a section of general conclusion and recommendations. Among the main recommendation of the report are (i) to create a national strategy on AI that is multi-stakeholder and multi-disciplinary that could contribute to the development of public policies and mechanism for measurement and assessment; (ii) put a strong emphasis on the protection of personal data related with the development of AI technologies; (iii) implement the OECD principles on AI; (iv) include efficient government coordination mechanisms to implement a national plan on AI that could identify the main actors and stakeholders of different areas; and (v) to work closely with the different commissions and groups of National Congress to make them aware of the benefits and risks of AI that may support the drafting of flexible regulations on AI.¹¹⁵⁷

Global Partnerships: OECD, G20, GPAI, and COMEST

Mexico has taken an active role in pursuing international cooperation for the ethical development of AI. The Mexican government endorsed the OECD AI Principles in 2019 as well as the G20's and is one of the founding members of the Global Partnership on AI (GPAI), the world's first international AI initiative.¹¹⁵⁸ Mexico is also represented in UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology (COMEST). COMEST produced a preliminary study on the ethics of AI, which has now become the foundation of UNESCO's Recommendation on the Ethics of AI which will be elaborated between 2019 and 2021.¹¹⁵⁹

¹¹⁵⁷ empatIA, *Reportes de política pública: México* (Dec. 2021), <https://secureservercdn.net/192.169.220.85/dxc.177.myftpupload.com/wp-content/uploads/2021/12/Policy-report-Mexico-version-final.pdf>

¹¹⁵⁸ OECD, *OECD to host Secretariat of new Global Partnership on Artificial Intelligence* (June 15, 2020) <https://www.oecd.org/going-digital/ai/oecd-to-host-secretariat-of-new-global-partnership-on-artificial-intelligence.htm>; Gobierno de México, *Declaración Conjunta de los miembros fundadores de la Alianza Global sobre la Inteligencia Artificial* (June 15, 2020) <https://www.gob.mx/sre/prensa/declaracion-conjunta-de-los-miembros-fundadores-de-la-alianza-global-sobre-la-inteligencia-artificial>

¹¹⁵⁹ UNESCO, *Elaboration of a Recommendation on the ethics of artificial intelligence* (2020) <https://en.unesco.org/artificial-intelligence/ethics#recommendation>, COMEST: <https://en.unesco.org/themes/ethics-science-and-technology/comest/members>

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Data Protection

The National Institute for Transparency, Access to Information and Personal Data Protection (INAI) was one of the national DPA's that sponsored the Global Privacy Assembly's Resolution on Accountability in the Development and Use of Artificial Intelligence of October 2020.

The Ibero-American Data Protection Network (RIPD),¹¹⁶⁰ a group of experts on data protection and access to information currently, is composed of 34 entities, including 14 federal and state access to information and data protection authorities of Latin America and countries of the Caribbean, which includes Mexico's INAI. In 2019, the RIPD adopted "Specific Guidelines for Complying with the Principles and Rights Governing Personal Data Protection in Artificial Intelligence Projects."¹¹⁶¹ The AI Guidelines provide a common framework for the entities in the RIPD. The AI Guidelines are based on the Standards for Personal Data Protection for the Iberoamerican States approved in 2017.¹¹⁶² The AI Guidelines provide recommendations for the processing of personal data for AI systems.

Although, there is now the RIPD reference framework for the processing of personal data for AI systems, the INAI has not yet developed national policies for the protection of personal data in AI systems. INAI is currently part of an ongoing initiative sponsored by Facebook, C-Minds, the Interamerican Development Bank (IDB) and the BID LAB, which will gather a number of companies that currently use AI in their products and services across Mexico. The main purpose of this initiative is to facilitate and test public policies for the governance of AI systems and provide for transparency and accountability practices for data protection during 2020 and 2021. The outcome of this initiative will be a report with public policy recommendations for INAI and other data protection agencies in Latin America. Likewise, the report will serve as a basis for the development of a Framework and Manual of T&E of AI Systems for Mexico and will be

¹¹⁶⁰ *The Ibero-American Data Protection Network (Red Iberoamericana de Protección de Datos (RIPD))*, <https://www.redipd.org/>

¹¹⁶¹ Red Iberoamericana de Protección de Datos (RIPD), *Orientaciones Específicas para el Cumplimiento de los Principios y Derechos que Rigen la Protección de los Datos Personales en los Proyectos de Inteligencia Artificial* (June 21, 2019), http://inicio.inai.org.mx/nuevo/RIPD_orientaciones_especificas_de_proteccion_de_datos_en_ia.pdf

¹¹⁶² Red Iberoamericana de Protección de Datos (RIPD), *Estándares de Protección de Datos Personales para los Estados Iberoamericanos*. (June 20, 2017), https://www.redipd.org/sites/default/files/inlinefiles/Estandares_Esp_Con_logo_RIPD.pdf

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presented by the INAI in collaboration with the PPP of Mexico, C-Minds and the IDB Group during 2021.¹¹⁶³

Algorithmic Transparency

In November 2018, the Mexican government published general principles for the development and use of systems based on AI in Mexico's federal government.¹¹⁶⁴ The key principles are:

- Monitor and evaluate the impacts of AI systems in order to ensure that they achieve the expected results
- Promote transparency, by explaining to the users that interact with AI systems the decision process taken by such systems, the expected benefits as well as the potential risks derived from using such systems
- Protect privacy, by incorporating mechanisms of control and consent for the use of personal data during the design of AI systems
- Foster equality, by reducing risks of discriminatory biases derived from the utilized data
- Due process, by allowing individuals to dispute decisions made by AI systems.

The US Library of Congress noted this summer that “the presidential administration that adopted this strategy and its guiding principles ended on November 30, 2018. No information could be located on whether the new administration (which commenced on December 1, 2018) will continue with this strategy and its principles or initiate a similar effort.”¹¹⁶⁵

Human Rights

Freedom House gives Mexico a “partly free” (62/100) rating for political rights and civil liberties.¹¹⁶⁶ According to Freedom House, “Mexico has been an electoral democracy since 2000, and alternation in power between parties is routine at both the federal and state levels.

¹¹⁶³ CMINDS, *Prototipo de Políticas Públicas. Transparencia y explicabilidad de sistemas de IA*, <https://www.cminds.co/prototipo-politica-ia>

¹¹⁶⁴ Principles for the Administration of Artificial Intelligence (Nov. 2018), https://www.gob.mx/cms/uploads/attachment/file/415644/Consolidado_Comentarios_Consulta_IA_1.pdf

¹¹⁶⁵ US Library of Congress, *Regulation of Artificial Intelligence: The Americas and the Caribbean* (July 24, 2020), <https://www.loc.gov/law/help/artificial-intelligence/americas.php>

¹¹⁶⁶ Freedom House, *Freedom in the World 2021 – Mexico (2021)*, <https://freedomhouse.org/country/mexico/freedom-world/2021>

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However, the country suffers from severe rule of law deficits that limit full citizen enjoyment of political rights and civil liberties.”

Evaluation

Mexico launched an ambitious strategy for AI in 2018 and identified key ethical considerations for the deployment of AI systems. Mexico also endorsed the OECD and the G20 AI Principles, is a founding member of the GPAI, and worked with UNESCO on the development of recommendations for AI. But there has been little activity on AI policy since 2018. Consistent with its international commitments, Mexico should develop the legal frameworks necessary for AI oversight prior to the deployment of AI systems.

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Netherlands

Strategic Action Plan for AI

In September 2019, the Dutch government set out The Strategic Action Plan for Artificial Intelligence.¹¹⁶⁷ The AI Plan sets out three broad themes – “Capitalising on societal and economic opportunities,” “Creating the right conditions,” and “Strengthening the Foundations.” The key goals are public-private partnerships, international cooperation, an “inclusive approach that puts people first,” and “a country that is at the forefront of AI applications which serve the interests of people and society.” Under this plan, government commits to protect public values and human rights, further defined as prohibition of discrimination, protection of privacy, freedom of speech, human dignity and autonomy, the right to a fair trial, and human rights.

The Dutch AI strategy follows the Dutch Digitalization Strategy (2018), the first Cabinet-wide effort to formulate key priorities for digitalization, data and AI. Within the Digitalization Strategy the government “supports and endorses the guidelines established in the EU’s recent communication on ‘Ethics guidelines for trustworthy AI.’”¹¹⁶⁸ The government also commits to creating a “responsible innovation toolbox (including impact assessments, handbooks and guidelines)” and making knowledge available in the areas of transparency, explainability and accountability. Through the Transparency Lab initiative, the “government is working with businesses and supervisory bodies to assess how algorithms and their practical applications can be made more transparent and verifiable.” The government seeks to “ensure that as many Dutch companies and public organizations as possible actively participate in the pilot phase of the High-Level Expert Group’s ethical guidelines for AI.” The Government has published an updated Dutch Digitalization Strategy 2021.¹¹⁶⁹ The ministries that coordinate the efforts are advised by the Digital Netherlands Council, which joins the deliberation process on digitalisation policy and consists of domain experts. The Strategy commits

¹¹⁶⁷ *The Strategic Action Plan for Artificial Intelligence* (2019), <https://www.government.nl/binaries/government/documents/reports/2019/10/09/strategic-action-plan-for-artificial-intelligence/Strategic+Action+Plan+for+Artificial+Intelligence.pdf>

¹¹⁶⁸ *Dutch Digitalization Strategy* (2018), <https://www.nederlanddigitaal.nl/documenten/publicaties/2019/11/13/english-version-of-the-dutch-digitalisation-strategy-2.0>

¹¹⁶⁹ *Dutch Digitalization Strategy* (2021), <https://www.nederlanddigitaal.nl/english/the-dutch-digitalisation-strategy-2021>

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the Netherlands to European and international cooperation within appropriate ethical and legal frameworks.

Across the Dutch documents reviewed, the concept of Fairness is mentioned only in reference to GDPR & AI High-Level Expert Group Ethical Guidelines. Rule of Law is mentioned in reference to AI developed within legal and ethical frameworks and the work of The Minister for Legal Protection. Fundamental Rights are defined as “privacy, non-discrimination and autonomy.” In addition to these goals, Accountability and Transparency appear in multiple times in all government documents.

The Netherlands Organisation for Science Research (NWO) and the Ministry of Economic Affairs & Climate Policy jointly developed a public-private research programme that funds research on explainable, socially aware and responsible AI.¹¹⁷⁰ The Special Interest Group of AI, SIGAI, representing all computing science academic institutes and researchers in the Netherlands that perform AI research also published Dutch Artificial Intelligence Manifesto highlighting the importance of socially aware, explainable and responsible AI.¹¹⁷¹

The public administration within the Kingdom is layered and sometimes disconnected. However, the government organizations and the Association of the Netherlands Municipalities (VNG), the Ministry of the Interior and Kingdom Relations commit to focusing on “ethics in, by and for design and the transparency of algorithms when government experiments with AI for public tasks.” A study commissioned by Ministry of Interior proposed AI guidelines that apply to the public and private sectors. The guideline, prepared by researcher at VUB, Tilburg University, Eindhoven University of Technology and the National Human Rights Institute of the Netherlands, is a result of Dutch parliament stating that “racism must be ended as soon as possible, not least by stopping the use of discriminatory algorithms.”¹¹⁷²

¹¹⁷⁰ NWO, First national research agenda for Artificial Intelligence (Nov. 21, 2019), <https://www.nwo.nl/en/news-and-events/news/2019/11/first-national-research-agenda-for-artificial-intelligence.html>

¹¹⁷¹ *Dutch Artificial Intelligence Manifesto* (2008), <http://bnvki.org/wp-content/uploads/2018/09/Dutch-AI-Manifesto.pdf>

¹¹⁷² VUB Today, *New guidelines aim to correct discriminatory algorithms: VUB researchers help to create AI rules for government organisations and companies* (July 15, 2021), <https://today.vub.be/en/article/new-guidelines-aim-to-correct-discriminatory-algorithms>

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In 2020 the Dutch Data Protection Authority (Dutch DPA) approved the first ‘code of conduct’ in the Netherlands, the Data Pro Code¹¹⁷³ drafted by NL Digital, the Dutch industry association for organizations in the ICT sector. In 2021, researchers from VUB, Tilburg University, Eindhoven University of Technology and the National Human Rights Institute of the Netherlands developed AI guidelines that apply to the public and private sectors. The Guideline is a result of Dutch parliament stating that “racism must be ended as soon as possible, not least by stopping the use of discriminatory algorithms” and was funded by the Ministry of the Interior.¹¹⁷⁴

Predictive Policing

Dutch Police, in collaboration with Utrecht University and the University of Amsterdam, established the National Police Lab AI to develop “AI techniques to improve the safety in the Netherlands in a socially, legally and ethically responsible way.”¹¹⁷⁵ In alignment with the government’s commitment to experiment with technology to solve social issues, Dutch Police has launched pilot projects with predictive policing to anticipate and prevent crime that might be committed by a certain person or at a certain location.

The first is the Sensing Project in Roermond where police uses cameras and other sensors to systematically monitor all people driving in and around Roermond and create a risk score, effectively transforming the “city into a living lab where every person travelling by car is subjected to mass surveillance and other human rights violations”.¹¹⁷⁶ The project violates the principles of human rights, informed consent, right to privacy and data protection, right to due process and non-discrimination. Amnesty International calls on the Dutch government to “halt the Sensing project and comparable ‘experimental’ predictive policing projects” and to “implement a mandatory and binding human rights impact assessment requirement applicable to the public sector.”⁸

¹¹⁷³ Wanbound BV, *Data Processing Agreement* (Apr. 2018), <https://www.wanbound.com/wp-content/uploads/2018/05/Nederland-ICT-Data-processing-agreement-UK-Part-2.pdf>

¹¹⁷⁴ VUB Today, *New guidelines aim to correct discriminatory algorithms* (July 15, 2021), <https://today.vub.be/en/article/new-guidelines-aim-to-correct-discriminatory-algorithms>

¹¹⁷⁵ Innovation Center for Artificial Intelligence, *Police Lab AI*, <https://icai.ai/police-lab-ai/>

¹¹⁷⁶ Amnesty International, *We Sense Trouble* (2020), <https://www.amnesty.org/download/Documents/EUR3529712020ENGLISH.PDF>

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Second predictive policing project is *Criminaliteits Anticipatie Systeem* (Crime Anticipation System or CAS) implemented nationwide in 2017. The use of CAS to predict crime locations makes the Netherlands the first country in the world to deploy predictive policing on a national scale.¹¹⁷⁷ To date, none of the systems in use by Dutch police have been subjected to a comprehensive human rights evaluation.

Automated Profiling Fiasco

In early 2020, a Dutch court ruled that the System Risk Indication algorithm (SyRI) algorithm, used to combat fraud in government programs, violated Article 8 of the European Convention on Human Rights.¹¹⁷⁸ In the landmark decision, the Court ruled that the principle of transparency was not observed, because there is no insight into the risk indicators and the operation of the risk model. The Court also advised that there is a risk that inadvertent links are established with the use of SyRI on the basis of bias, such as a lower socio-economic status or an immigration background.

The UN Special Rapporteur on Extreme Poverty and Human Rights explained that the decision challenged the “systematic, legislatively sanctioned, used of digital technologies in welfare state on human rights ground.”¹¹⁷⁹ In a filing with the court, the Special Rapporteur voiced concern that “SyRI has consistently been rolled out in poorer and more vulnerable areas of municipalities”, and that the Dutch government has denied access to information about the data and ‘risk models’ used in the algorithm.” The Special Rapporteur called the decision, “a clear victory for all those who are justifiably concerned about the serious threats digital welfare systems pose for human rights.”¹¹⁸⁰ In April 2020, Data Processing by Partnerships Act was introduced by the government. Where SyRI was

¹¹⁷⁷ Strikwerda, Litska (Aug. 2020), “*Predictive Policing: The Risks Associated with Risk Assessment.*” The Police Journal. <https://doi.org/10.1177/0032258X20947749>.

¹¹⁷⁸ *Europe Limits Government by Algorithm. The US, Not So Much*, Wired (Feb. 7, 2020), <https://www.wired.com/story/europe-limits-government-algorithm-us-not-much/>

¹¹⁷⁹ UN HROHC, *Brief by the UN Special Rapporteur on extreme poverty and human rights as Amicus Curiae in the case of NJCM c.s./De Staat der Nederlanden (SyRI) before the District Court of The Hague* (2019), <https://www.ohchr.org/Documents/Issues/Poverty/Amicusfinalversionsigned.pdf>

¹¹⁸⁰ UN HROHC, *Landmark ruling by Dutch court stops government attempts to spy on the poor – UN expert* (Feb. 5, 2020), <https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=25522&LangID=E>

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related to public data sharing, this bill expands the data surveillance and sharing to all data stored in public and private storage.¹¹⁸¹

A government report states that “Human dignity and security are not elements of the Dutch Constitution but are referred to in international treaties such as the Charter of Fundamental Rights of the European Union and the Universal Declaration of Human Rights.” The same report warned that there is a clear risk that “fundamental rights and ethics in the digital age” as the final section in the Dutch National Digitalisation Strategy, could literally be an afterthought in the digitalisation agenda.¹¹⁸²

In January 2021, the Dutch government resigned after it became clear that thousands of families, disproportionately of ethnic minority backgrounds, were wrongly accused of child welfare fraud by a discriminatory algorithm and told to pay money back.¹¹⁸³

AI Registry

In September 2020, Amsterdam launched an AI registry in beta version to detail how city government uses algorithms to deliver services. “Each algorithm cited in the registry lists datasets used to train a model, a description of how an algorithm is used, how humans utilize the prediction, and how algorithms were assessed for potential bias or risks. The registry also provides citizens a way to give feedback on algorithms their local government uses and the name, city department, and contact information for the person responsible for the responsible deployment of a particular algorithm.”¹¹⁸⁴

Public Participation

The Electronic Announcement Act requires national governments to publish official publications on the internet rather than on paper.¹¹⁸⁵ All AI

¹¹⁸¹ AlgorithmWatch, Automating Society Report 2020, <https://automatingsociety.algorithmwatch.org/wp-content/uploads/2020/10/Automating-Society-Report-2020.pdf>

¹¹⁸² Kool, L., E. Dujso, and R. van Est (2018). Directed digitalisation – Working towards a digital transition focused on people and values – The Dutch approach. The Hague: Rathenau Instituut.

¹¹⁸³ Gabriel Geiger, How a Discriminatory Algorithm Wrongly Accused Thousands of Families of Fraud, Vice (March 1, 2021) <https://www.vice.com/en/article/jgq35d/how-a-discriminatory-algorithm-wrongly-accused-thousands-of-families-of-fraud>

¹¹⁸⁴ Khari Johnson, *Amsterdam and Helsinki launch algorithm registries to bring transparency to public deployments of AI*, VentureBeat (Sept. 28, 2020), <https://venturebeat.com/2020/09/28/amsterdam-and-helsinki-launch-algorithm-registries-to-bring-transparency-to-public-deployments-of-ai/>

¹¹⁸⁵ European Commission, *Digital Government Factsheet 2019 – Netherlands* (2019), https://joinup.ec.europa.eu/sites/default/files/inline-files/Digital_Government_Factsheets_Netherlands_2019_0.pdf

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policies are accessible by public via the websites of The Dutch Parliament and the Digital Government.¹¹⁸⁶ The government also commits to improving the basic digital skills of all citizens and ensuring the accessibility of government services and information and organizing assistance for those with less digital skills.

Participation in the development of Dutch digitalization plan and strategic action plan is geared more towards public agencies, private companies, universities and research institutes than the citizens directly. Taskforce AI that created the initial AI report is a public-private partnership, and its new initiative “Dutch AI Coalition (NL AIC) is a cooperation between the different research centers.¹¹⁸⁷ National Innovation Centre for AI (ICAI) is also a national network between knowledge institutions, industry and government.¹¹⁸⁸

Fundamental Rights and OECD AI Principles

The Netherlands has endorsed Universal Declaration of Human Rights, The European Union (EU) Charter of Fundamental Rights and The European Convention on Human Rights (ECHR).¹¹⁸⁹ However, there are differences in the legislative and institutional frameworks in the four constituent countries and The Office of the High Commissioner for Human Rights (OHCHR) recommends that the State party “establish a national human rights institution in Aruba, Curaçao and Sint Maarten.”¹¹⁹⁰ OHCHR is also “concerned that the anti-discrimination provisions of the Netherlands, including the Equal Treatment Act 1994, do not prohibit discrimination based on all grounds, including color, language, social origin, property, birth or other status.”¹⁸

The Netherlands has endorsed the OECD AI Principles. “The Netherlands is following the European approach to responsible AI and wants European values and standards to be embedded in AI applications at

¹¹⁸⁶ Netherlands, House of Representatives, <https://www.houseofrepresentatives.nl>; Netherlands, Digital Government Agenda, <https://www.nldigitalgovernment.nl/digital-government-agenda/>

¹¹⁸⁷ HSD Foundation, *New Dutch AI Coalition Demands National Approach* (July 23, 2019), <https://www.thehaguesecuritydelta.com/news/newsitem/1329-dutch-ai-coalition-demands-national-approach>

¹¹⁸⁸ Innovation Center for Artificial Intelligence, <https://icai.ai/>

¹¹⁸⁹ The European Union (EU) Charter of Fundamental Rights in the Netherlands https://fra.europa.eu/sites/default/files/fra_uploads/fra-2019-eu-charter-in-netherlands_en.pdf

¹¹⁹⁰ UN HROHC, *UN Treaty Body Database*, https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CPR/C/NLD/CO/5&Lang=En

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an early stage (in the design and development phase.”¹¹⁹¹ Netherlands joined GPAI in December 2020.¹¹⁹²

The Dutch government agrees with the conclusions of the Joint Committee of the Advisory Council on International Affairs (AIV) and the Advisory Committee on Issues of Public International Law (CAVV) advisory report that meaningful human control is required in the deployment of autonomous weapon systems and responsibility and accountability attribution needs to be taken into account in the design stage of weapon systems.¹¹⁹³ Government also views that a moratorium on fully autonomous weapon systems to be currently unfeasible.

In October 2021, the Netherlands Scientific Council for Government Policy recommended the development of appropriate regulatory frameworks that safeguard fundamental rights and values in the long-term use regulation to actively steer developments of surveillance and data collection, the concentration of power, and the widening gap between the public and private sector in the digital domain.¹¹⁹⁴

Algorithmic Transparency

The Netherlands is subject to GDPR, and the government advocates that a European regulator should be able to “impose ex-ante obligations on large digital platforms with a gatekeeper role.”¹¹⁹⁵ In alignment with GDPR requirements, the Dutch Data Protection Authority (Dutch DPA) is established. Dutch DPA advised that it is concerned with lack of transparency and poor data security practices in the public sector, policing, criminal justice, and that digital government will be one of its three core focus areas for 2020-23.¹¹⁹⁶

Despite all the actions taken already in the Netherlands, there are also several concerns about these actions and how the government proceeds

¹¹⁹¹ *The Strategic Action Plan for Artificial Intelligence* (2019)

¹¹⁹² Global Partnership on AI. <https://gpai.ai/>.

¹¹⁹³ Advisory Council on International Affairs *Government response to AIV/CAVV advisory report no. 97, Autonomous weapon systems: the need for meaningful human control* (Mar. 2, 2016), <https://perma.cc/J37M-UQ33>

¹¹⁹⁴ Netherlands Scientific Council for Government Policy (wrr). *Mission ai – The New System Technology* (October 2021);

<https://english.wrr.nl/publications/reports/2021/11/11/summary-mission-ai>

¹¹⁹⁵ Government of Netherlands, *Dutch position on competition policy in relation to online “platforms”* (Nov. 10, 2019),

<https://www.government.nl/documents/publications/2019/10/11/dutch-position-on-competition-policy>

¹¹⁹⁶ Dutch Data Protection Authority, *Focus Dutch Data Protection Authority 2020-2023*, https://autoriteitpersoonsgegevens.nl/sites/default/files/atoms/files/ap-dataprotectie_in_een_digitale_samenleving_-gb_wtk.pdf

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with its priority goals. The findings in the report of the Temporary Committee on the Digital Future (TCDT) of the Dutch House of Representatives (published in May 2020) concludes that the House of Representatives has only discussed digitisation in a fragmented way; not all of the risks, opportunities and public values have been addressed; and many laws and rules in the field of digitisation are determined in the European Union.¹¹⁹⁷ The TCDT proposes that a standing committee for Digital Affairs be established after the elections. The government has set up an ‘AI, public values and human rights’ knowledge platform where ministries exchange knowledge and develop policy on public values and human rights in AI applications.¹¹⁹⁸

Although Dutch government publicly commits to human rights and OECD AI Principles, the eagerness of the Kingdom to combine and then share all its data, as well its enthusiasm for techno-solutionism especially in the fields of justice administration and law enforcement are reasons for concern. The Netherlands government has strong commitment to advance the AI capabilities and applications. The main public-private partnership, Dutch AI Coalition (NL AIC), developed the AiNed programme: an agenda for the period 2020–2027 to position the Netherlands internationally as the best testing ground for the introduction of responsible AI application. The Netherlands government is creating the tools and space required in collaboration with private companies and knowledge institutes. However, the citizens who are impacted by the government’s data-sharing practices and experiments in social arena are not meaningfully included in the discussions. The reality of cases like SyRI and CAS clashes with the public commitment to ethical AI principles in strategy documents. The Netherlands has not endorsed the Universal Guidelines for AI,¹¹⁹⁹ or the GPA Resolution on AI Accountability.¹²⁰⁰ The Netherlands Court of Audit

¹¹⁹⁷ House of Representatives, The temporary committee on the Digital Future (TCDT), *Summary of the report Update required. Towards greater parliamentary control of digitisation*, <https://www.houseofrepresentatives.nl/members-parliament/committees/temporary-committee-digital-future/summary-report-update-required>

¹¹⁹⁸ Artificial Intelligence and Public Values; <https://kennisopenbaarbestuur.nl/thema/artifici%C3%ABle-intelligentie-en-publieke-waarden>

¹¹⁹⁹ The Public Voice, *Universal Guidelines for AI Endorsement*, <https://thepublicvoice.org/AI-universal-guidelines/endorsement/>

¹²⁰⁰ Global Privacy Assembly, *Adopted Resolution on Accountability in the Development and Use of Artificial Intelligence* (October 2020) <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>

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investigating the Dutch government's use of algorithms concluded that "government interests are central to algorithms, not private citizens' interests; that the government recognises the importance of privacy but takes little account of ethical aspects; and warns against government's use of algorithms becoming dependent on external suppliers."¹²⁰¹

Evaluation

The Netherlands has taken positive steps towards the rights-based deployment of AI with endorsement of OECD AI Principles, GDPR, and well-established protections for personal data. The country is expected to expand algorithmic transparency with the example set by Amsterdam AI registry initiative. And the Dutch court should be credited with a landmark decision concerning the use of secret algorithms in government services. Still the rise of predictive policing and biometric databases, as well as risk-based systems that may adversely impact minority and vulnerable groups remains a concern. The Netherlands is a member of the Global Partnership on AI. As the Netherlands seeks to lead on AI testing and responsible AI applications, future public adoption of AI systems is expected to be aligned with responsible and human-centric development and use of AI, respecting human rights and fundamental freedoms.

¹²⁰¹ The Netherlands Court of Audit (January 2021). *Understanding algorithms*. <https://english.rekenkamer.nl/publications/reports/2021/01/26/understanding-algorithms>

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Nigeria

National AI Strategy

Nigeria does not have a national (AI strategy and policy that can help promote and attract investments in AI into Nigeria) but has a National Digital Economy Policy and Strategy,¹²⁰² published by the country's Ministry of Communications and Digital Economy. Nigeria is among the African countries that is working on a unified African AI Strategy with the African Union (AU) in a formal AI working group, the AU AI Working Group. The Working Group held its first meeting in December 2019, with Egypt, Algeria, Uganda, Cameroon, and Uganda. Discussions included work on an AI Observatory and an AI Readiness Indicator.¹²⁰³

Nigeria is a member of UNESCO, and participated in the UNESCO AI Recommendations process. Nigeria also participates in *The African Forum for Ethics and Governance of Artificial Intelligence* (AFEGAI), which was created in 2019 following UNESCO's and African Member States' recommendation to establish an African Forum of Association of Artificial Intelligence (AI).¹²⁰⁴ AFEGAI brings together AI constituencies in Africa to support the ethical development of Artificial Intelligence. AFEGAI coordinates AI Governance Forums in Africa.¹²⁰⁵

In November 2020, the Nigerian government launched¹²⁰⁶ the country's first Artificial Intelligence and Robotics Centre in a bid to position the country for the Fourth Industrial Revolution that is anchored on emerging technologies. The Centre's focus is to serve as the digital laboratory for advancing skills development and innovation in emerging technologies with emphasis in AI and Internet of Things (IoT).

Earlier, Nigeria announced that it was working with the United Arab Emirates on Solar Energy and Artificial Intelligence¹²⁰⁷ after a meeting held

¹²⁰² Nigerian Communications Commission 'The National Digital Economy Policy and Strategy' (June 1, 2020) <https://www.ncc.gov.ng/docman-main/industry-statistics/policies-reports/883-national-digital-economy-policy-and-strategy/file>.

¹²⁰³ *African Union AI Working Group holds first session*, (Dec. 2019), <https://mcit.gov.eg>

¹²⁰⁴ Forum on AI in Africa Summit, *The Benguerir Declaration* (Dec. 13, 2018), https://en.unesco.org/sites/default/files/ai_outcome-statement_africa-forum_en.pdf.

¹²⁰⁵ UNESCO, *Multistakeholder group discusses ten building blocks towards creating inclusive AI policies* (Jan. 24, 2022), <https://en.unesco.org/news/multistakeholder-group-discusses-ten-building-blocks-towards-creating-inclusive-ai-policies>

¹²⁰⁶ Ogunfowoke A, *Innovation Village* (Nov. 20, 2020); *FG Launches Nigeria's first Artificial Intelligence and Robotics Centre* <https://innovation-village.com/fg-launches-nigerias-first-artificial-intelligence-and-robotics-centre/>.

¹²⁰⁷ O Shogbola, *Nigeria and UAE to cooperate on Artificial Intelligence and Solar Energy* (Oct. 24, 2018), <https://perma.cc/GN67-8M8R>.

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in Nigeria between Nigeria's Minister of Science and Technology, and the Ambassador of the United Arab Emirates to Nigeria. It said it would work through one of its agencies, National Agency for Science and Engineering Infrastructure, to develop AI in Nigeria. It is unclear if this engagement has a relationship with the establishment of Nigeria's Robotics and Artificial Intelligence Centre.

Nigeria Communications Commission (NCC), the telecoms regulator, also announced the establishment of a new department on digital economy under the Office of the Executive Vice Chairman/CEO to focus on implementing programmes and policies that are aimed at fully supporting and promoting the national digital economy agenda of Nigeria's Federal Government. The Commission says the department is domiciled under the office of the Chief Executive Officer to indicate the seriousness attached to the objective. Prior to this, Nigeria's Ministry of Science and Technology announced a goal for ensuring that Nigeria is well suited to the AI economy as critical to driving knowledge and Innovation and to create more job opportunities for Nigeria.¹²⁰⁸

Public Participation

There's no evidence of any activity organized by the Nigerian government towards consulting with the public on AI. However, Google¹²⁰⁹ and Microsoft¹²¹⁰ released research documents that proposed policy direction for the Nigerian government. The Microsoft research document highlighted that Nigeria, like most emerging economies, is yet to capitalize on AI despite its inherent opportunities because of low awareness. It proposed the need for a national AI policy and strategy to provide a cohesive policy roadmap for channeling the potential of AI in Nigeria. It also emphasized the need for digital AI policy capacity building. Also, the document stressed the need to optimize its data ecosystem to leverage AI and machine learning opportunities for social good in areas such as financial inclusion, universal healthcare and food security.

¹²⁰⁸ NCC, *Press Statement: NCC Creates New Department to Accelerate FG's Digital Economy Agenda* (July 7, 2020), <https://www.ncc.gov.ng/media-centre/news-headlines/839-press-statement-ncc-creates-new-department-to-accelerate-fg-s-digital-economy-agenda>

¹²⁰⁹ Courtney Heldreth *et al*, *AI in Nigeria* (2019), <https://research.google/pubs/pub48985/>

¹²¹⁰ Microsoft, *Enabling a Digital Nigeria; A Position Paper of Microsoft's Vision for Digital Transformation and a Digital Economy that Works for Everyone* (2020), <https://info.microsoft.com/rs/157-GQE-382/images/EN-CNTNT-Whitepaper-SRGCM3460.pdf>

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Research and Development

According to the director-general of Nigeria's National Information Technology Development Agency (NITDA), the National Centre for Artificial Intelligence and Robotics (NCAIR) is also expected to be a research development center.¹²¹¹ The Communications Commission commissioned¹²¹² a study to assess the ethical and societal impact of AI to achieve economic diversification in an inclusive and sustainable way. The study concluded that it is the duty of regulators to govern artificial power while it is also the responsibility of programmers and engineers to ensure that ethical and security concerns are addressed during initial design of these systems. It urges the NCC to step forward and develop frameworks for AI in Nigeria.

Privacy

Section 37 of the Nigerian Constitution provides for the right to privacy. Beyond this, Nigeria is yet to enact a data protection law to cater for data privacy issues or privacy as it may apply in the digital age. Currently, there is a National Data Protection Regulation (NDPR)¹²¹³ and a Data Protection Bill has been drafted.¹²¹⁴ The scope of the NDPR applies to all transactions intended for the processing of personal data of natural persons residing in Nigeria or Nigerian citizens residing in foreign jurisdictions. Data processing under the NDPR includes the collection, recording, storage, retrieval, use, disclosure, transmission, erasure, and destruction of personal data. The stated objective of the NDPR includes;

- 1) To safeguard the rights of natural persons to data privacy;
- 2) Fostering of safe conduct for transactions involving the exchange of Personal Data;
- 3) To prevent manipulation of Personal Data;

¹²¹¹ Synced, *Nigerian Government to Set Up the Nation's Centre for AI and Robotics to Empower Students* (Sept. 3, 2020), <https://syncedreview.com/2020/09/04/nigerian-government-to-set-up-the-nations-centre-for-ai-and-robotics-to-empower-students/>

¹²¹² NCC; *Ethical and Societal Impact of Artificial Intelligence* <https://www.ncc.gov.ng/technical-regulation/research/919-ethical-societal-impact-of-artificial-intelligence-ai>

¹²¹³ HA Kurth, *Nigeria Issues New Data Protection Regulation* (Aug. 5, 2019), <https://www.huntonprivacyblog.com/2019/04/05/nigeria-issues-new-data-protection-regulation/> (Accessed 25 May 2021).

¹²¹⁴ ITedge, *Nigerian Government Seeks Your Input On Draft Bill On Data Protection* (Aug. 26, 2021), <https://itedgenews.ng/2020/08/26/nigerian-government-seeks-your-input-on-draft-bill-on-data-protection/> (Accessed 16 May 2021).

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- 4) To ensure that Nigerian businesses remain competitive in international trade through the safe-guards afforded by a sound data protection regulation.

On the other hand, the Data Protection Bill¹²¹⁵ proposes to establish and provide an efficient regulatory framework to protect personal data, regulate the processing of information relating to data subjects, and safeguard their fundamental rights and freedoms as guaranteed under the Nigerian Constitution. The Bill also seeks to promote a code of practice that ensures the privacy and protection of data subject's data without unduly undermining the legitimate interests of commercial organisations and government security agencies for such personal data. It also seeks to minimise the harmful effect of personal data misuse or abuse on data subjects and other victims. In addition, the Bill provides for the establishment of an impartial, independent and effective regulatory authority that will coordinate data protection and privacy issues. The regulatory authority is expected to superintend over data controllers and data processors within the private and public sectors; and ensure that personal data is processed in accordance with the data protection principles.

Digital Rights in Nigeria

In 2016, Nigeria joined the United States, Canada, Australia, United Kingdom, and some European Union states to sponsor a United Nations Resolution that affirms that rights that apply offline must also apply online.¹²¹⁶ Section 37 of the Nigerian Constitution provides for the right to privacy while section 37 makes provision for the right to freedom of expression. Nigeria is a party to the African Charter on Human and Peoples' rights¹²¹⁷ and the International Covenant on Civil and Political rights. In 2019, the Nigerian parliament passed a Digital Rights and Freedom Bill¹²¹⁸ into law but the president declined assent to the Bill, citing possible duplication with other proposed bills and that the Bill was too technical.¹²¹⁹

¹²¹⁵ Clause 1 Draft Data Protection Bill 2020.

¹²¹⁶ UN Human Rights Council, The Promotion, Protection and Enjoyment of Human Rights on the Internet: Resolution Adopted by the Human Rights Council, 18 July 2016, A/HRC/RES/32/13, https://www.article19.org/data/files/Internet_Statement_Adopted.pdf

¹²¹⁷ UN Human Rights, *Ratification Status for Nigeria* (May 30, 2021), https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?CountryID=127&Lang=EN

¹²¹⁸ Digwatch, *Nigerian Senate passes Digital Rights and Freedom Bill* (Mar. 13, 2018), <https://dig.watch/updates/nigerian-senate-passes-digital-rights-and-freedom-bill>

¹²¹⁹ S Fowowe (Mar. 20, 2019).

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This raises concerns with respect to Nigeria’s readiness to provide an enabling regulatory environment for new and emerging technologies such as AI, given their human rights implications. The proposed bill sought to codify the application of human rights within today’s digital realities by guaranteeing the application of human rights for users of digital platforms and or digital media and for related matters¹²²⁰ and could have served to mitigate some of the human rights concerns associated with application of AI systems.

In a report on digital rights and privacy in Nigeria,¹²²¹ it was observed that the Nigerian State conducts surveillance activities without judicial oversight and a comprehensive framework for data protection. The report recommended the enactment of a comprehensive framework for data protection and privacy and judicial oversight over surveillance. The 2020 Freedom on the Net report rates Nigeria as partly free stating among other things that ‘several legal provisions may allow the government to conduct surveillance without respect for the necessity and proportionality principles, and international guidelines that apply human rights law to monitoring technologies.’¹²²²

COVID-19 Pandemic

The Nigerian Governors forum said it was collaborating with MTN,¹²²³ the leading telecommunications company, “to mitigate the effect of the COVID-19 pandemic by mining its users’ data to profile the states’ vulnerability to the spread of the coronavirus.” This is an indication of efforts to leverage big data for governance. The outcome of that collaboration has not been publicly communicated. Also, MTN Nigeria

Buhari declines assent to Digital Rights and Freedom Bill, four others’
<https://guardian.ng/news/buhari-declines-assent-to-digital-rights-and-freedom-bill-four-others/>

¹²²⁰ Pavestone Legal, *The Digital Rights and Freedom Bill* (2019)

<https://pavestoneslegal.com/the-digital-rights-and-freedom-bill-2019/>

¹²²¹ A Adegoke (2020), *Digital Rights and Privacy In Nigeria* (2020),

https://paradigmhq.org/wp-content/uploads/2021/05/Digital-Rights-and-Privacy-in-Nigeria_0.pdf

¹²²² Freedom House (2020) ‘Freedom of the Net 2020

<https://freedomhouse.org/country/nigeria/freedom-net/2020>

¹²²³ NGF; ‘Governors, MTN partner to use data to halt spread of COVID-19’

<http://www.ngf.org.ng/index.php/73-featured-news/1564-governors-mtn-partner-to-use-data-to-halt-spread-of-covid-19>

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denied sharing identifiable user's data.¹²²⁴ A World Bank recommendation to the Nigerian government proposes investment in AI enabled Geo-spatial data and that such data can help policymakers in Nigeria respond to the COVID-19 crisis and build back better.¹²²⁵ Meanwhile, Nigeria has multiple data sets, captured across multiple platforms such as Bank Verification Number (BVN), Voter's card, International passport, Road Safety and National Identification Number (NIN). Reports suggest that the country loses up to US\$2 billion annually on biometric data collection duplication.¹²²⁶ This shows a lack of uniformity or harmonization of captured data, posing a clear challenge to the deployment of AI.

Facial Recognition

Nigeria plans to use facial recognition technology as an essential part of its digital identification scheme. According to the Director-General of the Nigerian Identity Management Commission (NIMC), the agency has plans to capture the iris of prospective enrollees and that the agency already has the capacity for capturing the iris at its backend.¹²²⁷ Also, Access Bank, one of Nigeria's leading financial institutions announced plans to launch a facial recognition payment system which will enable it to verify its customers and to perform transactions without a password.¹²²⁸ In addition to this, one of NIMC's licensees for Identity verification in Nigeria says it offers "AI powered facial recognition technology for e-commerce ID authentication".¹²²⁹

Selected AI initiatives in Nigeria

The private sector and the tech ecosystem are taking the lead with respect to AI initiatives in Nigeria. Most of the initiatives that may be

¹²²⁴ Communications Week 'MTN Nigeria Denies Sharing Identifiable User Data' (02 May 2020), <https://www.nigeriacommunicationsweek.com.ng/mtn-nigeria-denies-sharing-identifiable-user-data/> (Accessed 07 June 2021).

¹²²⁵ J Blummenstock *et al*; 'Using Big Data and machine learning to locate the poor in Nigeria' (21 February 2021) <https://blogs.worldbank.org/opendata/using-big-data-and-machine-learning-locate-poor-nigeria> (Accessed 30 June 2021).

¹²²⁶ J Lee 'Nigeria loses \$2b annually to agencies' duplication of biometrics data collection' (14 August 2021); <https://www.biometricupdate.com/201708/nigeria-loses-2b-annually-to-agencies-duplication-of-biometrics-data-collection> (30 June 2021).

¹²²⁷ ID4Africa,(23 September 2021); 'EP7; NIgeria's Identity Ecosystem' https://www.youtube.com/watch?v=OgcKzQ8I7_U&t=4605s Watch from 1:18:00. (Accessed 24 May 2021).

¹²²⁸ The Payper(03 March 2020) 'Access Bank to launch a facial recognition payment system in Nigeria' <https://thepayers.com/mobile-payments/access-bank-to-launch-a-facial-recognition-payment-system-in-nigeria--1240957#> (30 May 2021)

¹²²⁹ VerifyMe <https://verifyme.ng/> (Accessed 22 May 2021).

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identified are private player driven. Meanwhile, the Nigerian government has promoted or adopted some AI-driven technologies. For example, it launched a homegrown plagiarism detection software codenamed EagleScan.¹²³⁰ The software, which comes with a very robust artificial intelligence-driven data analytics and visualisation engine, is currently hosted on www.eaglescan.ng.

The NASS-AI project uses AI to classify parliamentary bills from the national assembly, with the aim of making them more accessible. The system is anchored on the principle of open data, to ensure that legislative-related documents are complete, accessible, and machine-processable, amongst other requirements.¹²³¹

In December 2020, the Ministry of Science and Technology announced its plans to deploy AI for mining safety and efficiency. In the announcement, the Minister of Science and Technology said the deployment of relevant technology to the solid mineral sector will enhance economic diversification in an inclusive and sustainable way.¹²³² He added that science, technology and innovation are of strategic importance in fully exploiting the solid mineral industry, to increase wealth and create more jobs for citizens.

Evaluation

Nigeria does not yet have a national strategy for AI. It has not endorsed the OECD/G20 AI Principles and has not promoted public participation in the development of AI policy. Nigeria has secondary legislation on data protection (the NDPR) and is yet to adopt a comprehensive law for data protection. Nigeria's human rights record is not impressive. The 2021 Human Rights Watch 2021 described Nigeria as "partly free" with a score of 45/100 for the protection of political rights and civil liberties, down slightly from 2020.¹²³³ The private sector and young people are driving the adoption of AI in Nigeria. Government is yet to assert

¹²³⁰ H Tyoemba, *Federal Govt Launches Home-grown Plagiarism Detection Software*, Vanguard <https://leadership.ng/federal-govt-launches-home-grown-plagiarism-detection-software/>.

¹²³¹ T Atoyebi, *NASS AI: Revolutionizing access to Nigeria's legislative bills*, Technopreneur (Feb. 7, 2020), <https://technopreneur.com.ng/2020/02/07/nass-ai-revolutionizing-access-to-nigerias-legislative-bills/>

¹²³² C Uchekwumgemuze, *Minister: AI to be deployed for mining safety, efficiency*, published by TodayNG (Dec. 9, 2020), <https://www.today.ng/technology/minister-deployed-mining-safety-efficiency-331732>

¹²³³ Freedom in the House, *Freedom in the World 2021 – Nigeria* (2021), <https://freedomhouse.org/country/nigeria/freedom-world/2021>

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itself through development of regulations and policy around the subject of AI in Nigeria.

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Norway

National AI Strategy

The Norwegian Government presented its National AI strategy in January 2020.¹²³⁴ The objective of the strategy is to outline the policy actions for the coming years in order to maximise the opportunities that AI can bring along for Norwegian individuals, for businesses and industry, and for the public sector.¹²³⁵ To achieve this outcome, the national AI strategy highlights the following policy initiatives:

- Expanding the offer of education programmes and workplace trainings in the field of AI in order to create a solid basis of digital skills and capabilities;
- Strengthening the Norwegian research in AI;
- Enhancing the innovation capacity in AI in both the private and public sector;
- Outlining ethical principles for AI in order to allow fair, reliable and trustworthy AI-related developments;
- Establishing digitalisation-friendly regulations as to define the legislative framework in which AI developments take place;
- Constructing a strong data infrastructure ensuring open data and data sharing across sectors and business areas. Dedicated opportunities for language data resources are established through The Norwegian language bank at the National library;
- Deploying a telecommunication infrastructure that provides high-capacity connectivity and computing power, and that ensures security in AI-based systems.

The report also includes a section on ethics which focuses on adopting the EU ethics guidelines for trustworthy AI¹²³⁶ and the AI principles from the OECD¹²³⁷. The work on Norway's AI national strategy was founded upon the agreement from April 2018, when 25 European

¹²³⁴ The Government of Norway, Ministry of Local Government and Modernization, *The National Strategy for Artificial Intelligence* (Jan. 14, 2020), [The National Strategy for Artificial Intelligence](#)

¹²³⁵ European Commission, *AI Watch* (2020), https://knowledge4policy.ec.europa.eu/ai-watch/norway-ai-strategy-report_en.

¹²³⁶ European Commission, *EU Ethics guidelines for trustworthy AI*, April 2019 <https://wayback.archive-it.org/12090/20201227221227/https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai>

¹²³⁷ OECD, *AI Principles*, <https://www.oecd.org/going-digital/ai/principles/>

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countries, including Norway, signed a Declaration of cooperation on Artificial Intelligence (AI).¹²³⁸

Other efforts were made for the publication of the national strategy. For example, the Norwegian Data Protection Authority (DPA) published a report regarding the artificial intelligence and privacy.¹²³⁹ Another report Digital21 focused on national collaboration and encouraged engagement from industry, academia and government.¹²⁴⁰ The Norwegian Board of Technology also published a report, *Artificial Intelligence: Opportunities, Challenges and a Plan for Norway*.¹²⁴¹

The national AI strategy emphasizes that implementation and progress will be closely reviewed and, if necessary, changed with further AI policies. The frequency with which revised strategy reports will be provided is not specified in the plan.

Public Participation (A)

The Norwegian Ministry of Local Government and Modernisation published the National Strategy for Artificial Intelligence on January 14th, 2020.¹²⁴² Throughout 2019, the Minister of Digitalisation travelled around Norway to listen to suggestions from different communities to inform the national strategy. Additionally, there were close to 50 written statements from a variety of businesses and government agencies that provided comments on the content of the strategy. Norway has a wide range of policy documents pertaining to the field of artificial intelligence. These do not only come from the Norwegian government, but also from a range of actors in civil society.

Norway also developed centralised, accessible repositories of open public data. In Norway, the Brønnøysund Register Centre and the Norwegian Digitalisation Agency have established a national directory of data held by different public agencies, their relationships, what they mean

¹²³⁸ European Commission, *EU Declaration on Cooperation on Artificial Intelligence* (Apr. 10, 2018),

<https://ec.europa.eu/jrc/communities/en/community/digitranscope/document/eu-declaration-cooperation-artificial-intelligence>

¹²³⁹ Datasynet, *Report on the regulation of privacy and AI* (June 2018),

https://iapp.org/media/pdf/resource_center/ai-and-privacy.pdf

¹²⁴⁰ Digital 21, <https://digital21.no>

¹²⁴¹ Teknologirådet, *Artificial Intelligence: Opportunities, Challenges and a Plan for Norway* (Nov. 26, 2018), <https://teknologiradet.no/en/publication/ai-and-machine-learning-possibilities-challenges-and-a-plan-for-norway/>

¹²⁴² European Commission, *AI Watch* (2020), https://knowledge4policy.ec.europa.eu/ai-watch/norway-ai-strategy-report_en.

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and whether data can be shared and on what terms. Portugal also plans to create a centralised repository for administrative data.¹²⁴³

Global Partnerships

Whilst Norway has not joined the Global Partnership on AI, it has been actively collaborating, especially with its neighbors. The Nordic-Baltic Region is one of the few regions that have declared a collaboration on artificial intelligence.¹²⁴⁴ The declaration was released in May 2018 as *AI in the Nordic-Baltic Region*. The collaboration includes focus areas such as “improving opportunities for skills development”, “developing ethical and transparent guidelines to guide when and how AI applications should be used”, “ensuring that AI gets a prominent place in the European discussion” and “utilize the structure of Nordic Council of Ministers to facilitate the collaboration in relevant policy areas.” Under this new resolution, governments will apply a joint approach to taking advantage of and further elevate the Nordic region’s already high status as a leader in the development and use of AI and digital technologies.

Norway has worked to strengthen national funding for research and innovation in artificial intelligence, and also to substantially increase their research collaborations. With the Norwegian Artificial Intelligence Research Consortium (NORA.ai), Norway has taken important steps to support the European ambition of increased cross-border co-operation in AI research.¹²⁴⁵

On November 24 the Supreme Audit Institutions of Finland, Germany, the Netherlands, Norway and the UK jointly published a whitepaper called *Auditing machine learning algorithms for public auditors*. This paper discussed in detail audits of machine learning (ML) algorithms by the Supreme Audit Institution with project management, data, model development, model in production and evaluation. The project *auditingalgorithms.net* is maintained by The Office of the Auditor General of Norway (Riksrevisjonen).

¹²⁴³ OECD (2021), *State of implementation of the OECD AI Principles: Insights from national AI policies* (Jun 18, 2021), <https://doi.org/10.1787/1cd40c44-en>.

¹²⁴⁴ Government of Sweden, *AI in the Nordic Baltic Region* (May 14, 2018), https://www.regeringen.se/49a602/globalassets/regeringen/dokument/naringsdepartementet/20180514_nmr_deklaration-slutlig-webb.pdf

¹²⁴⁵ Norwegian Artificial Intelligence Research Consortium (NORA), *About NORA*, <https://www.nora.ai/about/>

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OECD AI Principles

Norway is a member of the OECD and endorsed the OECD AI Principles.¹²⁴⁶ In terms of ethical principles, the Norwegian government seeks to encourage responsible, accountable, transparent, and trustworthy AI while protecting integrity and privacy.¹²⁴⁷

Additionally, Norway is supporting the OECD AI principles by fostering a digital ecosystem for AI with the National Data Catalogue.¹²⁴⁸ This is a public website providing an overview of descriptions of datasets, concepts, APIs and information models. Both the public and private sectors are involved in this project. This project was established by the Brønnøysund Register Centre and the Norwegian Digitalisation Agency.

To further the outreach of the overall project to the private sector the government funded the creation of the Data Factory, a new interface of the catalogue to make navigation easier for the public and companies.¹²⁴⁹ Within the Data Factory, a community named *Data Village* has also been built as a community of practice in various dataset categories. *NORA.ai* also created the Norwegian AI Directory to map out all the activities within the field of AI in Norway¹²⁵⁰. In addition, *NORA.startup* has been established as an ecosystem of new companies in the field of AI that has gone through a quality assurance process to ensure the startups are active in research-based innovation. These startups are registered as part of a larger ecosystem that Norway is part of called *the European AI Startup Landscape* together with France, Germany and Sweden *NORA.ai*, the *Norwegian Open AI Lab* (NAIL) and *Cluster for Applied AI* in Halden jointly contribute to this digital ecosystem.

Human Rights

Norway was one of the 193 countries that signed the Universal Declaration of Human Rights. This has also laid the foundation for other treaties ratified by Norway, such as the European Convention of Human Rights and the International Covenant on Civil and Political Rights.¹²⁵¹

¹²⁴⁶ OECD, *Forty-two countries adopt new OECD Principles on Artificial Intelligence*, (May 22, 2019), <https://www.oecd.org/science/forty-two-countries-adopt-new-oecd-principles-on-artificial-intelligence.htm>

¹²⁴⁷ Norway, *National Strategy for Artificial Intelligence* (Jan. 14, 2020) <https://www.regjeringen.no/en/dokumenter/nasjonalt-strategi-for-kunstig-intelligens/id2685594/>

¹²⁴⁸ Norge.no, *National Data Catalogue*, <https://www.norge.no/en/service/national-data-catalog>

¹²⁴⁹ *Datafabrikken*, <https://datafabrikken.norge.no>

¹²⁵⁰ *Norwegian AI Directory*, <https://aidirectory.no>

¹²⁵¹ NIM, *The Human Rights Framework in Norway*

<https://www.nhri.no/en/2019/the-human-rights-framework-in-norway/>

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Among these, there is also Convention 108+, the Modernized Convention for the protection of individuals with regard to the processing of personal data.

On 21 May 1999, the Norwegian Parliament passed the Human Rights Act, and this elevates five key human rights conventions to a special status in Norwegian law. These conventions prevail in the event of a conflict with regular domestic legislation. To further strengthen human rights, the Norwegian Constitution was amended as part of its bicentennial anniversary in May 2014 to add several human rights related to the environment and the Sámi people. In 2018, human rights in Norway were further implemented, when the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD) was implemented in Norwegian law by the Equality and Anti-Discrimination Act. Human rights and democracy are emphasized on throughout the Norwegian national AI strategy, with clear commitment to fundamental values and ethical principles.

Norway typically ranks among the top nations in the world for the protection of human rights and transparency. According to Freedom House, Norway's Global freedom score is 100/100.¹²⁵² In the latest Freedom House's Country Report, Norway is described as one of the most "robust democracies in the world."¹²⁵³ Elections are free and fair, and power regularly rotates between parties. Civil liberties are respected, with independent media and civil society actors holding the government to account.

Furthermore, diversity in AI is valued in Norway through prioritising the development of language technology systems that support communications in Norwegian, Sámi and smaller dialects. In this way ensuring that the indigenous rights of the Sámi people, a Finno-Ugric-speaking people inhabiting the region of Sápmi that Norway is part of, are included within applications in the field of AI. This focus on the Sámi language is also included in the Norwegian National AI Strategy.

Oversight: Data Protection Authority

The Norwegian Data Protection Authority (DPA or Datatilsynet) is the national Data Protection Authority for Norway. It resides in Oslo and is in charge of enforcing the GDPR in Norway. The GDPR is enshrined in Norwegian law in the form of a Personal Data Act which came into force

¹²⁵²Freedom House, *Freedom in the World 2021 – Norway (2021)*, <https://freedomhouse.org/country/norway/freedom-world/2021>.

¹²⁵³Freedom House, *Freedom in the World 2021 – Norway (2021)*, <https://freedomhouse.org/country/norway/freedom-world/2021>

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on May 25 2018.¹²⁵⁴ Together with other EEA countries (Iceland and Liechtenstein), the Norwegian Data Protection Authority became members of the European Data Protection Board (EDPB), however without voting rights and without the right to be elected as chair and vice-chair, for GDPR-related matters.¹²⁵⁵

The Norwegian National AI Strategy, highlights that the Norwegian Data Protection Authority (DPA) is an important entity. Datatilsynet has been very active in both enforcement and publication of guidelines on a wide range of significant data protection concerns, including codes of conduct, CCTV surveillance and software development with Privacy by Design and by Default. The Norwegian Data Protection Authority has made a list of processing activities that they believe are likely to pose a significant risk to data subjects' rights and freedom available, and will always necessitate a Data Protection Impact Assessment such as:¹²⁵⁶

- processing of biometric data for identification purposes on a large scale
- collecting and combining personal data from third parties in order to decide whether the data subject shall be offered, continue to receive, or shall be denied a product, service or offer
- monitoring the employees internet activity, electronic communication or camera surveillance for the purposes of employee monitoring
- systematic monitoring, including camera surveillance, on a large scale, in areas accessible by the public

Interestingly, following a data protection impact assessment of Facebook, Datatilsynet, announced that it will no longer communicate via the social media network. According to the DPA, parties processing personal data must follow the EU General Data Protection Regulation, which applies when an organization utilizes social media. However, Facebook is not sufficiently complying with Article 26. "We believe the risks to the users' rights and freedoms associated with the processing of personal data through a Page on Facebook are too high," stated by DPA Director-General Bjorn Erik Thon.¹²⁵⁷ This is not the first time the DPA is

¹²⁵⁴ Datasynet, *Artificial Intelligence and Privacy* (January 2018),

<https://www.datatilsynet.no/globalassets/global/english/ai-and-privacy.pdf>

¹²⁵⁵ Data Protection Law of the World, *Norway Data Protection Authority* (January 2021),

<https://www.dlapiperdataprotection.com/index.html?t=authority&c=NO>

¹²⁵⁶ Datasynet, *Processing operations subject to the requirement of a data protection impact assessment*. <https://www.datatilsynet.no/globalassets/global/dokumenter-pdferskjema-ol/regelverk/veiledere/dpia-veileder/dpialist280119.pdf>

¹²⁵⁷ Datasynet, *Norwegian Data Protection Authority choose not to use Facebook*(2021),

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opposing Facebook. Back to 2012, the Norwegian DPA raised important concerns regarding Facebook's facial recognition tool. Bjorn Erik Thon stated that "It's a very powerful tool Facebook has and it's not yet clear how it all really works," and "They have pictures of hundreds of millions of people. What material Facebook has in its databases is something we need to discuss with them."¹²⁵⁸

The Norwegian DPA also published a report on the regulation of privacy and AI in June 2018. The report showed how imperative to further knowledge about the privacy implications of artificial intelligence, and "not only in order to safeguard the right to privacy of the individual, but also to meet the requirements of society at large".¹²⁵⁹ In this report, the DPA provides greater technical detail in describing artificial intelligence, while also taking a closer look at four relevant AI challenges associated with the data protection principles embodied in the GDPR: fairness and discrimination; purpose limitation; data minimization; and transparency and the right to information. A strong emphasis lays on bringing awareness to the ethical and privacy consequences of AI systems, as well as ensuring that the deployed systems respect privacy by design and meet the legislative requirements. The DPA is committing extensive work in "finding a balance between considerable social advances in the name of AI and fundamental privacy rights."¹²⁶⁰

The creation of a sandbox in the field of artificial intelligence was also included in the national AI strategy of Norway. This regulatory Sandbox for responsible artificial intelligence, issued by the Norwegian DPA, has gone through several projects openly discussing these with the public and as such improving transparency. Providing free guidance to a handful of carefully selected companies across different sectors, the goal is promoting the development of innovative artificial intelligence solutions

<https://www.datatilsynet.no/en/news/2021/norwegian-data-protection-authority-choose-not-to-use-facebook/>

¹²⁵⁸ Bloomberg, *Facebook faces facial recognition fight in Norway* (Aug. 4, 2012), <https://www.bloomberg.com/news/articles/2012-08-02/facebook-faces-norway-probe-over-facial-recognition-photo-tags>

¹²⁵⁹ Datasynet, *Report on the regulation of privacy and AI* (June 2018), https://iapp.org/media/pdf/resource_center/ai-and-privacy.pdf

¹²⁶⁰ Datatilsynet, *Report on the regulation of privacy and AI* (June 2018), https://iapp.org/media/pdf/resource_center/ai-and-privacy.pdf

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that are both responsible and ethical.¹²⁶¹ The Sandbox will continue with new projects in 2022.¹²⁶²

Data Protection Laws and Policies

The Norwegian government recently proposed the adoption of a new Electronic Communication Act, even though it might be short-lived due to the possible adoption of a new ePrivacy Regulation at the EU level soon. Among other things, the proposed act could entail changes regarding the rules on consent for the use of tracking technologies (e.g., cookies), which under the current legal regime may be given through web browser settings.

Furthermore, in December 2021, Datatilsynet issued its highest fine so far — 65 million NOK (around 6.5 million euros) — against Grindr for failing to comply with the consent requirements under the GDPR. Grindr is likely to appeal the fine before the Norwegian Privacy Board of Appeals, Personvernemnda, which could issue its decision in 2022.¹²⁶³

Evaluation

Norway has a full-fledged official national AI strategy and AI ethics is a central topic. Norway endorsed the OECD AI Principles and is committed to developing trustworthy AI. Norway ranks at the top among nations for the protection of political rights and civil liberties and has an active data protection agency. Norway has endorsed and is implementing the Universal Declaration of Human Rights. Human rights and democracy is also present throughout the Norwegian national AI strategy. The Norwegian strategy was shaped by a wide participation both with physical meetings across the country and comments from a range of actors in society. Norway has materials available to the public from the strategy and within other parts of the Norwegian government, ranging from the DPA to the Office of the Auditor General of Norway. The country has independent oversight of AI as well as goals of fairness, transparency and accountability. Norway has rights to algorithmic transparency through the GDPR and this is monitored by the Norwegian DPA. Overall Norway has a strong

¹²⁶¹ Datatilsynet, *Sandbox for responsible artificial intelligence 2021*

<https://www.datatilsynet.no/en/regulations-and-tools/sandbox-for-artificial-intelligence/>

¹²⁶² The International Association of Privacy Professionals (IAPP), *2022 Global Legislative Predictions*,

https://iapp.org/media/pdf/resource_center/2022_iapp_global_legislative_predictions.pdf.

¹²⁶³ The International Association of Privacy Professionals (IAPP), *2022 Global Legislative Predictions*,

https://iapp.org/media/pdf/resource_center/2022_iapp_global_legislative_predictions.pdf.

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commitment to democratic values in the development and implementation of artificial intelligence.

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Philippines

National AI Strategy

In May 2021, the Philippines' Department of Trade and Industry (DTI) launched the country's national AI roadmap,¹²⁶⁴ which aims to make the Philippines a regional AI “powerhouse”, accelerating “the adoption and utilization of AI in the country to advance industrial development, generate better quality entrepreneurship, and higher-paying opportunities for Filipinos.”¹²⁶⁵ The roadmap was developed by the Philippines Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD) under the country's Department of Science and Technology.¹²⁶⁶ The roadmap identifies various intended applications of AI, including its use in “real estate, banking and financial services, surveillance, retail and e-commerce, education, space exploration, agribusiness, urban planning, manufacturing, healthcare, and logistics and transportation.”¹²⁶⁷

The national AI roadmap describes the four important dimensions for AI readiness for implementation, infrastructure and investment, namely:

- 1) Digitization and Infrastructure;
- 2) Research and Development;
- 3) Workforce Development; and
- 4) Regulation.¹²⁶⁸

Central to the DTI's roadmap is the establishment of the National Center for AI Research (NCAIR), whose full-time scientists and research engineers will assist micro, small, and medium enterprises (MSMEs) interested in using AI technology — an element of the country's approach to inclusive AI development. The roadmap also includes plans to build a national data center (NDC).¹²⁶⁹

¹²⁶⁴ Philippines' Department of Trade and Industry, *ARTIFICIAL INTELLIGENCE ROADMAP*, <http://innovate.dti.gov.ph/resources/roadmaps/artificial-intelligence/>

¹²⁶⁵ Kris Crismundo, *DTI eyes PH as AI powerhouse in region*, (May 5, 2021), <https://www.pna.gov.ph/articles/1139198>

¹²⁶⁶ Philippines Council for Industry, *Energy and Emerging Technology Research and Development, Artificial Intelligence and Information & Communications Technology: Roadmapping Executive Report*, <http://projects.pcieerd.dost.gov.ph/roadmaps/AIICT.pdf>

¹²⁶⁷ Kris Crismundo, *DTI eyes PH as AI powerhouse in region* (May 5, 2021), <https://www.pna.gov.ph/articles/1139198>

¹²⁶⁸ *Ibid.*

¹²⁶⁹ Philippines' Department of Trade and Industry, *ARTIFICIAL INTELLIGENCE ROADMAP*, <http://innovate.dti.gov.ph/wp-content/uploads/2021/05/National-AI-Strategy-infographic-2048x1105.jpg>

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Furthermore, in February 2020, the DOST launched the Smarter Philippines through Data Analytics, Research and Development, Training and Adoption (SPARTA) initiative to retool and upgrade the skills of an initial 30,000 workers by 2022.¹²⁷⁰ There is little information available concerning the program’s uptake and effectiveness.

Public Participation

There is some evidence of a public consultation process in the development and implementation of the country’s national AI policy. The roadmap mandates the establishment of a “committee of experts in data and AI ethics who will guard against abuse/misuse of data and AI algorithms,” but it is unclear whether this committee has been formed and if it will have a mechanism for public consultation.¹²⁷¹ On October 28th, 2021, pursuant to the DTI’s Inclusive Innovation Strategy, the DTI hosted “Artificial Intelligence: Opportunities and Challenges for Philippine Industries,” a virtual session open to the public intended to “bring together participants from the government, industries and academe not only to deliberate on matters of common interest concerning AI, but more so to bring everyone into the fold as we embrace and adapt to our new economic realities.”¹²⁷² The National Privacy Commission’s website includes opportunities for the public to vocalize data-related concerns through its “AskPRIVA” tool, and includes contact information to file complaints or to contact relevant authorities.¹²⁷³

OECD/G20 Principles

The Philippines is not a member of the OECD or the G20, and its roadmap makes little direct mention of the OECD or G20 AI principles. Despite having no explicit endorsement of these international principles, comments from leaders and provisions from the roadmap embody a commitment to OECD principles for human rights, inclusive growth and transparency. In a keynote speech, DTI Secretary Ramon Lopez remarked

¹²⁷⁰ Smart Philippines through Data Analytics R&D and Adoption, <https://sparta.dap.edu.ph/>

¹²⁷¹ Philippines’ Department of Trade and Industry, *ARTIFICIAL INTELLIGENCE ROADMAP*, <http://innovate.dti.gov.ph/resources/roadmaps/artificial-intelligence/>

¹²⁷² Philippines’ Department of Trade and Industry, *Artificial Intelligence: Opportunities and Challenges for Philippine Industries* (Oct. 22, 2021), <https://www.dti.gov.ph/advisories/artificial-intelligence-opportunities-challenges-ph-industries/>

¹²⁷³ AskPriva, <https://www.privacy.gov.ph/askpriva/>

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how regulation “will protect human rights and put into place equitable AI-activating opportunities.”¹²⁷⁴

In the same speech, Lopez noted that the roadmap itself is “manifestation”¹²⁷⁵ of the Philippine Innovation Act, which articulates and mandates commitments to “innovation efforts to help the poor and the marginalized, enable micro, small and medium enterprises (MSMEs) to be a part of the domestic and global supply chain, and catalyze the growth of Philippine industries and local economies.”¹²⁷⁶ To this end, the roadmap itself includes plans to:¹²⁷⁷

- Build a national data center (NDC) with a reliable and robust data infrastructure and data management system
- Encourage government agencies, research institutions, top universities, and big state universities to main their own data centers linked to the NDC
- Make internet accessible and affordable and improve its quality
- Promote data literacy for all
- Identify jobs that are vulnerable to automation and other Industry 4.0 technologies and map the skills that need upgrading or retooling

Universal Declaration of Human Rights

Philippines has adopted the Universal Declaration of Human Rights, having taken part in its formulation in 2008.¹²⁷⁸ However, its human rights implementation record is highly contested. The country is ranked “Partly Free” on the Freedom House Global Freedom Scores Index, earning a

¹²⁷⁴ Department of Trade and Industry, *Keynote Speech of Secretary Ramon M. Lopez, National Artificial Intelligence Roadmap Launch*, 5 May 2021,

<https://www.dti.gov.ph/archives/national-artificial-intelligence-roadmap-launch/>

¹²⁷⁵ *Ibid.*

¹²⁷⁶ National Economic and Development Authority, JOINT NEDA-DOST-DTI ADMINISTRATIVE ORDER NO. 01 SERIES OF 2020, 19 February 2020,

<https://neda.gov.ph/the-philippine-innovation-act/#:~:text=11293%20otherwise%20known%20as%20the,signed%20by%20President%20Rodrigo%20R.&text=The%20law%20mandates%20the%20creation,in%20the%20country's%20innovation%20governance>

¹²⁷⁷ Philippines’ Department of Trade and Industry, *ARTIFICIAL INTELLIGENCE ROADMAP*, <http://innovate.dti.gov.ph/wp-content/uploads/2021/05/National-AI-Strategy-infographic-2048x1105.jpg>

¹²⁷⁸ Secretary of Foreign Affairs Alberto G. Romulo, *Behind a Common Cause:*

Advancing with Resolve, Finding Strength in Synergy, March 2008,

<https://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session7/HLS/Philippines-E.pdf>

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middling score of 56/100.¹²⁷⁹ The Index explains that the “rule of law and application of justice are haphazard and heavily favor political and economic elites” in the country.¹²⁸⁰ Moreover, a 2020 Amnesty international report found instances of harassment, detention, unjust charges, and extrajudicial executions of human rights defenders and political activists, as well as other human rights violations, and “severe” curtailing of media freedom.¹²⁸¹

Data Privacy Law

The Philippines the Data Privacy Act of 2012 (DPA) “to protect the fundamental human right of privacy, of communication while ensuring free flow of information to promote innovation and growth.” The Act also ensures that “personal information in information and communications systems in the government and in the private sector are secured and protected.”¹²⁸²

The Act mandated the creation of the National Privacy Commission, an independent body, “To administer and implement the provisions of [the Data Privacy Act of 2012], and to monitor and ensure compliance of the country with international standards set for data protection.”¹²⁸³ It was established in March 2016, and is required to rule-make, provide advice and guidance, and public education, in addition to its compliance, monitoring and enforcement duties.¹²⁸⁴ Its mission is to:

- 1) Be the authority on data privacy and protection, providing knowledge, know-how, and relevant technology.
- 2) Establish a regulatory environment that ensures accountability in the processing of personal data and promotes global standards for data privacy and protection.
- 3) Build a culture of privacy, through people empowerment, that enables and upholds the right to privacy and supports free flow of information.

¹²⁷⁹ Freedom House, Philippines, 2021, <https://freedomhouse.org/country/philippines/freedom-world/2021>

¹²⁸⁰ *Ibid.*

¹²⁸¹ Amnesty International, Philippines, <https://www.amnesty.org/en/location/asia-and-the-pacific/south-east-asia-and-the-pacific/philippines/>

¹²⁸² Republic Act 10173, Data Privacy Act of 2012, Section 1, <https://www.privacy.gov.ph/data-privacy-act/#1>

¹²⁸³ Republic Act 10173, Data Privacy Act of 2012, Section 7, <https://www.privacy.gov.ph/data-privacy-act/#7>

¹²⁸⁴ Republic Act 10173, Data Privacy Act of 2012, Section 1, <https://www.privacy.gov.ph/data-privacy-act/#1>

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The Commission appears to be active. According to the Commission, by 2018, the Commission had “a total of 23,081 registered Data Protection Officers (DPOs). The number of privacy-related cases the agency received so far, [in 2018] has also increased by 145% from 2017. Of the 542 cases in 2018, 35.52% involved unauthorized processing while 36.44% were on data breaches.”¹²⁸⁵

The National Privacy Commission, Philippines’ independent data protection enforcement agency, is a cosponsor to the Global Privacy Assembly (GPA)’s 2018 Resolution on AI and Ethics and its 2020 GPA Resolution on AI and Accountability. Through its co-sponsorship, the Commission endorses accountability, human rights, transparency, auditability, security, and multi-stakeholder discussions — largely in accordance with OECD AI principles. It is unclear how these principles have been implemented.

Algorithmic Transparency

The Philippine’s national AI policies do not explicitly promulgate any commitments to transparency, but its Data Privacy Act mandates “adherence to the principles of transparency, legitimate purpose and proportionality.”¹²⁸⁶ It also includes provisions related to transparent automated processing. Notably, Section 16 furnishes citizens have the right to be informed whether their personal information pertaining is being or has been processed, with the right to information regarding the “[m]ethods utilized for automated access, if the same is allowed by the data subject, and the extent to which such access is authorized,” and the right “to access, correction, as well as the right to lodge a complaint before the Commission.”¹²⁸⁷ These are all elements of transparency, which the National Privacy Commission has formally endorsed through its co-sponsorship of the 2020 and 2018 Global Privacy Assembly resolutions noted above.

Facial/Biometric Recognition

The government is in the process of registering 105 million citizens, including infants, in its biometric national ID system, PhilSys, which is to

¹²⁸⁵ National Privacy Commission, *NPC Eyes fully digital PH by 2040*, (Sept. 19, 2018), <https://www.privacy.gov.ph/2018/09/npc-eyes-fully-digital-ph-by-2040/>

¹²⁸⁶ Republic Act 10173, Data Privacy Act of 2012, Section 11, <https://www.privacy.gov.ph/data-privacy-act/#7>

¹²⁸⁷ Republic Act 10173, Data Privacy Act of 2012, Section 16, <https://www.privacy.gov.ph/data-privacy-act/#7>

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include facial, iris, and thumbprint biometrics.¹²⁸⁸ Law enforcement in the Philippines has also implemented and encouraged the use of real-time facial recognition software to identify “persons with Warrants of Arrest, High Value Targets and members of communist terror groups evading law enforcers.”¹²⁸⁹ According to Crizaldo Nieves, the regional director of the Cagayan Valley Police, all police will eventually have smartphones that enable real-time tracking and “appropriate awards [will be given] to the first 10 police stations that will effect an arrest through this technology.”¹²⁹⁰

Evaluation

The Philippines continues to make strides in national AI policy, being among the 193 countries to endorse UNESCO’s Recommendations on Ethics of AI.¹²⁹¹ AI is in use across a number of initiatives in the country, including law enforcement,¹²⁹² healthcare,¹²⁹³ autonomous vehicles, infrastructure, and data processing.¹²⁹⁴ The active work of the Philippines National Privacy Commission on both domestic issues and at the Global Privacy Assembly contributes to the country’s overall favorable score.

¹²⁸⁸ Congress of the Philippines, *Republic Act No. 11055*, Section 5(c), (July 24, 2017), https://psa.gov.ph/system/files/kmcd/RA11055_PhilSys.pdf

¹²⁸⁹ Artemio Dumlao, *Cagayan Valley cops roll out facial recognition system vs crime*, 21 October 2020, <https://www.philstar.com/nation/2020/10/21/2051265/cagayan-valley-cops-roll-out-facial-recognition-system-vs-crime>

¹²⁹⁰ *Ibid.*

¹²⁹¹ Philippine News Agency, *193 countries adopt 1st global agreement on Ethics of AI*, (Nov, 26, 2021), <https://www.pna.gov.ph/articles/1161070>

¹²⁹² Artemio Dumlao, *Cagayan Valley cops roll out facial recognition system vs crime*, (Oct. 21, 2020), <https://www.philstar.com/nation/2020/10/21/2051265/cagayan-valley-cops-roll-out-facial-recognition-system-vs-crime>

¹²⁹³ DOST-Science for Change Program, *Launching of DOST AI Programs and Technologies: AI for a Better Normal* (June 23, 2021), <https://www.facebook.com/dost.s4cp/videos/3690780667689337/>; Newsbytes, *DOST rolls out technologies for AI National Roadmap* (June 24, 2021), <https://newsbytes.ph/2021/06/24/dost-rolls-out-technologies-for-ai-national-roadmap/>

¹²⁹⁴ The Philippine Council for Industry, Energy, and Emerging Technology Research and Development, *DOST-PCIEERD LAUNCH 9 NEW AI R&D PROJECTS* (Apr. 8, 2021), <https://pcieerd.dost.gov.ph/news/latest-news/422-dost-pcieerd-launch-9-new-ai-r-d-projects>

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Poland

National AI Strategy

In September 2020, the Polish Council of Ministers Committee for Digital Affairs¹²⁹⁵ adopted the ‘Policy for the Development of Artificial Intelligence in Poland.’¹²⁹⁶ In December 2020, the Council of Ministers adopted the Polish national AI strategy, entitled Policy for the development of artificial intelligence in Poland from 2020 (Poland, 2020).¹²⁹⁷ According to a description of the Policy provided by the government website, it is designed to support and complement the work of the EU and the OECD in AI. The Policy establishes goals and actions for Poland in the field of AI in the short-term (until 2023), medium-term (until 2027), and long-term (after 2027).¹²⁹⁸ Six key categories are identified in the AI Policy:

- AI and society
- AI and innovative companies
- AI and science
- AI and education
- AI and international cooperation
- AI and the public sector

In particular, the Polish strategy is providing strategic guidance and policy initiatives to develop a holistic AI ecosystem with the aim of meeting the following objectives:

- Reforming the educational system and providing lifelong learning opportunities in AI-related fields;

¹²⁹⁵ Komitet Rady Ministrów do Spraw Cyfryzacji (KRMC). The KRMC is an auxiliary body of the Council of Ministers and the Prime Minister. The Council of Ministers serves as Poland’s Cabinet with the Prime Minister acting as the President of the Council of Ministers. <https://www.gov.pl/web/digitalization/council-of-ministers-committee-for-digital-affairs>.

¹²⁹⁶ <https://www.gov.pl/attachment/a8ea194c-d0ce-404e-a9ca-e007e9fbc93e>. Developed by the Ministry of Digital Affairs, Ministry of Development, Ministry of Science and Education, Ministry of Funds and Regional Policy and Chancellery of the Prime Minister.

¹²⁹⁷ OECD, STIP Compass, *Poland's National AI Strategy* (2020), <https://stip.oecd.org/stip/policy-initiatives/2019%2Fdata%2FpolicyInitiatives%2F24268>.

¹²⁹⁸ Government of Poland, *The development of artificial intelligence in Poland - an important decision* (Sept. 14, 2020), <https://www.gov.pl/web/cyfryzacja/rozwoj-sztucznej-inteligencji-w-polsce--wazna-decyzja>; European Commission (AI Watch), *Poland AI Strategy Report*, [https://knowledge4policy.ec.europa.eu/ai-watch/poland-ai-strategy-report_en#:~:text=In%20December%202020%2C%20the%20Council,2020%20\(Poland%2C%202020\).&text=Reinforcing%20the%20digital%20infrastructure%2C%20regulatory,the%20development%20of%20AI%20innovati](https://knowledge4policy.ec.europa.eu/ai-watch/poland-ai-strategy-report_en#:~:text=In%20December%202020%2C%20the%20Council,2020%20(Poland%2C%202020).&text=Reinforcing%20the%20digital%20infrastructure%2C%20regulatory,the%20development%20of%20AI%20innovati).

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- Encouraging growth and innovation of AI companies through dedicated support in AI research, including the provision of sufficient financial resources;
- Increasing national and international partnerships in AI;
- Creating a data ecosystem with trustworthy and high-quality data and increased data exchange mechanisms;

The Polish Council of Ministers Committee for Digital Affairs will steer the implementation of the strategy and evaluate its implementation on a yearly basis.⁶⁶⁴

The Polish Government website sets out a roadmap towards Poland's AI strategy, with the first step towards the strategy being marked in September 2016 and the most recent being marked in September 2020 (with the KRMC adoption of the 2020 Policy).¹²⁹⁹ The 2020 Policy follows on from a draft policy document that was released for consultation in 2019¹³⁰⁰ and a document released by the Minister for Digital Affairs in 2018, titled "Assumptions to AI Strategy in Poland."¹³⁰¹ The Assumptions document was the product of a group of independent experts who volunteered their time to develop recommendations for the development of AI in Poland under the guidance of the Ministry of Digital Affairs. The Assumptions document identifies four key areas of importance:

- data-driven economy
- financing and development
- education
- law and ethics.

The Assumptions document states that Poland's approach to ethical and legal issues with AI should: be proactive in creating ethical standards and legislation; be inclusive and cooperative; take into account the specific circumstances in Poland; be flexible; instate consistent supportive measures; engage in discussion and consultation; and be firm in response to violations of ethical and legal standards. The primary goals are asserted to be the development of transparent and effective mechanisms ensuring the

¹²⁹⁹ Government of Poland, *Digitalization of the Chancellery of the Prime Minister* [GT], <https://www.gov.pl/web/cyfryzacja/ai>.

¹³⁰⁰ <https://www.gov.pl/attachment/a8ea194c-d0ce-404e-a9ca-e007e9fbc93e>. The document is only available in Polish and machine translation was used in combination with other sources.

¹³⁰¹ Ministry for Digital Affairs, *Assumptions for the AI Strategy in Poland* (Nov, 9, 2018) [GT], <https://www.gov.pl/attachment/1a3fba75-c9f9-4aff-96d8-aa65ce612eab>

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protection of fundamental rights, gaining understanding of the social effects of AI, the setting of ethical standards, and the creation of high-quality legislation.

Fundamental rights and values identified in the Assumptions document as being important to the development of a legal and ethical approach in Poland include: dignity; freedom (described as including freedom to understand processes with which individuals interact and the making of free and independent decisions); privacy and data protection; equality; and justice. The Assumptions document calls for the development of an ethical impact assessment mechanism. Where AI projects are supported by public funds, the Assumptions document calls for ethical impact assessments at various stages of a project's implementation, not just at the application stage. As part of the objective of coordinating national efforts in this space, the Assumptions document also proposes the establishment of an entity designed to, amongst other things: monitor the social impact of AI; recommend regulatory actions; participate in the development of regulations and ethical standards; and perform ethical impact assessments on publicly funded projects. It is envisioned that such an entity would include representatives from science, government, business, and NGOs. The legal analysis in the report was prepared by experts invited by the Ministry of Digital Affairs to consider the legal aspects of AI as part of the working group on the legal and ethical aspects of AI under the guidance of the Ministry. The research was preliminary and based on the presentation of selected legal issues by individual experts based on their personal views. As a result, the recommendations primarily call for the conducting of more research and discussion.

Subsequently, a Draft Policy for the Development of Artificial Intelligence in Poland for the years 2019–2027 was released for consultation in August 2019. The Draft Policy document was designed to open a national debate from which a national strategy could be built.¹³⁰² The Draft Policy states its goals to include the supporting of AI research and development for the benefit of economic growth and innovation. In tandem with this, the Policy describes the necessity to support citizens in the face of transformations to the working environment and to protect human dignity and fair competition.¹³⁰³ The Draft Policy is designed to be coherent with EU and OECD policies on AI. Strategic documents the Draft Policy takes into account include: the EU Communication's Coordinated Plan on

¹³⁰² European Commission, *Poland AI Strategy Report* (Feb. 2020), https://ec.europa.eu/knowledge4policy/ai-watch/poland-ai-strategy-report_en.

¹³⁰³ <https://www.gov.pl/attachment/a8ea194c-d0ce-404e-a9ca-e007e9fbc93e>.

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Artificial Intelligence;¹³⁰⁴ the High-Level Expert Group on AI's Ethics Guidelines for Trustworthy Artificial Intelligence;¹³⁰⁵ the High-Level Expert Group on AI's Policy and Investment Recommendations for Trustworthy Artificial Intelligence;¹³⁰⁶ and the OECD Council Recommendation on Artificial Intelligence.¹³⁰⁷

Supportive of human-centric AI, Poland rejects the idea of granting legal personality to AI. The Draft Policy identifies the need to address intellectual property issues with AI and to develop international consensus around AI and liability. The Draft Policy states that Article 30 of the Polish Constitution – which protects the inherent and inalienable dignity of the person – forms the basis of its approach. While the Draft Policy recognizes the importance of the Charter of Fundamental Rights and international human rights treaties in providing a foundation for ethical principles, the Policy suggests that Article 30 of the Polish Constitution provides broader protection. In addition to supporting the OECD recommendations, the Draft Policy asserts that the ethical development of AI should be based on the European concept of Trustworthy AI.

The Virtual Chair of Ethics and Law criticized the Draft Policy document and recommended significant changes.¹³⁰⁸ In addition to criticizing the structure of the Draft Policy, the Virtual Chair of Ethics and Law called for increased detail regarding strategic goals and objectives and the legal acts required to implement policy.

In response to the EU Commission's White Paper on Artificial Intelligence, Poland professed to sharing the Commission's view on the need to define a clear European regulatory framework that would contribute to building confidence in the AI among consumers and businesses, thereby accelerating the spread of this technology, while ensuring socially,

¹³⁰⁴ European Commission, *Coordinated Plan on Artificial Intelligence* (Dec. 7, 2018), <https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-795-F1-EN-MAIN-PART-1.PDF>.

¹³⁰⁵ European Commission, *Ethics Guidelines for Trustworthy AI* (Apr. 8, 2019), <https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai>.

¹³⁰⁶ European Commission, *Policy and investment recommendations for trustworthy Artificial Intelligence* (June 26, 2019), <https://ec.europa.eu/digital-single-market/en/news/policy-and-investment-recommendations-trustworthy-artificial-intelligence>

¹³⁰⁷ OECD Legal Instruments, *Recommendation of the Council on Artificial Intelligence* (May 21, 2019), <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>.

¹³⁰⁸ The Council of the Virtual Chair of Ethics and Law, *Comments on the Policy for the Development of Artificial Intelligence in Poland for the years 2019 - 2027* (Nov. 11, 2019), <http://cpptint.wpia.uni.opole.pl/rada-wirtualnej-katedry-etyki-i-prawa-zabierajacych-glos-w-sprawie-ai/>.

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environmentally, and economically optimal results and compliance with EU's laws, principles, and values. However, Poland suggests limiting regulatory action "only to the areas of necessary intervention that promote legal certainty and relations, ensure coordination within the EU, and limit the negative social impact."¹³⁰⁹ Poland states that the regulations "should be sufficiently effective to achieve their objectives, but should not be overly prescriptive, as this could lead to disproportionate burdens, especially for SMEs and MSMEs." Poland endorsed incentives for voluntary ex ante control rather than mandatory. In particular, Poland cautioned against the imposition of mandatory certification regimes.

Ultima Ratio

Poland has begun an online arbitration court which incorporates AI techniques. Ultimately, according to *Polish Science*, "artificial intelligence will automatically prepare a ready draft judgment together with justification, processing for this purpose the data and positions of the parties collected in the course of the proceedings."¹³¹⁰ The first modules began in 2020. Ultimately, artificial intelligence will automatically prepare a ready draft judgment together with justification, processing for this purpose the data and positions of the parties collected in the course of the proceedings. The *Ultima Ratio* judgment has the same legal force as a decision before a common court.¹³¹¹ The main legal issue raised by the use of *Ultima Ratio* is whether it is compatible with Article 47 of the EU Charter on Fundamental Rights which guarantees the right to a fair trial before an independent and impartial court.

Poland's Position on AI and Fundamental Rights

Earlier this year, the Presidency of the Council of the EU failed to secure unanimous support from the Member States for its conclusions on the application of the Charter of Fundamental Rights in the AI context.¹³¹²

¹³⁰⁹ Government of Poland, *Poland's position in the consultations on the White Paper on Artificial Intelligence - a European approach to excellence and trust* (June 12, 2020), <https://www.gov.pl/attachment/583eb32c-7344-4317-b607-fee0532c3eeb>.

¹³¹⁰ Polish Science, *Ultima Ratio- the first online court of arbitration in Poland to implement Artificial Intelligence* (Jan. 2, 2020), <http://polishscience.pl/en/ultima-ratio-the-first-online-court-of-arbitration-in-poland-to-implement-artificial-intelligence/>

¹³¹¹ Warsaw Business Journal, *Online arbitration as remedy for closed common courts and pandemics* (March 16, 2020), <https://wbj.pl/online-arbitration-as-remedy-for-closed-common-courts-and-pandemics/post/126416>

¹³¹² European Council, *Artificial intelligence: Presidency issues conclusions on ensuring respect for fundamental rights* (Oct. 21, 2020), <https://www.consilium.europa.eu/en/press/press-releases/2020/10/21/artificial->

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Poland objected to the inclusion of “gender equality.” Poland was the only member state in the European Union to oppose the resolution on AI and fundamental rights.¹³¹³ Although Ambassador Andrzej Saros said that Poland will work to support the conclusions in the future, he also stated that: “The Treaties refer to equality between women and men, similar to the Charter of Fundamental Rights. The meaning of ‘gender’ is unclear; the lack of definition and unambiguous understanding for all member states may cause semantic problems. Neither the Treaties nor the Charter of Fundamental Rights use the term ‘gender’.”¹³¹⁴

The position occurs in the context of the Polish government opposition to the Convention on Preventing and Combating Violence against Women and Domestic Violence.¹³¹⁵ While consensus was not reached as regards the Presidency’s conclusions, the Presidency stressed that the core elements of the conclusions, anchoring the Union’s fundamental rights and values in the age of digitalization, fostering the EU’s digital sovereignty and actively participating in the global debate on the use of artificial intelligence with a view to shaping the international framework, were shared by all delegations.¹³¹⁶

OECD/G20 AI Principles

As a member of the OECD, Poland is committed to the OECD Principles on Artificial Intelligence and references the OECD principles in its Draft Policy document. The OECD did not identify any instances of implementation of the AI Principles in Poland in the 2020 survey.¹³¹⁷

The Global Partnership on AI (GPAI) is an international and multi-stakeholder initiative, conceived by Canada and France during their respective 2018 and 2019 G7 presidencies, to undertake cutting-edge

[intelligence-presidency-issues-conclusions-on-ensuring-respect-for-fundamental-rights/https://www.consilium.europa.eu/media/46496/st11481-en20.pdf](https://www.consilium.europa.eu/media/46496/st11481-en20.pdf).

¹³¹³ Warsaw Business Journal, *Poland rejects artificial intelligence because of gender* (Oct. 29, 2020), <https://wbj.pl/poland-rejects-artificial-intelligence-because-of-gender/post/128788>

¹³¹⁴ Samuel Stolton, *Poland rejects Presidency conclusions on Artificial Intelligence, rights*, Euroactiv, Oct. 26, 2020, <https://www.euractiv.com/section/digital/news/poland-rejects-presidency-conclusions-on-artificial-intelligence-rights/>.

¹³¹⁵ Eline Schaart, *Poland to withdraw from treaty on violence against women*, Politico (July 25, 2020), <https://www.politico.eu/article/poland-to-withdraw-from-istanbul-convention-treaty-on-violence-against-women/>

¹³¹⁶ Council of the European Union, *Presidency conclusions - The Charter of Fundamental Rights in the context of Artificial Intelligence and Digital Change* (Oct. 21, 2020), <https://www.consilium.europa.eu/media/46496/st11481-en20.pdf>.

¹³¹⁷ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

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research and pilot projects on AI priorities to advance the responsible development and use of AI.¹³¹⁸ In December 2020, Poland joined GPAI.¹³¹⁹

Human Rights

Poland is a member of the European Union and Council of Europe and is, accordingly, committed to the upholding of the Charter of Fundamental Rights and the European Convention on Human Rights. In addition, Poland has acceded to international human rights treaties and has signed the Universal Declaration of Human Rights. The Polish Constitution also grants basic rights to citizens and includes prohibitions against discrimination.¹³²⁰ While Poland ranks highly in the Freedom House 2021 Country Report (82/100), down slightly from 2020, concerns were raised about the fairness of parliamentary elections, media freedom, judicial reforms, and LGBT+ rights.¹³²¹ Since taking power in late 2015, the populist, socially conservative Law and Justice (PiS) party has enacted numerous measures that increase political influence over state institutions and threaten to reverse Poland's democratic progress. Poland's ranking on the World Press Freedom Index has dropped from 18th to 62nd place since 2015.⁶⁸⁶

Algorithmic Transparency

As a member of the European Union, Poland is committed to the protection of personal data as required by Article 8 of the Charter of Fundamental Rights and the data protection laws of the EU. The Personal Data Protection Act 2018 and the GDPR Implementation Act 2019 were enacted in order to adapt the GDPR and to implement the Law Enforcement Directive into domestic law. The Polish supervisory authority is the President of the Office of Personal Data Protection.¹³²² Poland supports the Ethics Guidelines for Trustworthy AI, including the requirements of human

¹³¹⁸ OECD (2021), *State of implementation of the OECD AI Principles: Insights from national AI policies* (Jun 18, 2021), <https://doi.org/10.1787/1cd40c44-en>.

¹³¹⁹ Digital Affairs – Chancellery of the Minister, *Poland joins the Global Partnership on Artificial Intelligence* (Dec. 8, 2020), <https://www.gov.pl/web/digitalization/poland-joins-the-global-partnership-on-artificial-intelligence>

¹³²⁰ *The Constitution of the Republic of Poland, Article 32*, <https://www.sejm.gov.pl/prawo/konst/angielski/kon1.htm>

¹³²¹ Freedom House, *Freedom in the World 2021 – Poland* (2021), <https://freedomhouse.org/country/poland/freedom-world/2021>. See also Case C-791/19 R *Commission v Poland* and Case C-619/18 *Commission v Poland*.

¹³²² President of the Office of Personal Data Protection, <https://uodo.gov.pl/en>.

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agency and oversight; privacy and data governance; transparency; and diversity, non-discrimination and fairness; and accountability.¹³²³

In the Polish response to the EU Commission's White Paper on Artificial Intelligence, human oversight of AI systems is identified as the key guiding principle for all AI applications, not just for high-risk examples.¹³²⁴ Poland supports the introduction of an ex-ante conformity assessment procedure for certain high-risk AI applications. The 2019 Draft Policy recognizes the importance of transparent, accountable, and impartial AI and endorses the use of voluntary standards systems for the certification of AI. The Draft Policy recommends the establishment of regulatory sandboxes to enable the early testing of AI systems before they meet compliance or certification standards and supports the mutual recognition of interoperability standards.¹³²⁵

In 2014, a profiling system was introduced in order to divide unemployed people into three categories based on their responses to a series of questions asked during a computer-based interview.¹³²⁶ In a report on the issue, the NGO, Panoptykon, described the process as the computer system calculating the 'employment potential' of a given person on the basis of the provided answers.¹³²⁷ The amount of assistance the individual received was determined by their categorization. The Polish data protection supervisory authority expressed reservations regarding the use of profiling in this

¹³²³ Digitalization of the Chancellery of the Prime Minister, *Public consultations on the project Policy for the Development of Artificial Intelligence in Poland for 2019-2027* (Aug. 21, 2019), <https://www.gov.pl/web/cyfryzacja/konsultacje-spoeczne-projektu-polityki-rozwoju-sztucznej-inteligencji-w-polsce-na-lata-2019--2027>; European Commission, *Ethics guidelines for trustworthy AI* (Apr. 8, 2019), <https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai>.

¹³²⁴ Government of Poland, *Poland's position in the consultations on the White Paper on Artificial Intelligence - a European approach to excellence and trust* (June 12, 2020), <https://www.gov.pl/attachment/583eb32c-7344-4317-b607-fee0532c3eeb>.

¹³²⁵ Government of Poland, *Konsultacje społeczne projektu „Polityki Rozwoju Sztucznej Inteligencji w Polsce na lata 2019 – 2027,”* (Aug. 21, 2019), <https://www.gov.pl/web/cyfryzacja/konsultacje-spoeczne-projektu-polityki-rozwoju-sztucznej-inteligencji-w-polsce-na-lata-2019--2027>.

¹³²⁶ Amendment to the Act on the Promotion of Employment and Labor Market Institutions and Ordinance on the Profiling of Assistance for the Unemployed; https://panoptykon.org/sites/default/files/leadimage-biblioteka/panoptykon_profiling_report_final.pdf.

¹³²⁷ Amendment to the Act on the Promotion of Employment and Labor Market Institutions and ordinance on the profiling of assistance for the unemployed; https://panoptykon.org/sites/default/files/leadimage-biblioteka/panoptykon_profiling_report_final.pdf.

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context.¹³²⁸ In particular, concerns were expressed regarding the protection of personal data and the absence of a transparent procedure to facilitate appeals.¹³²⁹ In addition, concerns were raised by the Polish Supreme Audit Office (Najwyższa Izba Kontroli) and the Human Rights Commissioner. Eventually, Poland's Constitutional Court found the system to be a breach of the Polish Constitution.¹³³⁰ The system was abolished by December 2019.

In taking steps to implement the GDPR in 2019, Poland provided all banking customers with the right to an explanation regarding their credit assessment when applying for a loan.¹³³¹ STIR – System Teleinformatyczny Izby Rozliczeniowej – is a government tool that analyses information collected by financial institutions to detect illegal activity. If suspicion arises, the financial institution can block a flagged account for 72 hours at the request of the tax authorities.¹³³² The algorithms behind the system are not publicly available and a criminal offense – with a maximum prison sentence of up to five years – exists prohibiting the disclosure of relevant information.

Data Protection

Regarding data retention, the UODO took the position that a controller should delete the data right after a relationship with a data subject ends. As a result, the controller cannot claim it has a legitimate interest to keep the data later on for the purposes of exercising or defending legal claims. The DPA stated if the controller cannot prove it has good reasons to

¹³²⁸ See, for example,

<https://archiwum.mpips.gov.pl/download/gfx/mpips/pl/defaultopisy/8216/1/1/Uwagi%20GIODO-IV.pdf>; https://panoptykon.org/sites/default/files/leadimage-biblioteka/panoptykon_profiling_report_final.pdf.

¹³²⁹ Fundacja Panoptykon, *Profiling the Unemployed in Poland: Social and Political Implications of Algorithmic Decision Making* (2015),

https://panoptykon.org/sites/default/files/leadimage-biblioteka/panoptykon_profiling_report_final.pdf. See also

<https://legislacja.rcl.gov.pl/docs/2/171820/171829/171833/dokument89898.pdf>.

¹³³⁰ AlgorithmWatch, *Poland: Government to scrap controversial unemployment scoring system* (Apr. 16, 2019). <https://algorithmwatch.org/en/story/poland-government-to-scrap-controversial-unemployment-scoring-system/>.

¹³³¹ Article 46 of the GDPR,

http://orka.sejm.gov.pl/opinie8.nsf/nazwa/3050_u/%24file/3050_u.pdf; Panoptykon Foundation, *The right to explanation of creditworthiness assessment – first such law in Europe* (June 12, 2019), <https://en.panoptykon.org/right-to-explanation>.

¹³³² Algorithm Watch, *Automating Society 2020* (October 2020),

<https://automatingsociety.algorithmwatch.org/report2020/poland/>; Government of Poland, *Sukces analityki STIR* (Jan. 15, 2020), <https://www.gov.pl/web/kas/sukces-analityki-stir>.

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believe such claims will be raised, the controller should not store the data for the purpose of potential future claims. Polish courts overturned such decisions, stating a controller cannot predict if and when a data subject may raise claims. But this does not exclude such claims being raised, and the controller has a right to store data to defend itself or exercise its claims.

Regarding notification of data breaches, the UODO issued decisions where data controllers were found responsible for mail lost by professional mail deliverers (such as Polish post or private couriers). It will be interesting to observe how the situation develops and whether controllers will be obliged to control more entities that act on their own.¹³³³

Public Participation

Documents relating to Poland's development of its AI policy are accessible on the internet. The process that led to the 'Assumptions to AI Strategy in Poland' document involved the participation of a broad range of representatives of science, business, social organizations and public administration.¹³³⁴ The subsequently published Draft Policy document was released for public consultation in August 2019 (the consultation period closed in September 2019).¹³³⁵ According to the government website, 46 entities took part in the consultation.

Evaluation

Poland has yet to release its official national policy for the development of Artificial Intelligence. The precursor documents, including the draft policy, address the legal and ethical implications of AI, but it is difficult to predict what form the final policy will take. As a member of the EU, the Council of Europe, and the OECD, Poland has made commitments to upholding human rights and ethics in and endorsed the OECD AI Principles. Despite these commitments, Poland opposed the Council of Europe's Resolution on AI and fundamental rights. Also of concern is the prospect of the administration of justice by opaque AI techniques.

¹³³³ The International Association of Privacy Professionals (IAPP), *2022 Global Legislative Predictions*, https://iapp.org/media/pdf/resource_center/2022_iapp_global_legislative_predictions.pdf.

¹³³⁴ Digitization of the Chancery of the Prime Minister, *Artificial Intelligence - Poland 2118* (Nov. 9, 2018) [GT], <https://www.gov.pl/web/cyfryzacja/sztuczna-inteligencja-polska-2118>.

¹³³⁵ Digitization of the Chancery of the Prime Minister, *Public consultations on the project "Policy for the Development of Artificial Intelligence in Poland for 2019-2027"* (Aug. 21, 2019), [GT], <https://www.gov.pl/web/cyfryzacja/konsultacje-spoleczne-projektu-polityki-rozwoju-sztucznej-inteligencji-w-polsce-na-lata-2019--2027>.

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Russia

National AI Strategy

Russian president Vladimir Putin famously said, in a 2017 address to students in Moscow, “Artificial intelligence is the future not only of Russia but of all of mankind. There are huge opportunities, but also threats that are difficult to foresee today. Whoever becomes the leader in this sphere will become the ruler of the world.”¹³³⁶ Putin then stated that it is better to avoid a monopoly on the sector and promised that if Russia became the leader in developing AI, then Russia will share their technology with the rest of the world, just as they share their atomic and nuclear technology today.

Russia's national strategy for Artificial Intelligence (AI) was announced in October 2019.¹³³⁷ This strategy defines the goals and primary objectives of the development of artificial intelligence in the Russian Federation, as well as the measures aimed at its use for the purpose of protecting national interests and implementing strategic national priorities, including those in the field of scientific and technological development.

The goals of the development of AI in the Russian Federation include the improvement of the well-being and quality of life of its population, national security and rule of law, and sustainable competitiveness of the Russian economy, including leading positions the world over in the field of AI. The primary objectives of the Russian development of AI are to support scientific AI research, engineering AI software development, data quality, hardware availability, qualified personnel and integrated system to extend Russian artificial intelligence technology market.

In the strategy, the basic principles of the development and use of artificial intelligence technologies include the protection of human rights and liberties, security, transparency, technological sovereignty, innovation cycle integrity, reasonable thrift, and support for competition in the field of artificial intelligence.

The use of AI technologies in sectors of the economy supports the efficiency of planning, forecasting, and management decision-making processes; the automation of routine production operations; the use of self-

¹³³⁶ CNN, *Who Vladimir Putin thinks will rule the world* (Sept. 2, 2017), [Who Vladimir Putin thinks will rule the world](#)

¹³³⁷ *Decree of the President of the Russian Federation on the Development of Artificial Intelligence in the Russian Federation* (Oct. 10, 2019), <https://cset.georgetown.edu/wp-content/uploads/Decree-of-the-President-of-the-Russian-Federation-on-the-Development-of-Artificial-Intelligence-in-the-Russian-Federation-.pdf>; <http://www.kremlin.ru/acts/bank/44731> (in Russian)

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contained intelligent equipment, robotic systems, and intelligent logistic management systems; the improvement of employee safety during the performance of business processes; an increase in the loyalty and satisfaction of customers, and; the optimization of the personnel selection and training processes.

The use of AI technologies in the social sphere facilitates the creation of conditions that favor the improvement of the standard of living of the population including an increase in the quality of healthcare services; the improvement of the quality of education services, and; the improvement of the quality of the provision of public and municipal services, as well as the reduction of the cost of their provision.

Digital Economy in Russia

The Russian government has put a high priority and already achieved some remarkable accomplishments in the Digital Transformation. A key strategic objective formulated by its leadership in the May 2018 Presidential Decree (The Decree on the National Goals and Strategic National Development Tasks of the Russian Federation until 2024)¹³³⁸ is that policymakers must build on the country's traditional industrial strengths, develop new technology processes for fast implementation in all the main competitive domains and continuously tackle any obstacles.¹³³⁹

AI Strategy for Russian start-up

Russia aims to increase the start-up ecosystem and many companies have been helped by the traditional hard science education in the country.¹³⁴⁰ This report breaks down the importance of Artificial Intelligence in Russian startups, with a large number of startups active in AI as a logical result of Russia's big AI talent pool, taking over 16% of the market. Moreover, the report provides case studies of the top AI industries in Russia, along with the application of AI in Russia and how Russia has moved up to the ladder, aiming to be a leading global startup venue by 2030.

¹³³⁸ The President signed Executive Order on National Goals and Strategic Objectives of the Russian Federation through to 2024,

<http://en.kremlin.ru/events/president/news/57425>

¹³³⁹ World Bank Group, *Competing in Digital Age: Policy Implications for the Russian Federation* (Sept. 2018),

<http://documents1.worldbank.org/curated/en/860291539115402187/pdf/Competing-in-the-Digital-Age-Policy-Implications-for-the-Russian-Federation-Russia-Digital-Economy-Report.pdf>

¹³⁴⁰ GMIS, *Artificial Intelligence: A Strategy for Russian start-up* (June 11, 2019),

<https://gmisummit.com/wp-content/uploads/2019/06/Ai-A-startegy-for-russian-startups.pdf>

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Russia has enormous potential for start-up development. The most appropriate and easy way to implement new start-ups in the Russian Federation is to become an individual entrepreneur. Citizens may participate in entrepreneurship without having to set up a legal entity once they are registered as an individual contractor. The simple method for registering and controlling the activity of individual contractors is the perfect start-up for fresh participants in the market.¹³⁴¹

According to A.T. Kearney, there are approximately 1,000 digital start-ups in Russia every year. Market specialists estimate that approximately half of these are promising projects, about 20% of which are safe in Russia from risk capitalists, company angels, friends and family. Another 1 to 2% go abroad for funding. Of the approximately 100 Russian-funded start-ups that are still in the country, around 50% are viable and 10 have become extremely successful, prosperous and increasing firms.

AI Policy in Russia

In January 2019, Russian President Vladimir Putin had approved a list of instructions¹³⁴² following the meeting of the supervisory board of the Agency for Strategic Initiatives, which included the instruction to the Russian government to create a national AI strategy. A draft version of a national AI strategy, developed by the country's largest bank – Sberbank, was announced September 2019.¹³⁴³

According to the Future of Life Institute,¹³⁴⁴ several projects helped pave the way for a domestic approach throughout 2018. In March 2018, for example, a conference was organised by the Russian Defense Ministry, Education and Science Ministry and the Academy for Science on AI issues and alternatives and a 10-point AI development plan in Russia was subsequently published. The plan involves the establishment of an AI and Big Data Consortium among academic and industrial organisations; The development of a fund to assist provide knowledge on automated systems; Increased state aid to AI education and training; The establishment of an AI

¹³⁴¹ Academy of Strategic Management Journal, *The Development of Innovative Startups in Russia: The Regional Aspect* (2017), <https://www.abacademies.org/articles/the-development-of-innovative-startups-in-russia-the-regional-aspect-1939-6104-16-SI-1-117.pdf>

¹³⁴² List of instructions following the meeting of the Supervisory Board of the Agency for Strategic Initiatives [GT], <http://kremlin.ru/acts/assignments/orders/59758>

¹³⁴³ First draft of Russian AI strategy, <https://www.defenseone.com/technology/2019/09/whats-russias-national-ai-strategy/159740/>

¹³⁴⁴ Future of Life, *AI Policy – Russia* (Feb. 2020), <https://futureoflife.org/ai-policy-russia/>

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laboratory at the leading technological university; The establishment of a national AI R&D center.

Digital Rights Law and AI Regulation

According to the OECD, Russia's Digital Rights Law, which came into force in October 2019 and introduced several new legal concepts, including digital rights, e-transactions, smart contracts, and big data.¹³⁴⁵ The law aimed to enable the development of an efficient legal framework of digital economy in Russia, reflecting current digital technologies and challenges including big data and AI.

Russia's draft legal framework AI Technologies and Robotics aims to establish a legal framework for the development of AI technologies and robotics in Russia and eliminate excessive legal barriers. The initiative aims to give guidance for regulators and is under the responsibility of the Ministry of Economic Development.¹³⁴⁶

Facial Recognition Controversy

Russia is moving rapidly to deploy AI-based face surveillance across the country, often with government funding that goes to business associates of President Putin. According to the *Moscow Times*, more than 43,000 Russian schools will be equipped with facial recognition cameras ominously named "Orwell."¹³⁴⁷ The system will be integrated with face recognition developed by NTechLab, a subsidiary of Russian President Vladimir Putin's associate Sergei Chemezov's Rostec conglomerate. NTechLab has already deployed facial recognition technology in Moscow to identify criminal suspects across a network of almost 200,000 surveillance cameras. "Critics have accused the technology of violating citizens' privacy and have staged protests against the system by painting their faces," reported *Moscow Times*.

In September 2020, Kommersant daily reported that CCTV cameras with facial recognition software, already used in Moscow, will be installed

¹³⁴⁵ Government of Russia, Official Internet Portal for Legal Information, *Federal Law of 18.03.2019 No. 34-FZ "On Amendments to Parts One, Two and Article 1124 of Part Three of the Civil Code of the Russian Federation* [GT],

<http://publication.pravo.gov.ru/Document/View/0001201903180027>

¹³⁴⁶

<http://sk.ru/foundation/legal/p/11.aspx>; https://economy.gov.ru/material/directions/gosudarstvennoe_upravlenie/normativnoe_regulirovanie_cifrovoy_sredy/regulirovanie_primene_niya_tehnologiy_iskusstvennogo_intellekta/

¹³⁴⁷ *Moscow Times*, *Russia to Install 'Orwell' Facial Recognition Tech in Every School* – *Vedomosti* (June 16, 2020), <https://www.themoscowtimes.com/2020/06/16/russia-to-install-orwell-facial-recognition-tech-in-every-school-vedomosti-a70585>

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by the regional authorities in public spaces and at the entryway of apartment buildings in 10 pilot cities across Russia with the purported aim of protecting public safety.¹³⁴⁸ Moscow authorities are also planning to expand the use of this technology, installing CCTV cameras with facial recognition software in trams and underground trains.¹³⁴⁹

Human Rights Watch said “The authorities’ intention to expand the use of invasive technology across the country causes serious concern over the potential threat to privacy. Russia’s track record of rights violations means that the authorities should be prepared to answer tough questions to prove they are not undermining people’s rights by pretending to protect public safety.”¹³⁵⁰ HRW also stated that Russian national security laws and surveillance practices enable law enforcement agencies to access practically any data in the name of protecting public safety.

Earlier in the year, Amnesty International criticized Russia’s plans to broaden the use of widespread facial-recognition systems, saying their expected deployment during public gatherings will “inevitably have a chilling effect” on protesters.¹³⁵¹

Data Protection

There are many laws in Russia that regulate the processing of personal data, including the Constitution of the Russian Federation, The Council of Europe Convention 108, and federal law.¹³⁵² The Law on Personal Data of 2006 is the most comprehensive federal law and sets out broad rights and responsibilities associated with the collection and use of

¹³⁴⁸ Kommersant, *Regions will recognize by sight: Moscow video surveillance system will be launched in ten more cities* (Sept. 25, 2020) [GT],

<https://www.kommersant.ru/doc/4503379>

¹³⁴⁹ Government of Russia, *Unified information system in the field of procurement, Implementation of work on equipping the rolling stock of the State Unitary Enterprise "Moscow Metro" with video surveillance equipment* (Aug. 3, 2020),

<https://zakupki.gov.ru/epz/order/notice/ea44/view/documents.html?regNumber=0173200001420000752&backUrl=89687dbf-73a1-4346-a608-3634c2a98681>

¹³⁵⁰ Human Rights Watch, *Russia Expands Facial Recognition Despite Privacy Concerns - Lack of Accountability, Oversight, Data Protection* (Oct. 2, 2020),

<https://www.hrw.org/news/2020/10/02/russia-expands-facial-recognition-despite-privacy-concerns>

¹³⁵¹ Radio Free Europe, *Watchdog Warns About 'Chilling Effect' Of Russia's Use Of Facial-Recognition Technology* (Jan. 31, 2020), <https://www.rferl.org/a/watchdog-warns-about-chilling-effect-of-russia-s-use-of-facial-recognition-technology/30410014.html>

¹³⁵² *Constitution of the Russian Federation* (Articles 23 and 24),

<http://archive.government.ru/eng/gov/base/54.html>

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personal data.¹³⁵³ The Roskomnadzor, Russia's data protection agency, interprets the federal law and brings enforcement actions.¹³⁵⁴

Russia is also moving to update and expand its national data protection law.¹³⁵⁵ A draft law on the Protection of Consumer Rights would limit the ability of companies to collect personal data from consumers, unless there is a legal basis or the data is necessary for the transaction. A proposed law in the Duma would expand penalties for breach of personal data confidentiality and infringement of personal data anonymization rules. And the Supreme Court of Russia ruled this summer that the personal data of a Russian citizen posted by the Whois Privacy Corporation, based in the Bahamas, without consent is subject to legal action under the Russian Civil Procedure Code.

Algorithmic Transparency

Russia is a member of the Council of Europe and ratified Convention 108 regarding the automated process of personal data in 2013.¹³⁵⁶ Russia has not yet ratified the modernized Privacy Convention, which includes a broad provision regarding algorithm transparency.¹³⁵⁷ Russian data protection law does broadly provide rights of access and transparency to the data subject.¹³⁵⁸

OECD/G20 AI Principles

Russia, a member of the G20, endorsed the G20 AI Principles at the G20 Ministerial in 2019.¹³⁵⁹ According to the OECD, many of the G20 AI Principles are addressed in the Russia AI Strategy.

Human Rights

Russia is a signatory to the Universal Declaration of Human Rights. Russia is a member of the Council of Europe and ratified the original

¹³⁵³ Roskomnadzor, *Federal Law of 27 July 2006 N 152-FZ on Personal Data*, <https://pd.rkn.gov.ru/authority/p146/p164/>

¹³⁵⁴ Roskomnadzor, *About the Competent Authority*, <http://eng.pd.rkn.gov.ru>

¹³⁵⁵ Olga Novinskaya, *Recent changes in personal data regulation in Russia*, *International Lawyers Network* (Nov. 12, 2020), <https://www.jdsupra.com/legalnews/recent-changes-in-personal-data-58095/>

¹³⁵⁶ Council of Europe, *Chart of signatures and ratifications of Treaty 108: Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data* (Dec. 11, 2020), <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/108/signatures>

¹³⁵⁷ Article 9(1)(c).

¹³⁵⁸ OneTrust, *Russia – Data Protection Overview* (Nov. 2020),

<https://www.dataguidance.com/notes/russia-data-protection-overview>

¹³⁵⁹ <http://www.oecd.org/digital/g20-digital-economy-ministers-meeting-july-2020.htm>

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Convention 108. However, Russia’s derogation from the Council of Europe Convention on Human Rights remains controversial.¹³⁶⁰ And a recent decision from the European Court of Human Rights, *Zakharov v. Russia*, found that Russia’s legislation on surveillance “does not provide for adequate and effective guarantees against arbitrariness and the risk of abuse.”¹³⁶¹

Freedom House gives Russia low marks for political rights and civil liberties.¹³⁶² According to Freedom House, “Power in Russia’s authoritarian political system is concentrated in the hands of President Vladimir Putin. With loyalist security forces, a subservient judiciary, a controlled media environment, and a legislature consisting of a ruling party and pliable opposition factions, the Kremlin is able to manipulate elections and suppress genuine dissent. Rampant corruption facilitates shifting links among bureaucrats and organized crime groups.”

Evaluation

Russia’s development of a National AI Strategy, endorsement of the G20 AI Principles, its efforts to develop laws for digital rights and regulation for AI, as well as initiatives to involve the public in the development of AI policy count favorably. But beyond data protection legislation, the absence of robust measures to limit surveillance and protect human rights, coupled with the rapid adoption of facial recognition in public places raise concerns about the future of Russia’s AI program.

¹³⁶⁰ See generally Council of Europe, *Derogation in Time of Emergency* (Sept. 2020), https://www.echr.coe.int/documents/fs_derogation_eng.pdf. See also Marc Rotenberg and Eleni Kyriakides, *Preserving Article 8 in Times of Crisis*, in Francesca Bignami, i (2020)

¹³⁶¹ European Court of Human Rights, *Roman Zakharov v. Russia*, No. 47143/06 (Dec. 4, 2015), [https://hudoc.echr.coe.int/fre#{"itemid":\["001-159324"\]}](https://hudoc.echr.coe.int/fre#{); Paul De Hert and Pedro Cristobal Bocos, *Case of Roman Zakharov v. Russia: The Strasbourg follow up to the Luxembourg Court’s Schrems judgment*, Strasbourg Observers (Dec. 23, 2015), <https://strasbourgobservers.com/2015/12/23/case-of-roman-zakharov-v-russia-the-strasbourg-follow-up-to-the-luxembourg-courts-schrems-judgment/>

¹³⁶² Freedom House, *Freedom in the World 2020 – Russia* (2020), <https://freedomhouse.org/country/russia/freedom-world/2020>

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Rwanda

National AI Strategy

Rwanda, with Vision 2050, aspires to increase the quality of life and develop modern infrastructure¹³⁶³ by strengthening capacity, service delivery and accountability of public institutions; increasing citizens' participation and engagement in development; and strengthening justice and rule of law. National Strategy for Transformation (NST1) is the vehicle for achieving Vision 2050.¹³⁶⁴ The government pledges to establish legal frameworks that spur economic development and instill fairness, transparency and accountability across institutions.¹³⁶⁵ The Emerging Technologies Strategy and Action Plan aims to position Rwanda as an emerging technology testbed, solution and export hub; propel the social and economic application of new technologies; prepare the foundations for new technologies and protect citizens and institutions from the negative consequences.¹³⁶⁶

The Government of Rwanda is developing a national AI strategy to equip government agencies and other stakeholders in the country to empower AI developers, citizens and users, and support the beneficial and ethical adoption of AI.¹³⁶⁷ The government has engaged The Future Society to support the development of Rwanda's national artificial intelligence strategy, along with AI ethical guidelines, and a practical implementation

¹³⁶³ Republic of Rwanda, *Vision 2050* (2015)

http://www.minecofin.gov.rw/fileadmin/templates/documents/NDPR/Vision_2050/Vision_2050_Full_Document.pdf

¹³⁶⁴ Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*

http://www.minecofin.gov.rw/fileadmin/user_upload/MINECOFIN_Documents/NST_A5_booklet_final_2.04.19_WEB.pdfhttp://www.minecofin.gov.rw/fileadmin/user_upload/MINECOFIN_Documents/NST_A5_booklet_final_2.04.19_WEB.pdf

¹³⁶⁵ Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*

¹³⁶⁶ Lasry, F. *Transforming Rwanda into a living Laboratory of Emerging Technologies: MINICT and DigiCenter develop National Emerging Technology Strategy and Action Plan*. Digital Transformation Center Kigali (June 15, 2020)
<https://digicenter.rw/transforming-rwanda-into-a-living-laboratory-of-emerging-technologies/>

¹³⁶⁷ UNICEF, *Policy Guidance on AI for Children: Pilot testing and case studies* (02 November 2020) <https://www.unicef.org/globalinsight/stories/policy-guidance-ai-children-pilot-testing-and-case-studies>

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strategy fit for the local context.¹³⁶⁸ For implementation, GIZ FAIR Forward will be utilized. “FAIR Forward – Artificial Intelligence for All” is a global initiative of German Development Cooperation, working together with Rwanda and four other countries to lay the foundations for developing local AI, to strengthen local skills and knowledge in AI; remove barriers of entry to developing AI and to develop AI policy frameworks on ethical AI, data protection and privacy.¹³⁶⁹ FAIR Forward advocates for ethical AI that is rooted in human rights, international norms such as accountability, transparency of decision-making and privacy, and draws on European experiences such as the EU General Data Protection Regulation (GDPR). The stakeholders defined six priority areas for effective AI policy in Rwanda. 1) 21st century skills and high AI literacy, 2) Reliable infrastructure and compute capacity, 3) Robust Data Strategy, 4) Trustworthy AI adoption in the public sector, 5) Widely beneficial AI adoption in the private sector, and 6) Practical Ethical Guidelines. The result of this partnership is The National AI Policy which is currently being validated by the Government of Rwanda. At the same time Rwanda Utilities Regulatory Authority (RURA) has been developing ethical guidelines for the use of AI that are supposed to guide AI developers in Rwanda on how to mitigate the risks and harms.¹³⁷⁰

AI System for Identity Management

Rwanda used biometric identification for its census in 2007 to unify all identity information under a single authority, the National Identification Agency (NIDA), and a unique National Identity Number (NIN). This number is now used for health, education, telecom, banking, electoral lists, social protection programs and border crossings.¹³⁷¹ It also proposed to create a country-wide DNA database to crack down on crime, raising concerns that the data could be misused by the government and violate

¹³⁶⁸ The Future Society, The Development of Rwanda’s National Artificial Intelligence Policy, (Aug. 31, 2020) <https://thefuturesociety.org/2020/08/31/development-of-rwandas-national-artificial-intelligence-policy/>

¹³⁶⁹, *FAIR Forward – Artificial Intelligence for All*, <https://toolkit-digitalisierung.de/en/fair-forward/>

¹³⁷⁰ <https://digicenter.rw/how-rwandas-ai-policy-helps-to-shape-the-evolving-ai-ecosystem/>

¹³⁷¹ ID4Africa, *Rwanda National ID Strategy*, https://www.id4africa.com/2019_event/presentations/PS1/5-Josephine-Mukesh-NIDA-Rwanda.pdf

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international human rights laws.¹³⁷² In a country that has bitter memories of genocide along ethnic identity lines, the right to data privacy becomes a crucial issue. National social protection program, Ubudehe, database, was created in 2001¹³⁷³ to classify wealth and identify the poorest households using community assessments. The database is interlinked with the national ID number. The lack of transparency on who makes the wealth determination and how this impacts an individual's access to opportunities and resources and the extent of stigmatization remains questionable.

Smart Cities

Established in 2000 and revised in 2012, the aim of Rwanda Vision 2020 was to “transform Rwanda from an agrarian economy to a knowledge-based society by 2020.” Under this vision, Smart Rwanda Master Plan had three goals: economic transformation, job creation and accountable governance. In 2015, Rwanda adopted a National Urbanization Policy to demonstrate how urban development can drive economic transformation. One of the focus is to “promote quality of life, mitigation of disaster risks, social inclusion and cultural preservation” through “digital service points for rural settlements, smart urban agriculture projects, sensor-based environmental data, smart and green building labs.¹³⁷⁴ The policy requires public engagement and open data as building blocks. The Rwanda smart city model is centered around 3 main pillars, 9 strategic building blocks and 27 action initiatives. The three pillars are smart governance and planning; smart and efficient services and utilities; and localized innovation for social and economic development.

Kigali Innovation City (KIC) is the government's flagship program to create a hi-tech ecosystem, modelling itself on the southeast Asian city-state of Singapore. The City of Innovation is to be built as part of Africa50. It is a 62-hectare development located in Kigali's special economic zone (SEZ). Main goal is to create an innovative business hub in the heart of Africa that will include four first-rate universities, innovative agriculture,

¹³⁷² International Association of Privacy Professionals, *Rwanda announces plans for countrywide DNA database* (Mar. 26, 2019) <https://iapp.org/news/a/rwanda-announced-plans-for-country-wide-dna-database/>

¹³⁷³ Republic of Rwanda Ministry of Health & World Health Organization, *Rwanda's Performance in Addressing Social Determinants of Health and Intersectoral Action* (2018) [https://www.afro.who.int/sites/default/files/2018-03/Rwanda s Performance in Addressing Social Determinants of Health and%20in%20intersectoral%20action%20final%20Report.pdf](https://www.afro.who.int/sites/default/files/2018-03/Rwanda%20s%20Performance%20in%20Addressing%20Social%20Determinants%20of%20Health%20and%20in%20Intersectoral%20Action%20final%20Report.pdf)

¹³⁷⁴ UN Habitat, *Smart City Rwanda Master Plan*, https://unhabitat.org/sites/default/files/documents/2019-05/rwanda_smart_city-master_plan.pdf

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healthcare, technology, financial services, biotech firms and both commercial and residential space.¹³⁷⁵

The Smart City Masterplan was developed in 2017, with participation of various stakeholders in Rwanda, including regulatory bodies, local authorities, academia, civil society and the private sector. The development was aligned with the Smart Africa Alliance Smart Sustainable Cities Blueprint for Africa.¹³⁷⁶

Drone Regulation

Following a successful partnership with a startup, *Zipline*, to deliver blood, vaccines and other medical supplies to rural hospitals in Rwanda, the country decided to regulate the use of drones. It entered into partnership with World Economic Forum to draft a framework for governing drones at scale and foster an ecosystem of unmanned aircraft systems. The government created a performance-based regulation focused on safety standards and is the first country in the world to implement it for all drones.¹³⁷⁷ This partnership also resulted in The Advanced Drone Operations Toolkit which provides a modular approach for governments to enable societally important and safe drone projects.¹³⁷⁸ The country is now looking to use these technologies to promote agricultural resilience and food security in Rwanda. It has not called for a prohibition on fully autonomous weapons.¹³⁷⁹

Rwanda is working on another proof-of-concept with the World Economic Forum to apply a framework of ten principles selected from AI ethics and healthcare ethics and interpreted within the context of the use of chatbots in healthcare.¹³⁸⁰

¹³⁷⁵ Thelwell, K. *Big Plans for Rwandan Infrastructure*, The Borgen Project (Oct. 6, 2019) <https://borgenproject.org/tag/kigali-innovation-city/>

¹³⁷⁶ UN Habitat, *Smart City Rwanda Master Plan*

¹³⁷⁷ Russo A., Wolf H., *What the world can learn from Rwanda's approach to drones*, World Economic Forum (Jan. 16, 2019) <https://www.weforum.org/agenda/2019/01/what-the-world-can-learn-from-rwandas-approach-to-drones/>

¹³⁷⁸ World Economic Forum, *Advanced Drone Operations Toolkit: Accelerating the Drone Revolution* (Feb. 26, 2019) <https://www.weforum.org/reports/advanced-drone-operations-toolkit-accelerating-the-drone-revolution>

¹³⁷⁹ The Campaign to Stop Killer Robots, *Country Views on Killer Robots* (Nov. 13, 2018) https://www.stopkillerrobots.org/wp-content/uploads/2018/11/KRC_CountryViews13Nov2018.pdf

¹³⁸⁰ How Rwanda Is Shaping The Global Rollout Of Everything From AI Health Bots To Drones (February 8, 2021) <https://medaditus.org/news-articles/how-rwanda-is-shaping-the-global-rollout-of-everything-from-ai-health-bots-to-drones/>

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Public Participation

Ongoing policy development to cater for AI is being supervised by the Ministry of ICT and Innovation, in partnership with Rwanda Utilities and Regulatory Authority, the Rwanda Information Society Authority, and all relevant stakeholders from the public and private sectors and civil society.¹³⁸¹ The partnership strategy with The Future Society for development of national AI strategy will shape how much public and civic participation will be incorporated to the process.

OECD AI Principles

Rwanda is not a signatory to OECD AI Principles. While the nation does not have an established AI strategy yet, the engagement of The Future Society and GIZ FAIR Forward to help develop it, as well as its close alignment with GDPR is a positive sign for future direction.

Fundamental Rights

After the genocide of 1994, Rwanda had to rebuild its infrastructure and relations from ground up. A unity and reconciliation process was followed by a combination of traditional systems of justice and international tribunals.¹³⁸² The National Commission for Human Rights was created in 1999 as an independent institution responsible for the promotion and protection of human rights in Rwanda.¹³⁸³ In 2017 Rwanda withdrew from Protocol to the African Charter on Human and Peoples' Rights which allows individuals and NGOs to bring cases directly to the African Court on Human and Peoples' Rights came into effect.¹³⁸⁴ Freedom House scores Rwanda as "Not Free."¹³⁸⁵ The Ibrahim Index of African Governance scores

1381 Habumuremyi, E. *AI eyed to transform health care in Rwanda*, Global Information Society Watch, <https://www.giswatch.org/node/6186>

1382 Nkusi, A. *The Rwandan Miracle*, UNICEF, <https://en.unesco.org/courier/2019-2/rwandan-miracle>

1383 Republic of Rwanda Ministry of Justice, *The National Human Rights Action Plan of Rwanda 2017-2020*

https://minijust.gov.rw/fileadmin/Documents/MoJ_Document/NHRAP_FINAL_version_for_cabinet-1.pdf

1384 Amnesty International, *Rwanda: More progress needed on human rights commitments. Amnesty International submission for the UN Universal Periodic Review – 37th Session of the UPR Working Group, January-February 2021* (Aug. 2020), <https://www.amnesty.org/download/Documents/AFR4728582020ENGLISH.PDF>

¹³⁸⁵ Freedom House, Global Freedom Scores: Rwanda.

<https://freedomhouse.org/countries/freedom-world/scores>

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Rwanda's 2019 record on Rights at 29.1 out of 100, and ranks Rwanda at 60.5 for overall governance.¹³⁸⁶

The European Union concluded in its 2018 human rights report that “area with the most significant restrictions of human rights were the politically related rights and freedoms such as the freedom of expression/freedom of media, freedom of association and freedom of assembly.”¹³⁸⁷ Ahead of the 2021 UN Universal Periodic Review of Rwanda, the government announced National Action Plan for Human Rights (NHRAP) 2017-2020, formulated through a participatory process. This the first of its kind in Rwanda and builds on extensive work by Rwandan government to create an inclusive society where all are valued and have equal opportunity. The government commits that Universal Declaration of Human Rights should guide all future programs and policies in all sectors and in all phases of the programming process including monitoring and evaluation.

The Rwandan judiciary lacks independence from the executive. Top judicial officials are appointed by the president and confirmed by the Senate¹³⁸⁸ dominated by governing party. In addition, the 2013 law allows for security organs to record or listen to communications both offline and online, and without necessarily facilitating through a service provider, if it is done in the interest of national security.¹³⁸⁹ The regulations require mandatory SIM card registration and a limit of three cards per national ID per operators. Service providers are required to maintain databases and share information with law enforcement if necessary.

Data Protection

In 2019 Rwanda adopted Child Online Protection Policy (“the COP Policy”) designed to mitigate against those risks and harms, and to deliver a framework that meets children’s needs and fulfils their rights. It makes it

¹³⁸⁶ Ibrahim Index of African Governance, *Rwanda, 2019, Comparison of 54 locations by measure “Participation, Rights, & Inclusion”*. <https://iiag.online>

¹³⁸⁷ European Union, *Annual Report on Human Rights and Democracy in the World 2018 – Rwanda* (May 21, 2019) https://eeas.europa.eu/delegations/rwanda/62839/eu-annual-report-human-rights-and-democracy-world-2018-rwanda_en

¹³⁸⁸ Freedom House, *Freedom in the World 2020*, <https://freedomhouse.org/country/rwanda/freedom-world/2020>

¹³⁸⁹ Republic of Rwanda, *N° 60/2013 of 22/08/2013 Law regulating the interception of communications*. Official Gazette n° 41 of 14/10/2013 https://rema.gov.rw/rema_doc/Laws/Itegeko%20rishya%20rya%20REMA.pdf

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one of the first countries to adopt such protections.¹³⁹⁰ In 2019 Rwanda ratified the African Union Convention on Cyber Security and Personal Data Protection.¹³⁹¹ Law No. 058/2021 Relating to the Protection of Personal Data and Privacy was published on 15 October 2021. It establishes principles of lawfulness, fairness and transparency, purpose limitation and accuracy. It also requires personal data protection impact assessments. The legislation does not establish an independent data protection agency but states ‘supervisory authority is ‘a public authority in charge of cyber security.’¹³⁹² In introduction of the new legislation, National Cyber Security Authority defined personal data as a “fundamental right”.¹³⁹³ Following the GDPR, the Privacy Law seeks to safeguard fundamental rights to privacy by regulating the processing of data and providing the individual with rights over their data.¹³⁹⁴ The law establishes systems of accountability and clear obligations for those who control the processing of the personal data. According to One Trust, “The bill is relatively comprehensive and would introduce obligations related to data subject rights, data processing notifications, pseudonymisation, sensitive data, data transfers, and data breach notifications.”¹³⁹⁵

Algorithmic Transparency

Government provides open datasets¹³⁹⁶ and government services.¹³⁹⁷ Under NST1, government targets to ensure 100% Government services are

¹³⁹⁰

https://rura.rw/fileadmin/Documents/ICT/Laws/Rwanda_Child_Online_Protection_Policy.pdf

¹³⁹¹ Daniel Sabiiti, *Rwanda Ratifies Malabo Convention On Personal Data Protection*, KT Press (July 25, 2019), <https://www.ktpress.rw/2019/07/rwanda-ratifies-malabo-convention-on-personal-data-protection/>

¹³⁹² Law No. 058/2021 of 13 October 2021 Relating to the Protection of Personal Data and Privacy

https://www.minijust.gov.rw/fileadmin/user_upload/Minijust/Publications/Official_Gazette/2021_Official_Gazettes/October/OG_Special_of_15.10.2021_Amakuru_bwite.pdf

¹³⁹³ <https://cyber.gov.rw/updates/article/rwanda-passes-new-law-protecting-personal-data-1/>

¹³⁹⁴ Julius Bizimungu, *Rwanda moves to tighten data protection, privacy*, the New Times (Nov. 6, 2020), <https://www.newtimes.co.rw/news/rwanda-moves-tighten-data-protection-privacy>

¹³⁹⁵ OneTrust DataGuidance, *Rwanda* (Oct. 29, 2020),

<https://www.dataguidance.com/jurisdiction/rwanda>

¹³⁹⁶ Rwanda Data Portal [dhttps://rwanda.opendataforafrica.org/](https://rwanda.opendataforafrica.org/)

¹³⁹⁷ Irembo.gov https://irembo.gov.rw/home/citizen/all_services

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delivered online by 2024.¹³⁹⁸ However the ability in practice to obtain information about state operations remains questionable.

Evaluation

Rwanda's national strategy, including Vision 2050 and FAIR Forward, aligns with the OECD/G20 AI Principles and encourages public participation in future AI decisions. Rwanda has moved toward stronger standards for data protection but has not yet established an independent agency to ensure data protection or to oversee AI deployment. The Smart City initiative in Kigali offers enormous promise, but also must be carefully monitored to ensure that a system of mass surveillance does not take place. The pioneering work on drone regulation needs to be coupled with a stand against lethal autonomous weapons.

1398 Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*

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Saudi Arabia

National AI Strategy

The Saudi AI initiatives are led by the Saudi Data and AI Authority (SDAIA), which reports directly to the Prime Minister and consists of members chosen by the Prime Minister.¹³⁹⁹ The Saudi Data and AI Authority's website provides basic information about the Kingdoms goals for AI.¹⁴⁰⁰ In the September 2020 SDAIA and Riyadh signed a cooperative agreement for an AI Oasis.

In August 2020, SDAIA published a National Strategy for Data and AI.¹⁴⁰¹ The AI Strategy is to advance the KSA Vision 2030.¹⁴⁰²¹⁴⁰³ The AI Strategy states that this Vision will be achieved “through a multi-phased approach focused on addressing the national priorities by 2025, building foundations for competitive advantage in key niche areas by 2030, and becoming one of the leading economies utilizing and exporting Data & AI after 2030.”¹⁴⁰⁴ The National Strategy states 6 objectives:

1. “Ambition: Position KSA as the global hub where the best of Data & AI is made reality
2. Skills: Transform KSA's workforce with a steady local supply of Data & AI-empowered talents
3. Policies & Regulations: Enact the most welcoming legislation for Data & AI businesses and talents
4. Investment: Attract efficient, stable funding for qualified Data & AI investment opportunities
5. Research & Innovation: Empower top Data & AI institutions to spearhead innovation and impact creation
6. Ecosystem: Stimulate Data & AI adoption with the most collaborative, and forward-thinking ecosystem”

Most of the goals focus on fostering an enabling business and regulatory environment. This includes education schemes that promote the development of a workforce that fits the industry's new needs. The government is undertaking major educational reform to foster the

¹³⁹⁹ Saudi Gazette, *King Salman issues royal decrees, including setting up of industry and resources ministry* (Aug. 2019), <https://saudigazette.com.sa/article/575953>

¹⁴⁰⁰ Saudi Data and AI Authority, Home, <https://sdaia.gov.sa/>

¹⁴⁰¹ Carrington Malin, *Saudi National Strategy for Data and AI* (Aug. 2020), <https://www.sme10x.com/technology/saudi-national-strategy-for-data-and-ai-approved>

¹⁴⁰² Government of Saudi Arabia, *Vision 2030* (2020), <https://vision2030.gov.sa/en>

¹⁴⁰³ Catherine Jewell, *Saudi Arabia embraces AI-driven innovation* (Sept. 2018), https://www.wipo.int/wipo_magazine/en/2018/05/article_0002.html

¹⁴⁰⁴ SDAIA, *National Strategy for Data & AI: Realizing our best tomorrow* (Oct. 2020), https://ai.sa/Brochure_NSDAI_Summit%20version_EN.pdf

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development of digital skills for jobs in emerging technology including AI.¹⁴⁰⁵

The National Strategy states, “As part of providing an attractive regulatory framework for Data & AI investments and businesses, we aim at having a strong framework to promote and support ethical development of Data & AI research and solutions. This framework will provide guidelines for the development of our data protection and privacy standards.”¹⁴⁰⁶ On policies and regulations, “NDMO is developing a number of regulatory frameworks including topics such as data privacy and freedom of information. In particular, Open Data has been identified as a priority topic, and the government has already made investments in open data platforms.”

Late in October 2020, the SDAIA published National Data Governance Interim Regulations to govern the collection and use of personal data and the management of data by government entities.¹⁴⁰⁷ These regulations appear to be broadly influenced by the GDPR and include extensive rights for data subjects and obligation for data controllers. For example, individuals will have the “right to be informed of the legal basis and purpose for the collection and processing of their personal data. Personal data cannot be collected or processed without the Data Subject’s express consent.” Data subjects will also have the “right to access personal data in possession of the Data Controller, including the right to correct, delete, or update personal data, destroy unnecessary data, and obtain a copy of the data in a clear format.”

The SDAIA was established in 2019 with the aim of fostering “the digital ecosystem while also supporting the suite of values-based G20 AI Principles.”¹⁴⁰⁸ “Data is the single most important driver of our growth and reform and we have a clear roadmap for transforming Saudi Arabia into a leading AI and data-driven economy,” said Dr Abdullah bin Sharaf Al

¹⁴⁰⁵ Catherine Early, *Saudi Arabia signs off on Artificial Intelligence policy* (Aug. 2020), <https://www.globalgovernmentforum.com/saudi-arabia-signs-off-on-artificial-intelligence-policy/>

¹⁴⁰⁶ SDAIA, *National Strategy for Data & AI: Realizing our best tomorrow* (Oct. 2020), https://ai.sa/Brochure_NSDAI_Summit%20version_EN.pdf

¹⁴⁰⁷ Albright Stonebridge Group, *ASG Analysis: Saudi Arabia Publishes National Data Governance Interim Regulations* (Oct. 21, 2020), <https://www.albrightstonebridge.com/news/asg-analysis-saudi-arabia-publishes-national-data-governance-interim-regulations>

¹⁴⁰⁸ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* 35, 41, 42 (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

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Ghamdi, president of SDAIA.¹⁴⁰⁹ SDAIA oversees three organizations: the National Data Management Office (NDMO), the National Information Center (NIC) and the National Center for AI (NCAI). The NDMO is responsible for the regulation of data which includes standardization and regulation of artificial intelligence as well as ensuring compliance. The NIC oversees the operation of government data infrastructure and government analytics. The implementation of the national AI strategy is the main responsibility of the NCAI. This includes facilitating capacity-building, AI innovation and raising awareness of AI as well as expanding education on AI.¹⁴¹⁰¹⁴¹¹

Saudi Arabia's Deputy Minister Dr. Ahmed AL Theneyan emphasized the importance of regulation in interviews about the Kingdom's AI Strategy. This includes education plans that promote the development of a workforce that fits the industry's new needs. The government is undertaking major educational reform to foster the development of digital skills for jobs in emerging technology including AI.¹⁴¹² "The country is establishing a national data bank to consolidate more than 80 government datasets, the equivalent to 30 per cent of the government's digital assets. It is also planning to build one of the largest clouds in the region by merging 83 data centres owned by more than 40 government bodies."¹⁴¹³

During the fight against COVID-19 the SDAIA launched two apps: the Tawakkalna app to manage movement permits for government and private sector employees and Tabaud to notify citizens when they have come in contact with someone who was infected with the virus.¹⁴¹⁴¹⁴¹⁵ MIT

¹⁴⁰⁹ Gulf News, *Saudi Arabia approves policy on Artificial Intelligence, expects SR500b windfall by 2030*, (Aug. 10, 2020), <https://gulfnews.com/business/saudi-arabia-approves-policy-on-artificial-intelligence-expects-sr500b-windfall-by-2030-1.1597032000775>

¹⁴¹⁰ Future of Life, *AI-Policy Saudi Arabia*, <https://futureoflife.org/ai-policy-saudi-arabia/>

¹⁴¹¹ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* 35, 41, 42 (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹⁴¹² Early, Catherine, *Saudi Arabia signs off on Artificial Intelligence policy* (Aug. 2020), <https://www.globalgovernmentforum.com/saudi-arabia-signs-off-on-artificial-intelligence-policy/>

¹⁴¹³ Vishal Chawla, *How Saudi Arabia Is Looking To Develop & Integrate Artificial Intelligence In Its Economy*, *Analytics India Magazine* (Aug. 23, 2020), <https://analyticsindiamag.com/how-saudi-arabia-is-looking-to-develop-integrate-artificial-intelligence-in-its-economy/>

¹⁴¹⁴ SDAIA, *Tawakkalna*, <https://ta.sdaia.gov.sa/En/>

¹⁴¹⁵ SDAIA, *Tabaud*, <https://tabaud.sdaia.gov.sa/indexEn>

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Technology Review reported that Tabaud is transparent, voluntary, and minimizes data collection.¹⁴¹⁶

In 2017 Saudi Arabia granted the robot, Sophia, citizenship. This is a first worldwide and was met with mixed reactions.¹⁴¹⁷ CNBC said, “Sophia been touted as the future of AI, but it may be more of a social experiment masquerading as a PR stunt.”¹⁴¹⁸ Bloomberg noted that “Migrant laborers can’t become citizens; android Sophia can.”¹⁴¹⁹

Global AI Summit

The Global AI Summit, held in October 2020, is described as the “world’s premier platform for dialogue that brings together stakeholders from public sector, academia and private sector, including technology companies, investors, entrepreneurs and startups to shape the future of Artificial Intelligence (AI).”¹⁴²⁰ Speakers from across sectors explored the theme “AI for the Good of Humanity.” Notably, several of the sessions focused on ethics and making use of AI for social causes with titles like: “AI for the good of humanity”, “AI for good, AI for all: Collective thinking on how access to AI can be democratized to shape and deliver positive societal impact” and “Misuse vs. Missed Use: The Ethics Question: Ethics and ethical frameworks as a tool in unleashing AI innovation”.¹⁴²¹ In opening remarks, the President of the SDAIA stated “during the two days we will also be announcing several major partnerships and initiatives with our international partners to accelerate AI for sustainable development in low and middle income countries and to enable the sharing of AI best practices globally to ensure a more inclusive future powered by AI where no one is left behind.” He emphasized the importance of working together internationally to ensure the sustainable development of AI.¹⁴²²

¹⁴¹⁶ MIT Technology Review, *COVID Tracing Tracker* (May 7, 2020), <https://www.technologyreview.com/2020/05/07/1000961/launching-mittr-covid-tracing-tracker/>,

¹⁴¹⁷ Future of Life, *AI Policy-Saudi Arabia*, <https://futureoflife.org/ai-policy-saudi-arabia/>

¹⁴¹⁸ Jaden Urbi and Sigalos MacKenzie, *The Complicated Truth about Sophia the Robot-an almost human robot or a PR stunt*, CNBC (June 2018),

<https://www.cnn.com/2018/06/05/hanson-robotics-sophia-the-robot-pr-stunt-artificial-intelligence.html>

¹⁴¹⁹ Tracy Alloway, *Saudi Arabia Gives Citizenship to a Robot*, Bloomberg (Oct. 2017), <https://www.bloomberg.com/news/articles/2017-10-26/saudi-arabia-gives-citizenship-to-a-robot-claims-global-first>

¹⁴²⁰ Global AI Summit, *About Us*, <https://www.theglobalaisummit.com/#about-us>

¹⁴²¹ Global AI Summit, *Program*, <https://www.theglobalaisummit.com/#program>

¹⁴²² Global AI Summit, *AI for the Good of Humanity* (Oct. 21, 2020) (livestream), https://www.youtube.com/watch?v=uOGYQlhmb_8

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During the Global AI Summit, several international organizations announced new initiatives. The World Bank Group and SDAIA set out a new partnership to “help finance, stimulate, and accelerate the development and adoption of artificial intelligence technologies to serve people and development initially in Africa and globally at a later stage” and “to strengthen Saudi Arabia's role as a key contributor in supporting developing countries.”¹⁴²³ The International Telecommunications Union signed a Memorandum of Understanding with the Kingdom to “support global cooperation in the field of artificial intelligence.” The ITU will also “see the development of an internationally-recognized system for countries to mobilize resources, providing assistance for official agencies that want to adopt AI technologies, and accreditation to meet economic requirements.” Dr. Abdullah bin Sharaf Alghamdi, President of the SDAIA, stated: “The International Telecommunication Union will share the best practices in the field of artificial intelligence with the Kingdom. This will help in shedding light on how to sponsor and support emerging companies and new incubators in the national space, especially as there is no official framework that currently exists to support the AI readiness of countries and international cooperation.”¹⁴²⁴

Neom

The Kingdom has also initiated a smart city project called Neom. Neom “is an international project that will be led, populated and funded by people from all over the world.” According to the FAQ, Neom will be a “semi-autonomous region with its own government and laws” in northwest Saudi Arabia on the Red Sea and home to one Million people by 2030.¹⁴²⁵ Neom is envisioned to become a city that “will introduce a new model for urbanization and sustainability,” built on five principles: sustainability, community, technology, nature, livability.¹⁴²⁶

Public Participation

The Saudi AI initiatives are led by the Saudi Data and AI Authority, which reports directly to the Prime Minister and consists of members

¹⁴²³ Global AI Summit, Press Releases, Keen to harness benefits of artificial intelligence for all Saudi Arabia establishes new partnership with World Bank Group (Oct. 2020), <https://theglobalaisummit.com/news4.html>

¹⁴²⁴ Global AI Summit, Press Releases, SDAIA and International Telecommunication Union sign MoU to Develop International Artificial Intelligence Framework (Oct. 2020), <https://theglobalaisummit.com/news10.html>

¹⁴²⁵ NEOM, *FAQ*, https://www.neom.com/en-us/static/pdf/en/NEOM_FAQ_EN.pdf

¹⁴²⁶ NEOM, *Brochure*, https://www.neom.com/en-us/static/pdf/en/NEOM_BROCHURE_EN.pdf

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chosen by the Prime Minister.¹⁴²⁷ As far as can be gathered from the website, the Vision 2030 Strategy was developed by the Council of Ministers and the Council of Economic Affairs.¹⁴²⁸ The SDAIA Website lists its current activities, achievements and general information about the authority and its work.¹⁴²⁹ Further, the SDAIA provides a digitized version of the strategy report.¹⁴³⁰ The Vision 2030 website sets out broad policy objectives.¹⁴³¹ There are indicators and targets for every Theme as well as information on the respective initiatives. The Vision 2030, however, encompasses many different objectives, AI being only one of many.

The Global AI Summit 2019 provided important opportunities for individuals and organizations to express their views on AI policy. However, the conference was not held in 2021. It is anticipated that the conference will resume in 2022.

In 2021, the KSA Communications and Information Technology Commission (CITC) sought public comment on the Digital Content Platform Regulations Document.” According to the Commission, “The initiative is aimed to regulate, govern, activate, and motivate digital content platforms to expand and grow. In addition to engage the private sector, empower entrepreneurs as well as attract investments and protect users of digital content platforms.” They stated: “The commission calls on interested parties from the Kingdom and abroad as well as the public to submit their views on the consultations document before November 30, 2021. The Digital Content Council and CITC value the importance of engaging interested parties, investors and entrepreneurs in regulations drafting process.”¹⁴³²

G-20 Meetings

Saudi Arabia hosted the G-20 Digital Economy Ministers Meeting in June 2020. AI policy was a focal point of the discussions. The Digital Economy Task Force released a new report on the implementation of the

¹⁴²⁷ Saudi Gazette, *King Salman issues royal decrees, including setting up of industry and resources ministry* (Aug. 2019), <https://saudigazette.com.sa/article/575953>

¹⁴²⁸ Vision 2030, Governance, <https://vision2030.gov.sa/en/governance>

¹⁴²⁹ SDAIA (SDAIA), <https://sdaia.gov.sa/?Lang=en>

¹⁴³⁰ Kingdom of Saudi Arabia, *National Strategy for Data and AI*, <https://ai.sa/index-en.html>

¹⁴³¹ Kingdom of Saudi Arabia, *Vision 2030, Programs*, <https://vision2030.gov.sa/en/programs#>

¹⁴³² KSA Communications and Information Technology Commission, *CITC Publishes a Public Consultation on Digital Content Platform Regulations Document* (2021) <https://www.citc.gov.sa/en/new/publicConsultation/Pages/144304.aspx>.

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OECD AI Principles.¹⁴³³ The key agenda items selected by the Saudi government were: “Empowering People, by creating the conditions in which all people – especially women and youth – can live, work and thrive”; “Safeguarding the Planet, by fostering collective efforts to protect our global commons”; and “Shaping New Frontiers, by adopting long-term and bold strategies to share benefits of innovation and technological advancement.”¹⁴³⁴¹⁴³⁵

In November 2020, Saudi Arabia hosted the G20 Ministerial meeting in Riyadh. There was controversy surrounding the event as many human rights organizations protested the decision to allow the Kingdom to host the G20 meeting. Still, there was progress on fundamental rights associated with AI and digital technologies. The G20 Leaders in Riyadh stated, “We will continue to promote multi-stakeholder discussions to advance innovation and a human-centered approach to Artificial Intelligence (AI), taking note of the Examples of National Policies to Advance the G20 AI Principles. We welcome both the G20 Smart Mobility Practices, as a contribution to the well-being and resilience of smart cities and communities, and the G20 Roadmap toward a Common Framework for Measuring the Digital Economy.”¹⁴³⁶

On Digital Economy, the G20 said “We acknowledge that universal, secure, and affordable connectivity, is a fundamental enabler for the digital economy as well as a catalyst for inclusive growth, innovation and sustainable development. We acknowledge the importance of data free flow with trust and cross-border data flows.” The G20 Declaration further said, “We support fostering an open, fair, and non-discriminatory environment, and protecting and empowering consumers, while addressing the challenges related to privacy, data protection, intellectual property rights, and security.”

¹⁴³³ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹⁴³⁴ SDG Knowledge Hub, *G20 Digital Economy Ministers Meeting*, July 2020, <https://sdg.iisd.org/events/g20-digital-economy-ministers-meeting/>

¹⁴³⁵ G20 Saudi Arabia, <https://g20.org/en/Pages/home.aspx>. [Editorial note: At the time of publication we found that the materials from the G20 summit that were available shortly after the Summit concluded, including the Leaders Declaration, were no longer available at the G20 website. Fortunately, copies of these documents are archived and available at the Internet Archive, <https://web.archive.org>]

¹⁴³⁶ G20 Riyadh Summit, *Leaders Declaration* (Nov. 21-22, 2020), https://g20.org/en/media/Documents/G20%20Riyadh%20Summit%20Leaders%20Declaration_EN.pdf

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AI Oversight

The Saudi Data and Artificial Intelligence Authority (SDAIA) was established by a royal decree in 2019.¹⁴³⁷ The SDAIA is directly linked to the Prime Minister and will be governed by a board of directors chaired by the Deputy Prime Minister.

The KSA Human Rights Commission was founded in 2005 and "has full independence in the exercise of its tasks for which it was established and stipulated in its organization." The Commission states that it "aims to protect and promote human rights in accordance with standards International human rights in all fields, raising awareness of them and contributing to ensuring that this is implemented in light of the provisions of Islamic Sharia."¹⁴³⁸

In 2021, the SDAIA initiated the Open Data Strategy 2022-2024 with the aim to "Provide high-value and re-usable Open Data for the nation to increase transparency and foster innovation through collaboration, enabling a data driven economy." With this initiative the SDAIA also hopes to empower governance and regulatory clarity, enable economic growth, prioritise and publish accessible, quality and demanded data sets and create impact through awareness, innovation and international and local partnerships.¹⁴³⁹

Data Protection

In 2021 the first data protection law in Saudi Arabia was introduced. It is expected to take effect in March 2022 and there will be a transition period of 18 months. The data protection law, modelled after the GDPR, aims to prevent the misuse of personal data and specifically implements principles such as "purpose limitation and data minimization, controller obligations, including registration and maintenance of data processing records, data subject rights, and penalties for breach of provisions."¹⁴⁴⁰ The law also aims to align the Kingdom with other countries in the region and

¹⁴³⁷ Arab News, *King Salman issues royal decrees, including creation of industry and resources ministry* (Aug. 30, 2019), <https://www.arabnews.com/node/1547546/saudi-arabia>

¹⁴³⁸ Kingdom of Saudi Arabia, *Human Rights Commission*, <https://hrc.gov.sa/en-us/aboutHRC/AboutHRC/Pages/HRCvision.aspx>.

¹⁴³⁹ SDAIA, *Open Data Strategy 2022-2024* (2021), <https://sdaia.gov.sa/files/KSAOpenData%20StrategyExecutiveSummary.pdf>).

¹⁴⁴⁰ Data Guidance, *Saudi Arabia* (2021), <https://www.dataguidance.com/jurisdiction/saudi-arabia>

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with international standards.¹⁴⁴¹ In the meantime, the National Data Governance Interim Regulations will remain in place.

As noted above, the National AI Strategy proposed strong rules for data protection. “This initiative requires a strong regulatory framework to provide high standards in terms of data protection and privacy, in line with our ethical approach to developing our data sector. Doing this would define the framework through which government and private organizations will be able to benefit from the opportunities provided by data. The regulatory framework will include specifications on data collection, classification, sharing, open data policy and freedom of information.”¹⁴⁴² The Strategy also notes that “NDMO is developing a number of regulatory frameworks including topics such as data privacy and freedom of information.”

According to PWC, the E-Commerce Law of 2019 “focuses on regulating e-commerce business practices requiring increased transparency and consumer protection, with the goal of enhancing trust in online transactions. The law also contains provisions aimed at protecting the personal data of e-commerce customers. Specifically, the law specifies that service providers will be responsible for protecting the personal data of customers in their possession or ‘under their control.’ ‘Control’ in a data protection context exists where an organisation can make decisions concerning that personal data, such as why to collect it in the first place, what to do with it, how long to keep it, and who to share it with. A service provider may still have ‘control’ of personal data where it passes the data on to a third party as part of an outsourcing or other arrangement.”¹⁴⁴³ The KSA E-Commerce Law also prohibits service providers from using customers’ personal data for ‘unlicensed or unauthorised’ purposes, and from disclosing personal data to third parties without the customer’s consent.

Data Governance

Further, in October 2020, the SDAIA, published National Data Governance Interim Regulations. The regulations cover five topics: “data classification by public entities, protection of personal data, data sharing

¹⁴⁴¹ Bureau of Experts at the Council

Ministers, <https://laws.boe.gov.sa/BoeLaws/Laws/LawDetails/b7cfae89-828e-4994-b167-adaa00e37188/1>).

¹⁴⁴² SDAIA, *National Strategy for Data & AI: Realizing our best tomorrow* (Oct. 2020), https://ai.sa/Brochure_NSDAI_Summit%20version_EN.pdf

¹⁴⁴³ PWC, *Saudi Arabia Data Privacy Landscape* (Nov 2019),

<https://www.pwc.com/m1/en/services/tax/me-tax-legal-news/2019/saudi-arabia-data-privacy-landscape-ksa.html>

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between public entities, freedom of information requests, and open data. Much of the document, including the regulation on the protection of personal data, draws significantly from international regulations such as the EU's General Data Protection Regulation (GDPR)."¹⁴⁴⁴

OECD/G20 AI Principles

The Kingdom has endorsed the G20 AI Principles. Regarding implementation of the AI Principles, the OECD notes their National Center for AI (NCAI), the Saudi Data and AI Authority and highlights their work towards trustworthy AI in health.¹⁴⁴⁵

Human Rights

Freedom House gives Saudi Arabia very low marks for to civil liberties and political rights (7/100).¹⁴⁴⁶ Freedom House reports, "Saudi Arabia's absolute monarchy restricts almost all political rights and civil liberties. No officials at the national level are elected. The regime relies on pervasive surveillance, the criminalization of dissent, appeals to sectarianism and ethnicity, and public spending supported by oil revenues to maintain power." However, in 2021 Saudi Arabia was one of 193 countries that endorsed the UNESCO Recommendation on AI Ethics.

Due to its membership in the United Nations the Saudi Arabian Government (UDHR) has inherently committed to upholding human rights standards which include those laid out in the (UDHR).¹⁴⁴⁷ However, Saudi Arabia was the sole abstainer on the Declaration among Muslim nations, stating that it violated Sharia law.¹⁴⁴⁸

Upon pressure from the American foreign policy advocacy group, Freedom Forward, the mayors of New York, London, Paris and Los Angeles chose to boycott the 2019 G20 meeting in Riyadh due to the human rights violations committed by the Saudi government.¹⁴⁴⁹

¹⁴⁴⁴ Albright Stonebridge Group, *ASG Analysis: Saudi Arabia Publishes National Data Governance Interim Regulations* (Oct. 21, 2020), <https://www.albrightstonebridge.com/news/asg-analysis-saudi-arabia-publishes-national-data-governance-interim-regulations>

¹⁴⁴⁵ G20 Digital Economy Task Force, *Examples of National AI Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹⁴⁴⁶ Freedom House, *Freedom in the World 2021: Saudi Arabia (2021)*, <https://freedomhouse.org/country/saudi-arabia/freedom-world/2021>

¹⁴⁴⁷ Human Right Watch, *International Human Rights Standards*, <https://www.hrw.org/reports/1997/saudi/Saudi-07.htm>

¹⁴⁴⁸ Human Rights Watch, *Saudi Arabia: Human Rights Developments*, <https://www.hrw.org/reports/1992/WR92/MEW2-02.htm>

¹⁴⁴⁹ Natasha Turak, *Saudi Arabia loses vote to stay on UN Human Rights Council; China, Russia and Cuba win seats*, CNBC (Oct. 14, 2020),

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Evaluation

Saudi Arabia has emerged as an influential leader among the G20 countries and a powerful AI economic force globally. Although the country has a poor track record on human rights, Saudi Arabia's engagement with global AI policy is having a liberalizing influence. Not only has Saudi Arabia hosted important meetings of the G-20, the Kingdom also organized a successful global summit on AI that brought together government representatives, industry leaders, and academics and civil society. Saudi Arabia has endorsed the G20 AI Principles, but steps still should be taken to strengthen human rights, to promote public participation in AI policymaking within country, and to create mechanisms, including a data protection authority, to provide independent oversight of AI deployment.

<https://www.cnbc.com/2020/10/14/saudi-arabia-loses-vote-for-un-human-rights-council-seat-china-russia-win.html>; Freedom Forward, *Boycotting the Saudi G20: Our Successes* (Nov. 16, 2020), <https://freedomforward.org/2020/11/16/boycotting-the-saudi-g20-our-successes/>

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Singapore

National AI Strategy

Singapore's national AI strategy¹⁴⁵⁰ is part of its Smart Nation¹⁴⁵¹ policy and nation-building exercise. Smart Nation agenda aims to digitalize health, transport, urban solutions, finance, and education domains and make use of AI to the maximum. The vision is to make Singapore “global hub for developing, test-bedding, deploying, and scaling AI solutions.”¹⁴⁵² Government supports a “dare to try” mind-set, experimentation with new ideas and manageable risks.¹⁴⁵³ The strategy also envisions “human-centric approach towards AI governance that builds and sustains public trust.”¹⁴⁵⁴

An industry-led initiative, Advisory Council on the Ethical Use of AI and Data, has been established to assess the ethical and legal use of AI and data as well as recommend policies and governance to encourage industry to develop and adopt AI technologies in an accountable and responsible manner. Advisory Council is also tasked to assist the Government develop voluntary codes of practice to guide corporate decision makers, monitor consumers' acceptance of such data use, and make recommendations on ethical and legal issues that may require policy or regulatory changes.¹⁴⁵⁵ The scope of work addresses all five principles of the G20 AI Principles.

In 2019, Singapore published Asia's first Model AI Governance Framework¹⁴⁵⁶ (updated in 2020) that provides implementable guidance to private sector to address key ethical and governance issues when deploying AI solutions. Feedback from participation in European Commission's High-

¹⁴⁵⁰ Singapore, *National Artificial Intelligence Strategy* (2019):

<https://www.smartnation.gov.sg/why-Smart-Nation/NationalAIStrategy>

¹⁴⁵¹ Singapore, *Smart Nation: The Way Forward Executive Summary* (2018):

https://www.smartnation.gov.sg/docs/default-source/default-document-library/smart-nation-strategy_nov2018.pdf?sfvrsn=3f5c2af8_2

¹⁴⁵² Singapore, *National Artificial Intelligence Strategy* (2019):

<https://www.smartnation.gov.sg/why-Smart-Nation/NationalAIStrategy>

¹⁴⁵³ Smart Nation: *The Way Forward Executive Summary* (2018)

¹⁴⁵⁴ Infocomm Media Development Authority (IMDA) and Personal Data Protection Commission (PDPC), *Model AI Governance Framework, 2nd Edition* (2020)

<https://www.pdpc.gov.sg/-/media/files/pdpc/pdf-files/resource-for-organisation/ai/sgmodelaigovframework2.pdf>

¹⁴⁵⁵ IMDA, *The full composition of Singapore's Advisory Council on the Ethical Use of AI and Data (Advisory Council) was announced by Minister for Communications and Information Mr S Iswaran at AI Singapore's first year anniversary* (Aug. 30, 2018)

<https://www.imda.gov.sg/news-and-events/Media-Room/Media-Releases/2018/composition-of-the-advisory-council-on-the-ethical-use-of-ai-and-data>

¹⁴⁵⁶ IMDA and PDPC, *Model AI Governance Framework, 2nd Edition* (2020)

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Level Expert Group and the OECD Expert Group on AI is reflected in the framework. The framework is accompanied by an Implementation and Self-Assessment Guide for Organizations. The AI Governance Framework is intended to help organizations “demonstrate reasonable efforts to align internal policies, structures and processes with relevant accountability-based practices (e.g., the Personal Data Protection Act 2012 (PDPA) and the OECD Privacy Principles)” and hence build stakeholder confidence in AI. These documents focus on implementation instead of high-level discussions which is reflective of Singapore’s mindset of test and deploy.

All of Singapore’s strategy and action towards AI is based on voluntary governance, requiring organizations using AI in decision-making ensure that process is explainable, transparent, fair with clear roles and responsibilities. Solutions are also expected to have protection of interest of human beings as primary consideration, including their well-being and safety.

The Centre for AI & Data Governance (CAIDG), funded by government, is established to develop international thought leadership and advance scholarship and discourse in legal, ethical, regulatory and policy issues arising from the use of AI and data and inform implementation of G20 AI Principles.

In October 2020, Singapore Computer Society (SCS), supported by the regulator Infocomm Media Development Authority (IMDA), launched the AI Ethics and Governance Body of Knowledge (BoK). BoK is expected to “guide the development of curricula on AI ethics and governance and form the basis of future training and certification for professionals.” The document underlines that “accountability, transparency, explainability, and auditability must become the hallmark of all AI solutions” and that “ethical guidelines should not be an afterthought but integrated as part of standards and expectations from the onset of any AI-related effort.”¹⁴⁵⁷

AI System for Online Surveillance

Maintaining racial and religious harmony has been the Government’s stated top priority.¹⁴⁵⁸ Right to privacy is not a right protected by the Singapore constitution.¹⁴⁵⁹ Protection from Online Falsehoods and

¹⁴⁵⁷ The Singapore Computer Society, *Artificial Intelligence Ethics & Governance Body of Knowledge* (2020) <https://ai-ethics-bok.scs.org.sg/document/15>

¹⁴⁵⁸ UN Human Rights Council, *Universal Periodic Review – Singapore, National Report, Second Cycle* (2015)

<https://www.ohchr.org/EN/HRBodies/UPR/Pages/SGIndex.aspx>

¹⁴⁵⁹ Privacy International, *Universal Periodic Review, Stakeholder Report: 24th Session, Singapore, The Right to Privacy in Singapore* (2015)

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Manipulation Act 2019¹⁴⁶⁰ was introduced to regulate “fake news” by malicious actors. However, the law does not clearly define what is meant by falsehood and gives power to any government minister to declare that information posted online is “false” and instruct the correction or removal of such content if he/she thinks it is in the public interest to remove.¹¹ The law applies to digital content that is accessible in Singapore, whether it is an online post, text or chat message by a person or a bot. A person found guilty of the offense can be fined monetarily or be imprisoned.

Public Order Act’s definition of assembly and its requirements for permit for such assembly has recently extended to online conferences. This is compounded by the fact that Singapore has not ratified the International Covenant on Civil and Political Rights¹⁴⁶¹ which protects against arbitrary or unlawful interference with privacy, family, home or correspondence. No court warrant is required to monitor personal phone, messaging or other electronic communication.¹⁴⁶² Government’s use of online surveillance tools and power to act without need for legal authorization is concerning on the citizen’s ability to exercise their rights of freedom of speech, expression and assembly.

Singapore also utilizes ABBSS (Automated Biometrics & Behavioral Screening Suite) at immigration and border checkpoints. The system is a network of cameras with facial recognition capabilities that can also be deployed as a body-worn-camera for officers. It is used both to build a biometrics database of travelers and detect travelers wanted for various offenses.¹⁴⁶³

In October 2021, Singapore Parliament passed The Foreign Interference (Countermeasures) Bill (FICA) to deal with foreign interference after 10-hour debate, despite protests over lack of public consultation. Under the new law, the Minister for Home Affairs is granted powers to issue directions to Internet, social media service providers and

https://privacyinternational.org/sites/default/files/2017-12/Singapore_UPR_PI_submission_FINAL.pdf

¹⁴⁶⁰ Singapore Statutes Online, *Protection from Online Falsehoods and Manipulation Act 2019* <https://sso.agc.gov.sg/Acts-Supp/18-2019/Published/20190625?DocDate=20190625>

¹⁴⁶¹ UN Human Rights Council, *Universal Periodic Review – Singapore, Outcome of the Review, Second Cycle* (2015)

<https://www.ohchr.org/EN/HRBodies/UPR/Pages/SGIndex.aspx>

¹⁴⁶² Privacy International, *Universal Periodic Review, Stakeholder Report: 24th Session, Singapore*

¹⁴⁶³ Wong, K. *Facial recognition, biometrics tech at more checkpoints: ICA*. The Strait Times (Nov. 13, 2018) <https://www.straitstimes.com/singapore/facial-recognition-biometrics-tech-at-more-checkpoints-ica>

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website operators to provide user information, block content and remove applications. Authorities can also require politically significant persons to declare foreign affiliations.¹⁴⁶⁴ The bill provides the Ministry overreach of power with little oversight, opening concerns on impact on freedom of speech and assembly.

Smart Cities

Singapore is leading the efforts to develop an ASEAN Framework on Digital Data Governance to facilitate harmonization of data regulations.¹⁴⁶⁵ It is also one of the 26 within the ASEAN Smart Cities Network (ASCN) named by member states to pilot smart city project.

Digital Identification and Surveillance

SingPass, the National Digital Identity (NDI) initiative,¹⁴⁶⁶ is a personal authentication system that allows users to access various Government services. It is a move to digitalize all transactions on public and private space and share data. The app does provide the users with option to use a 6-digit passcode if users do not want to utilize biometrics such as fingerprint or face recognition. By 2025, Singapore plans to establish a fully automated immigration clearance system for all travelers, including first-time social visitors.¹⁴⁶⁷ This includes using AI for retinal and face-recognition procedures which could potentially remove the need for passports.

In 2020, Singapore had introduced TraceTogether, Covid-19 contact tracing application, advising that data would "never be accessed unless the user tests positive" for the virus.¹⁴⁶⁸ In January 2021, Minister of State for Home Affairs stated that under the Criminal Procedure Code, the Singapore Police Force can obtain any data and TraceTogether and SafeEntry app data

¹⁴⁶⁴ CNA, *Parliament passes Bill to deal with foreign interference after 10-hour debate* (Oct. 5, 2021), <<https://www.channelnewsasia.com/singapore/fica-parliament-singapore-foreign-interference-countermeasures-bill-2221236>

¹⁴⁶⁵ Smart Nation Singapore: *The Way Forward* (June 2, 2020) <https://smartnation-strategy.opendoc.sg/08-strengthen-collaboration.html>

¹⁴⁶⁶ SmartNation, National Digital Identity, <https://www.smartnation.gov.sg/initiatives/strategic-national-projects/national-digital-identity>

¹⁴⁶⁷ The Strait Times, *All immigration checkpoints to have fingerprint and face scans by 2025 as part of Singapore's AI push* (Nov. 15, 2019), <https://www.straitstimes.com/singapore/fingerprint-and-face-scans-at-all-immigration-checkpoints-by-2025-as-part-of-singapores-ai>

¹⁴⁶⁸ TraceTogether, *What data is collected? Are you able to see my personal data?*, <https://support.tracetgether.gov.sg/hc/en-sg/articles/360043735693-What-data-is-collected-Are-you-able-to-see-my-personal-data->

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are used for criminal probes.¹⁴⁶⁹ In February 2021, The Covid-19 (Temporary Measures) (Amendment) Bill, restricted the use of personal contact tracing data in criminal investigations to only serious crimes, such as murder and terrorism, was passed in Parliament.¹⁴⁷⁰ In August, Minister of State for Home Affairs advised that Singapore aims to have more than 200,000 police cameras by at least 2030, more than doubling its current use.¹⁴⁷¹ In September 2021, Singapore police started trialing patrol robots for surveillance, to detect "undesirable social behaviors" and displaying messages to educate the public on proper behavior.¹⁴⁷²

Singapore also utilizes ABBSS (Automated Biometrics & Behavioral Screening Suite) at immigration and border checkpoints. The system is a network of cameras with facial recognition capabilities that can also be deployed as a body-worn-camera for officers. It is used both to build a biometrics database of travelers and detect travelers wanted for various offenses.¹⁴⁷³

Public Participation

A National AI Office is created under the Smart Nation and Digital Government Office. Ministry of Communications and Information provides public consultation access to legislation under its control.¹⁴⁷⁴ The Smart Nation and Digital Government Office (SNDGO), under the Prime Minister's Office (PMO), provides publicizes information about key Smart Nation projects government digital transformation on its website.¹⁴⁷⁵

¹⁴⁶⁹ Parliament Sitting 4 January 2021: Minute 33:40.

<https://www.youtube.com/watch?v=LjhIeggyLHk>

¹⁴⁷⁰ The Straits Times, *Bill limiting police use of TraceTogether data to serious crimes passed* (Feb. 2, 2021), <https://www.straitstimes.com/singapore/politics/bill-limiting-use-of-tracetogogether-for-serious-crimes-passed-with-govt-assurances>

¹⁴⁷¹ Reuters, *Singapore to double police cameras to more than 200,000 over next decade* (Aug. 4, 2021), <https://www.reuters.com/world/asia-pacific/singapore-double-police-cameras-more-than-200000-over-next-decade-2021-08-04/>

¹⁴⁷² Reuters, *Singapore trials patrol robots to deter bad social behaviour* (Sept. 6, 2021), <https://www.reuters.com/technology/singapore-trials-patrol-robots-deter-bad-social-behaviour-2021-09-06/>

¹⁴⁷³ Wong, K. Facial recognition, biometrics tech at more checkpoints: ICA. The Strait Times (Nov. 13, 2018) <https://www.straitstimes.com/singapore/facial-recognition-biometrics-tech-at-more-checkpoints-ica>

¹⁴⁷⁴ Ministry of Communications and Information, *Public Consultations* <https://www.mci.gov.sg/public-consultations/archived?pagesize=24>

¹⁴⁷⁵ Smart Nation Singapore: <https://www.smartnation.gov.sg/about-smart-nation/sndgg>

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OECD/G20 AI Principles

Singapore is not a member of the OECD or the G20. However, the country is well aware of the OECD/G20 AI Principles. The OECD noted several significant examples of positive AI practices in Singapore.¹⁴⁷⁶ There is, for example, the Advisory Council on the Ethical Use of AI and Data, described above. The OECD also notes that the AI Governance Framework incorporates all of the OECD AI Principles. Singapore is a founding member of The Global Partnership on AI (GPAI), built around a shared commitment to the OECD AI Principles.¹⁴⁷⁷

Data Protection and Algorithmic Transparency

The Personal Data Protection Act (PDPA) was enacted in 2012 and came into effect in 2014. It is the baseline law for personal data protection.¹⁴⁷⁸ Singapore also passed Personal Data Protection (Enforcement) Regulations 202. Unlike the GDPR, the PDPA does not expressly provide for Data Protection Impact Assessments ('DPIA') to be carried out, does not provide data subjects with the right to erasure, or requirement to inform data subjects of the existence of automated decision-making, including profiling. It does not explicitly address the right not to be subject to discrimination. The PDPC is part of the Info-communications Media Development Authority ('IMDA').¹⁴⁷⁹

The PDP Commission expects AI systems to be human-centric, and decisions made by or with the assistance of AI to be explainable, transparent and fair.¹⁴⁸⁰ PDPA, however, does not provide protection against police or any public agency use of personal data. Public sector agencies are covered by Government Instruction Manuals and the Public Sector (Governance) Act (PSGA). Monetary Authority of Singapore (MAS) and financial industry co-created a set of principles in 2018 to guide the responsible use of AI, focusing on Fairness, Ethics, Accountability and Transparency

¹⁴⁷⁶ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹⁴⁷⁷ Government of France, *Launch of the Global Partnership on Artificial Intelligence* (June 17, 2020), <https://www.gouvernement.fr/en/launch-of-the-global-partnership-on-artificial-intelligence>

¹⁴⁷⁸ The Personal Data Protection Act (PDPA): <https://www.pdpc.gov.sg/Overview-of-PDPA/The-Legislation/Personal-Data-Protection-Act>

¹⁴⁷⁹ OneTrust DataGuidance. *Comparing privacy laws: GDPR v. Singapore's PDPA* https://www.dataguidance.com/sites/default/files/gdpr_v_singapore_final.pdf

¹⁴⁸⁰ PDPC Singapore, Discussion Paper on Artificial Intelligence (AI) and Personal Data— Fostering Responsible Development and Adoption of AI (June 5, 2018) <https://www.pdpc.gov.sg/-/media/Files/PDPC/PDF-Files/Resource-for-Organisation/AI/Discussion-Paper-on-AI-and-PD---050618.pdf>

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(FEAT)¹⁴⁸¹. The principles have established a standard across the financial sector in Singapore. The regulator is now working to create a standardized modular implementation framework of the FEAT principles, called Veritas which will provide tools for institutions to validate their models against the FEAT principles.

Singapore shares publicly available datasets¹⁴⁸² from 70 public agencies, API library and resources for application developers using these data sets. Public Sector (Governance) Act 2018¹⁴⁸³ provides a governance framework for data sharing among government agencies. It is a step in the right direction for data quality and improved services. On the commercial side, the regulator IMDA, introduced a “Trusted Data Sharing Framework”¹⁴⁸⁴ as a guide to establish safeguards and baseline “common data sharing language” and systematic approach to understanding the broad considerations for establishing trusted data sharing partnerships. A Data Regulatory Sandbox¹⁴⁸⁵ is also offered to businesses to pilot innovative use of data in a safe “environment”, in consultation with IMDA and PDPC. The regulator also provides a Data Protection Trustmark (DPTM), a voluntary enterprise-wide certification for organizations to demonstrate accountable data protection practices.¹⁴⁸⁶

Singapore has not openly stated its position on a ban of fully autonomous weapons yet.¹⁴⁸⁷ However, Road Traffic (Autonomous Motor Vehicles) Rules 2017 regulates liability trials and use of autonomous motor vehicles¹⁴⁸⁸ Singapore has not endorsed the Universal Guidelines for AI,¹⁴⁸⁹

¹⁴⁸¹ Monetary Authority of Singapore, *Principles to Promote Fairness, Ethics, Accountability and Transparency (FEAT) in the Use of Artificial Intelligence and Data Analytics in Singapore's Financial Sector* (2018)

<https://www.mas.gov.sg/~media/MAS/News%20and%20Publications/Monographs%20and%20Information%20Papers/FEAT%20Principles%20Final.pdf>

¹⁴⁸² Smart Nation Singapore: *Open Data Resources*

<https://www.smartnation.gov.sg/resources/open-data-resources>

¹⁴⁸³ Public Sector (Governance) Act 2018: <https://sso.agc.gov.sg/Act/PSGA2018>

¹⁴⁸⁴ IMDA and PDPC, *Trusted Data Sharing Framework* (2019)

<https://www.imda.gov.sg/~media/Imda/Files/Programme/AI-Data-Innovation/Trusted-Data-Sharing-Framework.pdf>

¹⁴⁸⁵ IMDA, *Data Collaboratives Programme (DCP)*,

<https://www.imda.gov.sg/programme-listing/data-collaborative-programme>

¹⁴⁸⁶ IMDA, *Data Protection Trustmark Certification*,

<https://www.imda.gov.sg/programme-listing/data-protection-trustmark-certification>

¹⁴⁸⁷ [https://www.stopkillerrobots.org/wp-](https://www.stopkillerrobots.org/wp-content/uploads/2020/03/KRC_CountryViews_11Mar2020.pdf)

[content/uploads/2020/03/KRC_CountryViews_11Mar2020.pdf](https://www.stopkillerrobots.org/wp-content/uploads/2020/03/KRC_CountryViews_11Mar2020.pdf)

¹⁴⁸⁸ Campaign to Stop Killer Robots, *Country Views on Killer Robots* (March 11, 2020)

<https://sso.agc.gov.sg/Act/RTA1961>

¹⁴⁸⁹ The Public Voice, *Universal Guidelines for AI* (2018), <https://thepublicvoice.org/AI-universal-guidelines/>

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or GPA Resolution on AI Accountability.¹⁴⁹⁰ However, Singapore’s second edition Model AI Governance Framework provides clear practical guidance that essentially aligns with the GPA Resolution on AI Accountability.¹⁴⁹¹

Human Rights

Singapore has endorsed the Universal Declaration of Human Rights. However, it has not adopted several international human rights conventions, reasoning that it is not in a position to fully implement the obligations contained in an international treaty before ratifying it. Singapore has an Inter-Ministerial Committee on Human Rights but no national human rights institution. Sexual relations between two male persons remains a criminal offense. There are no legal protections against discrimination based on sexual orientation or gender identity.¹⁴⁹²

Freedom House rates Singapore as partly free.¹⁴⁹³ According to Freedom House, “Singapore’s parliamentary political system has been dominated by the ruling People’s Action Party (PAP) and the family of current prime minister Lee Hsien Loong since 1959. The electoral and legal framework that the PAP has constructed allows for some political pluralism, but it constrains the growth of credible opposition parties and limits freedoms of expression, assembly, and association.” On transparency, Freedom House notes, “The government provides limited transparency on its operations. The Singapore Public Sector Outcome Review is published every two years and includes metrics on the functioning of the bureaucracy; regular audits of public-sector financial processes are also made accessible to the public.”

Evaluation

Singapore is one of the leaders in providing guidance for ethical development of AI, providing regulatory sandboxes for testing of responsible practices and developing risk-based governance frameworks. It is focused on voluntary adoption of these methods for both public and

¹⁴⁹⁰ Global Privacy Assembly, *Adopted Resolution on Accountability in the Development and Use of Artificial Intelligence* (October 2020) <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN-1.pdf>

¹⁴⁹¹ IMDA, PDPC, *Model: Artificial Intelligence Governance Framework, Second Edition*, <https://www.pdpc.gov.sg/-/media/files/pdpc/pdf-files/resource-for-organisation/ai/smodelaigovframework2.pdf>

¹⁴⁹² Human Rights Watch, *World Report 2020 – Singapore* (2020) <https://www.hrw.org/world-report/2020/country-chapters/singapore>

¹⁴⁹³ Freedom House, *Freedom in the World 2020 – Singapore* (2020), <https://freedomhouse.org/country/singapore/freedom-world/2020>

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private use cases. Singapore's privacy agency has significant responsibilities for data protection and a growing role in AI policy. Questions do remain about independent oversight of government AI systems.

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Slovenia

National AI Strategy

On May 27, 2021, the Slovenian Government adopted the National programme promoting the deployment of AI in the Republic of Slovenia by 2025 (NpUI).¹⁴⁹⁴ The NpUI lays out a detailed workplan for social and economic development across the government, which include specific indicators, guidance on measuring progress, and instruments for implementation and financing.¹⁴⁹⁵ Led by an inter-ministerial working group, the national program was a result of a series of multi-disciplinary consultations with national experts and industrial representatives through the ICT Association of Slovenia¹⁴⁹⁶ of the Chamber of Commerce and Industry of Slovenia,¹⁴⁹⁷ researchers and practitioners in the field of AI through the Slovenian Artificial Intelligence Society,¹⁴⁹⁸ and stakeholders of the Strategic Research and Innovation Partnerships on Smart Cities,¹⁴⁹⁹ Factories of the Future,¹⁵⁰⁰ and civil society through the Slovenian Digital Coalition.¹⁵⁰¹ The Ministry of Public Administration prepared the first draft, which was released soliciting public comments in August 2020.¹⁵⁰²

The NpAI is a part of the Development Strategy of Slovenia 2030,¹⁵⁰³ which sets out a plan for digital transformation towards the “Fourth Industrial Revolution, [which is marked by] the digital economy

¹⁴⁹⁴ Government of the Republic of Slovenia, National Program for the Promotion of the Development and Use of Artificial Intelligence in the Republic of Slovenia until 2025. (27 May 2021) (hereinafter “NpAI”) 2-3. Original Slovenian version at <https://www.gov.si/assets/ministrstva/MJU/DID/NpUI-SI-2025.docx> Document translated into English by automated process by onlinedoctranslator.com on file with author.

¹⁴⁹⁵ Republic of Slovenia, Digitalisation of Society, <https://www.gov.si/en/topics/digitalisation-of-society/>

¹⁴⁹⁶ ICT Association of Slovenia (ZIT), https://www.gzs.si/en_zit.

¹⁴⁹⁷ The Chamber of Commerce and Industry of Slovenia (CCIS). <https://eng.gzs.si/vsebinska/About-Us>.

¹⁴⁹⁸ Slovenian Artificial Intelligence Society (SAIS), <https://slais.ijs.si/>.

¹⁴⁹⁹ Strategic Research and Innovation Partnerships on Smart Cities (CRIP SC&C) http://pmis.ijs.si/wp-content/uploads/2019/02/SRIP_SC_C-1.pdf.

¹⁵⁰⁰ Strategic Research and Innovation Partnerships for Factories of the Future (SRIP FoF) <https://www.effra.eu/jozef-stefan-institute-srip-strategic-research-innovation-partnership>.

¹⁵⁰¹ Slovenian Digital Coalition (SDC) <https://www.digitalna.si/en>.

¹⁵⁰² European Commission, Knowledge for Policy: *AI Watch, Slovenia AI Strategy Report*. https://knowledge4policy.ec.europa.eu/ai-watch/slovenia-ai-strategy-report_en

¹⁵⁰³ Government of the Republic of Slovenia, *Slovenian Development Strategy 2030* (SrS 2030), Dec. 7, 2017. <https://www.gov.si/assets/vladne-sluzbe/SVRK/Strategija-razvoja-Slovenije-2030/Slovenian-Development-Strategy-2030.pdf>

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and the development of sensors, robotics and AI, and establishing new business, work and job models, and skills and adjustments in many areas of economic, social and environmental development.”¹⁵⁰⁴ The national AI strategy is aligned with the EU framework programmes for research, innovation and deployment such as Horizon Europe and Digital Europe. The NpAI articulates specific support for Slovenian firms and institutions that develop standards in the field of AI as well as promoting collaborations with national, EU and international standardisation organisations.¹⁵⁰⁵

European Union

Slovenia's efforts track with the European Union's plans, having signed the EU Declaration on Cooperation on Artificial Intelligence.¹⁵⁰⁶ The National AI Program is also consistent with the European Coordinated Plan on Artificial Intelligence 2021,¹⁵⁰⁷ which operationalized the Declaration, and is also going through the process of implementing the proposals of the Regulation of the European Parliament and of the Council Establishing a Digital Europe Program for the Period 2021-2027,¹⁵⁰⁸ which proposes to focus on AI, amongst five priority areas. The latter provides support for the development and strengthening of basic AI capacities, such as data resources and libraries of AI algorithms and their accessibility for all companies, public administration and the wider public sector, and strengthening and promoting integration between existing R&D capacities in Member States.¹⁵⁰⁹

Slovenia's efforts are also guided by and in line with the OECD Principles on Artificial Intelligence, which promote artificial intelligence that is innovative and trustworthy and respects human rights and democratic values.¹⁵¹⁰

¹⁵⁰⁴ SrS 2030, 10.

¹⁵⁰⁵ *Ibid.*

¹⁵⁰⁶ EU Declaration on Cooperation on Artificial Intelligence, <https://ec.europa.eu/jrc/communities/en/community/digitranscope/document/eu-declaration-cooperation-artificial-intelligence>

¹⁵⁰⁷ European Commission, *Coordinated Plan on Artificial Intelligence 2021*, <https://digital-strategy.ec.europa.eu/en/policies/plan-ai>.

¹⁵⁰⁸ Proposal for a Regulation Establishing the Digital Europe Programme 2021-2027 (June 14, 2018), <https://www.europarl.europa.eu/legislative-train/theme-a-europe-fit-for-the-digital-age/file-mff-digital-europe-programme>

¹⁵⁰⁹ NpAI, 9.

¹⁵¹⁰ NpAI, 9.

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European Council Presidency

2021 has been an important year for Slovenia because of its leadership of the Council of the EU Presidency in the latter half of 2021.¹⁵¹¹ The Slovenian Digital Minister Boštjan Koritnik articulated that their priority for AI regulation “is to ensure flow of data within the EU and across sectors in line with clear and fair rules for access storage and reuse, ... we have to increase the control ... and of course, trust of citizens and companies regarding their data.”¹⁵¹²

After the first debate on the European Parliament’s proposed AI Act, Koritnik announced that the EU’s AI act should “serve as a model across the globe, in the same vein as the general data protection regulation, GDPR, in the area of protection of personal data.”¹⁵¹³ He continued to further explain that “we want to make sure that the Artificial Intelligence Act will achieve its twin aims of ensuring safety and respect for fundamental rights and stimulating the development and uptake of AI-based technology in all sectors.”¹⁵¹⁴

International Research Center on Artificial Intelligence (IRCAI)

On March 29, 2021, Borut Pahor, President of the Republic of Slovenia, and Audrey Azoulay, Director-General of UNESCO, inaugurated the International Research Centre on Artificial Intelligence (IRCAI), as a Category 2 centre under the auspices of UNESCO in Ljubljana, Slovenia.¹⁵¹⁵ The IRCAI is designed to be a communication platform for the collection and dissemination of good practices and case studies on the use and deployment of AI in society.¹⁵¹⁶ The IRCAI will focus on advancing

¹⁵¹¹ *Slovenian Presidency of the Council of the European Union, 1 July–31 December 2021*, <https://www.gov.si/assets/vlada/Projekti/PSEU2021/The-programme-of-the-Slovenian-Presidency-of-the-Council-of-the-European-Union.pdf>

¹⁵¹² Clothilde Goujard and Leonie Cater, Politico. *Slovenia eyes quick wins on AI during EU presidency*, May 21, 2021. <https://www.politico.eu/article/slovenia-ai-digital-eu-presidency-bostjan-koritnik/>

¹⁵¹³ Euronews, *EU’s artificial intelligence law should serve as ‘model across the globe’* <https://www.euronews.com/2021/10/14/eu-s-artificial-intelligence-law-should-serve-as-model-across-the-globe>

¹⁵¹⁴ *Ibid.*

¹⁵¹⁵ UNESCO, *UNESCO Director-General and President of Slovenia inaugurate first research centre on artificial intelligence* (Apr. 6, 2021) <https://en.unesco.org/news/unesco-director-general-and-president-slovenia-inaugurate-first-research-centre-artificial>

¹⁵¹⁶ Van Roy, V., Rossetti, F., Perset, K. and Galindo-Romero, L., *AI Watch - National strategies on Artificial Intelligence: A European perspective*, 2021 edition, EUR 30745 EN, Publications Office of the European Union, Luxembourg, 2021, <https://publications.jrc.ec.europa.eu/repository/handle/JRC122684>.

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research on the use of AI in order to help achieve the Sustainable Development Goals (SDGs).¹⁵¹⁷ The core research functions of the Centre will be guided by its four international scientific committees on:

- AI and Climate that will address the issue of water quality measurement;
- AI and Education that will focus on AI algorithms that can make Open Educational Resources more accessible and easier to use;
- AI and Assistive Technologies that will highlight the potential of using AI technologies to assist persons with disabilities; and
- AI and Healthcare that will focus on the use of AI in vaccine development processes.¹⁵¹⁸

Privacy and Data Protection

The Slovenian Constitution of 1991 guarantees the protection of personal data at the constitutional level and within the framework of guaranteed human rights. This right is explicitly enshrined in Article 38.¹⁵¹⁹ In Slovenia the GDPR is not implemented by the national law. Slovenia remains the only EU country without the implementing act. As a consequence, the Information Commissioner is without the power to impose fines and therefore has not been able to impose a single administrative fine since the adoption of the GDPR. However, a recent report indicates that Slovenia may soon enact a data protection law.¹⁵²⁰ According to another report, the current draft follows the GDPR and only amends a few aspects.¹⁵²¹

Algorithmic Transparency

Slovenia is a member of the Council of Europe but has not ratified the modernized Privacy Convention.¹⁵²²

¹⁵¹⁷ International Research Center on Artificial Intelligence (IRCAI) Launch Report, April 2021 https://ircai.org/wp-content/uploads/2021/05/IRCAI_Launch2021_Report.pdf

¹⁵¹⁸ *Id.*

¹⁵¹⁹ GDPRhub, *Data Protection in Slovenia*, https://gdprhub.eu/Data_Protection_in_Slovenia

¹⁵²⁰ Lexology, *Slovenia finally one step closer to the new Data protection act* (Jan. 22, 2022) <https://www.lexology.com/library/detail.aspx?g=a3406dc8-6ad4-4d5f-b727-6a84253938a5>

¹⁵²¹ DLA Piper, *Data Protection Laws of the World – Slovenia* (Jan. 17, 2022), <https://www.dlapiperdataprotection.com/index.html?t=law&c=SI>

¹⁵²² Council of Europe, *Treaty Office: Chart of signatures and ratifications of Treaty 223* (Feb. 2, 2022), <https://www.coe.int/en/web/conventions/full-list?module=signatures-by-treaty&treaty=223>

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OECD/G20 AI Principles

Slovenia is a member of the OECD and has endorsed the OECD AI Principles.¹⁵²³ The OECD noted Slovenia's Digital Coalition and AI4Slovenia as an example of national AI policies that are shaping an enabling environment for AI.¹⁵²⁴ Slovenia is also a founding member of the Global Partnership on AI.¹⁵²⁵

Human Rights

According to Freedom House, Slovenia receives high scores for Political Rights and Civil Liberties and a slight uptick in 2021 for a combined score of 95/100.¹⁵²⁶ The report notes that the government "generally operates with openness and transparency." Slovenia is a signatory to major human rights treaties.¹⁵²⁷ However, a report by the Greens/EFA of the European Parliament,¹⁵²⁸ revealed that Slovenia, as well as in 10 other EU member states, use facial recognition technologies for 'ex-post identification' in their criminal investigations.¹⁵²⁹ In Slovenia, the use of face recognition technology by the police was legalized five years after they first had already started using it.¹⁵³⁰ The Slovenian Presidency of the Council has also accelerated negotiations on a vast expansion of the Eurodac database, which will hold sensitive data on millions of asylum seekers and migrants in an irregular situation, by 'delinking' the proposed

¹⁵²³ OECD, *Forty-two countries adopt new OECD Principles on Artificial Intelligence* (May 22, 2019), <https://www.oecd.org/science/forty-two-countries-adopt-new-oecd-principles-on-artificial-intelligence.htm>

¹⁵²⁴ OECD, *State of Implementation of the OECD AI Principles: Insights from National AI Policies* (June 2021), <https://www.caiddp.org/app/download/8328376363/OECD-AI-policies-2021.pdf>

¹⁵²⁵ GPAI: *Community*, <https://gpai.ai/community/>

¹⁵²⁶ Freedom House, *Freedom in the World 2021 – Slovenia*, <https://freedomhouse.org/country/slovenia/freedom-world/2021>,

¹⁵²⁷ Office of the United Nations High Commissioner for Human Rights, *Treaty Ratification Status for Slovenia*, https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?CountryID=159&Lang=EN

¹⁵²⁸ Ragazzi, F., Kuskonmaz, E., Pliájás, I., Van de Ven, R., Wagner, B., report for the Greens/EFA in the European Parliament, *Behavioural Mass Surveillance in EU Member States*, October 2021, <http://extranet.greens-efa.eu/public/media/file/1/7297>

¹⁵²⁹ Luca Bertuzzi, Euractiv, *Facial recognition technologies already used in 11 EU countries and counting, report says*, Oct. 26, 2021. <https://www.euractiv.com/section/data-protection/news/facial-recognition-technologies-already-used-in-11-eu-countries-and-counting-report-says/>

¹⁵³⁰ Lenart J. Kučić, Algorithm Watch, *Automating Society Report 2020: Slovenia*, October, 2020. <https://automatingsociety.algorithmwatch.org/report2020/slovenia/>

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rules from other EU asylum and migration laws under discussion.¹⁵³¹ The database uses VeriLook and Face Trace software from the Lithuanian company Neurotechnology and is managed by the Ministry of Interior (Slovenia).¹⁵³²

Evaluation

For a small and relatively young country, Slovenia has had an outsized influence over the development of policy in the past year due to its leadership of the presidency of the European Council for the second half of 2021, as well as its AI collaboration with UNESCO, and its work in support of the Council of Europe AI expert group, the CAHAI. While the national AI strategy and other technology-related workplans pledge to implement a legislative and regulatory regime that also protects fundamental freedoms, there are necessary reforms pending of its data protection law and a need for better alignment of its laws with surveillance practices, especially by law enforcement.

¹⁵³¹ Statewatch, in European Digital Rights Initiative (EDRi), *Eurodac: Council seeks swift agreement on expanded migrant biometric database*, Sept. 22, 2021. <https://edri.org/our-work/eurodac-council-seeks-swift-agreement-on-expanded-migrant-biometric-database/>

¹⁵³² *Behavioural Mass Surveillance in EU Member States*, October 2021, <http://extranet.greens-efa.eu/public/media/file/1/7297>

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South Africa

National AI Strategy

There is no specific national AI strategy in South Africa but there are piecemeal AI strategies entrenched within key national plans and policies. The Presidential Commission on the Fourth Industrial Revolution (PC4IR) Summary Report and Recommendations (the PC4IR Report) released in January 2020 which provides guidance on the fourth industrial revolution, the impact on South Africa and recommends actions for the future includes an AI strategy.¹⁵³³ The recommendations provide an industrial development strategy that prescribes among other things focus on regulation, ethics, and cultural aspects of the Internet not only for an enabling policy environment but to also ensure ethical and transparent use of new technologies.¹⁵³⁴ The PC4IR report also focuses on technological developments which are part of the fourth industrial revolution. The developments move towards computer use of sense-making which is facilitated by large amounts of data leading to reliance on algorithms. Furthermore, technological developments are in clusters that include artificial intelligence and robotics.¹⁵³⁵

The National Planning Commission published the National Development Plan: Vision for 2030 (NDP) which aims to achieve improved information and communication technologies (ICTs) by 2030.¹⁵³⁶ Part of the strategy is to enhance ICTs through a national e-strategy that places South Africa at an international stage with international governance agencies such as the Information Telecommunications Union (ITU) and World Trade Organisation (WTO).¹⁵³⁷ The aim for an improved ICT sector is to bridge the digital divide, boost economic activity, and improve the

¹⁵³³ *Presidential Commission on the 4th Industrial Revolution (PC4IR) 'Summary Report and Recommendations'* 114-24 (2020)

https://www.gov.za/sites/default/files/gcis_document/202010/43834gen591.pdf. The 4th Industrial Revolution South Africa partnership (4IRSA) - an alliance between partners from the public and private sectors, academia and civil society launched by President Ramaphosa in 2019, reaffirms a national push towards promoting the digital economy for growth.

¹⁵³⁴ *Id.*

¹⁵³⁵ *Id.* at 28.

¹⁵³⁶ National Planning Commission (NPC) 'National Development Plan' (2012). The NPC was established in May 2010 to develop a long-term vision and strategic plan for South Africa. Its main objective is to gather the nation around a common set of objectives and priorities to drive development over the longer term. The Commission advises the government on cross-cutting issues that influence the long-term development of South Africa.

¹⁵³⁷ *Id.* at 195-96.

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education, health, transport and labour sectors. The National Development Plan enunciates this vision by laying out the need to bring in growth in digital technologies as part of the growth in ICTs.¹⁵³⁸

Strides in Innovation

Based on results of the Business Innovation Survey (BIS) 2014-2016 that were released by the Minister of Higher Education, Science and Innovation, Dr Blade Nzimande, two-thirds (69,9%) of South African businesses are innovation-active.¹⁵³⁹ Financial barriers were cited as affecting innovation among other challenges market-related.¹⁵⁴⁰ An innovation-active business sector reflects a growing interest in emerging technologies exploring the use of artificial intelligence. The Department of Trade and Industry in South Africa in partnership with the Production Technologies Association of South Africa formed a multi-stakeholder initiative, Intsimbi Future Production Technologies Initiative which implements a ‘turnaround strategy for South Africa’s distressed tooling industry.’¹⁵⁴¹ The initiative is a technological solution which helps overcome financial barriers through employing technology in business.¹⁵⁴² The financial technology intergovernmental stakeholders in South Africa have a vision of leading in promoting financial inclusion while spurring competition, digital skills, and economic growth through innovation.¹⁵⁴³

Cities in South Africa are embracing technology and datafication, a new mode of informing decision making in the quest to develop smart cities. The City of Cape Town launched an Open Data Portal in 2015 which facilitates open access to data for public use.¹⁵⁴⁴ Similarly, eThekweni Municipality’s Economic Development and Growth (EDGE) is an open data portal with 14 datasets which focus on economic aspects of the city like labour data, property data, electricity data, business licensing data, and

¹⁵³⁸ Id. at 3.

¹⁵³⁹ *South African Government ‘Minister Blade Nzimande releases results of Business Innovation Survey’* (2020) <https://www.gov.za/speeches/minister-blade-nzimande-results-business-innovation-survey-9-jul-2020-0000>.

¹⁵⁴⁰ Id.

¹⁵⁴¹ About Intsimbi <http://www.intsimbi.co.za/about.html>.

¹⁵⁴² Id.

¹⁵⁴³ Intergovernmental Fintech Working Group ‘South Africa Fintech Vision.’ The Intergovernmental Fintech Working Group (IFWG), formed in 2016, comprises representatives from the National Treasury (NT), South African Reserve Bank (SARB), Financial Sector Conduct Authority (FSCA), National Credit Regulator (NCR), Financial Intelligence Centre (FIC), and South African Revenue Service (SARS).

¹⁵⁴⁴ *South African Cities Network Smart cities paper series: Smart governance in South African cities* 18 https://www.sacities.net/wp-content/uploads/2020/10/Smart_Cities_Papers_Volume_1_Final-Draft.pdf

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educational data.¹⁵⁴⁵ There is also great reliance on data collected for addressing healthcare and allocation of other services.¹⁵⁴⁶ While the benefits are to increase development and service delivery in cities, reliance on datasets and algorithms in smart city initiatives must be applied in a way that is transparent to avoid exclusion of other members of South African society.¹⁵⁴⁷

Data Protection

In 2020, Experian, a South African company experienced a data breach that affected over 24 million people.¹⁵⁴⁸ Data breaches have an effect of making the public lose confidence in the companies safeguarding personal information belonging to data subjects. This may be reflected in negative public opinions. South Africa's data protection law, the Protection of Personal Information Act (POPIA), 2013 came into effect on 1 June 2020 and has been fully operational since 1 July 2021 and all relevant entities are expected to comply with the provisions.¹⁵⁴⁹ POPIA protects personal information and is meant to give effect to the right to privacy guaranteed under section 14 of the Constitution of South Africa, 1996.

Section 71(1) of POPIA stipulates that a data subject may not be subject to a decision which results in legal consequences which affect the data subject based entirely on automated decision-making.¹⁵⁵⁰ This protection ensures that profiling based on factors including performance, credit worthiness, reliability, location, health, personal preferences or conduct is not used in isolation of any other considerations. Section 71(2) provides exceptions where the sole reliance on automated decision-making is governed by a contract, law or code of conduct. Furthermore, section 71(3) provides that in dealing with the exceptions, a responsible party must provide a data subject with sufficient information about the underlying logic of the automated processing of the information the data subject must have an opportunity to make representations about a decision.

¹⁵⁴⁵ Id. at 18.

¹⁵⁴⁶ Policy Action Network, *AI and data in South Africa's cities and towns: Centering the citizen* 11 (2020), https://policyaction.org.za/sites/default/files/PAN_TopicalGuide_AIData4_CitiesTowns_Elec.pdf.

¹⁵⁴⁷ Id. at 10.

¹⁵⁴⁸ Experian, *Experian South Africa open letter from Ferdie Pieterse* (2020) <https://www.experian.co.za/fraudulent-data-incident/open-letter-from-ferdie-pieterse>.

¹⁵⁴⁹ Protection of Personal Information Act (POPIA) No.4 of 2013 (POPIA).

¹⁵⁵⁰ Id. at sec 71(1).

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POPIA also ensures that before a responsible party¹⁵⁵¹ decides to process any unique identifiers of data subjects for any other purpose other than that which is agreed upon by data subjects and with the purpose of linking up the information gathered with information collected by other responsible parties, the responsible parties must obtain prior authorisation from the Regulator.¹⁵⁵² For companies intending to rely on machine learning, there is a need to first get authorisation in line with section 57(1) of POPIA. The safeguard built in POPIA is meant to ensure responsible use of personal information in automated decision-making. It is hoped that beyond 1 July 2021, companies will ensure a more human-centered approach to protecting the privacy of data subjects thereby increasing public trust of technology. This has an impact on how artificial intelligence and other emerging technologies are perceived.

COVID-19 Surveillance

The University of Witwatersrand recently designed an AI-based algorithm in partnership with iThemba Labs, the Provincial Government of Gauteng and York University in Canada to show the risk incidence of the third wave of COVID-19 in South Africa. The AI driven early detection predicts the future daily confirmed cases based on the past infection history including elements such as ‘mobility indices, stringency indices and epidemiological parameters.’ In this case, AI is used as an early warning mechanism. AI has to be applied well with human reasoning, noting that the system is predictive and not conclusive.

Research and Development on AI

The Department of Science and Innovation funds the Centre for Artificial Intelligence Research (CAIR) which is a research network of nine groups across six main universities in South Africa focusing on AI.¹⁵⁵³ This initiative is critical to the development of emerging technologies as research promotes AI and enhances socio-economic developments.¹⁵⁵⁴ The CAIR is a great platform for conducting such research as it comprises experts in the field of AI. The CAIR harnesses expertise from leading researchers from the University of Cape Town, the University of KwaZulu-Natal, North-

¹⁵⁵¹ Id. at sec 1. A responsible party is defined in section 1 of POPIA as a public or private body or any other person which, alone or in conjunction with others, determines the purpose of and means for processing personal information.

¹⁵⁵² n 15 above, sec 57(1).

¹⁵⁵³ Centre for Artificial Intelligence <https://www.cair.org.za/about>.

¹⁵⁵⁴ Centre for The Fourth Industrial Revolution South Africa, *About the WEF Affiliate Centre for 4IR South Africa (C4IR SA)* 6 (2020), https://www.c4ir-sa.co.za/wp-content/uploads/2020/12/C4IR-SA_-Introduction_-November-2020-4.pdf.

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West University, the University of Pretoria, Stellenbosch University and the University of the Western Cape. CAIR conducts ‘foundational, directed and applied research’ on AI through nine research groups: Adaptive and Cognitive Systems, AI and Cybersecurity, AI for Development, Applications of Machine Learning, Computational Logic, Ethics of AI, Foundations of Machine Learning, Knowledge Representation and Reasoning, and Probabilistic Modelling.¹⁵⁵⁵

Another organization doing research on AI is the Council for Scientific and Industrial Research (CSIR) which is a leading scientific and technology research organization that researches, develops, localizes and diffuses technologies to accelerate socioeconomic prosperity in South Africa.¹⁵⁵⁶ CSIR supports the public and private sector through specific research on technology. One of its current projects is the autonomous exploration mapping project which developed an experimental system for autonomous exploration and mapping in which a robot autonomously explores an unknown environment and produces a map.¹⁵⁵⁷

The African Commission on Human and Peoples’ Rights (ACHPR) adopted Resolution 473 having recognized that emerging technologies such as AI have a bearing on the enjoyment of human rights under the African Charter on Human and Peoples’ Rights (the African Charter).¹⁵⁵⁸ This adoption was cognizant of the challenges posed by autonomous systems that are not under meaningful human control and the use of algorithms in Google, Amazon, Facebook and Android and as such, sought to promote multi-disciplinary research on AI and other emerging technologies. The ACHPR called on state parties to the African Charter, South Africa included, to among other things, do the following:

- ensure that the development and use of AI, robotics and other new and emerging technologies is compatible with the rights and duties in the African Charter and other regional and international human rights instruments, in order to uphold human dignity, privacy, equality, non-discrimination, inclusion, diversity, safety, fairness, transparency, accountability and economic development as

¹⁵⁵⁵ n 18 above.

¹⁵⁵⁶ CSIR, *The CSIR in Brief*, <https://www.csir.co.za/csir-brief>.

¹⁵⁵⁷ CSIR, *Autonomous Exploration and Mapping*, <https://www.csir.co.za/autonomous-exploration-and-mapping>.

¹⁵⁵⁸ African Commission on Human and Peoples’ Rights Resolution 473 on the need to undertake a Study on human and peoples’ rights and artificial intelligence (AI), robotics and other new and emerging technologies in Africa (Feb. 25, 2021), <https://www.achpr.org/sessions/resolutions?id=504>

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underlying principles that guide the development and use of AI, robotics and other new and emerging technologies.

- to ensure transparency in the use of AI technologies, robotics and other new and emerging technologies and that decisions made in the use of AI technologies, robotics and other new and emerging technologies are easily understandable to those affected by such decisions.
- to work towards a comprehensive legal and ethical governance framework for AI technologies, robotics and other new and emerging technologies so as to ensure compliance with the African Charter and other regional treaties.

Public Participation

South Africa's Department of Cooperative Governance and Traditional Affairs (CoGTA) partnered with a private company to launch GovChat, an online citizen engagement application in 2018 which promotes accountable local governance and allows citizens to engage with their local councilors.¹⁵⁵⁹ GovChat integrates AI technologies in its design and is aimed at enhancing local governance in South Africa.¹⁵⁶⁰ In April 2019, the Department of Science and Innovation signed an agreement with the World Economic Forum (WEF) to set up the Centre for the Fourth Industrial Revolution Network (C4IR Network) affiliate Centre in South Africa hosted by the Council for Scientific and Industrial Research (CSIR).¹⁵⁶¹ C4IR South Africa works with core members, project partners and knowledge partners who include academia, civil society groups, small businesses and government. Knowledge partners are invited to participate in working groups or discussions. C4IR South Africa mainly focuses on policy developments in the following areas:¹⁵⁶²

- Internet of Things (IoT), Robotics and Smart Cities.
- Blockchain and Distributed Ledger Technology.
- Artificial Intelligence and Machine Learning.
- Data Policy.

¹⁵⁵⁹ Human Sciences Research Council, *AI technologies for responsive local government in South Africa* (2019), <http://www.hsrc.ac.za/en/research-outputs/view/10337>.

¹⁵⁶⁰ Republic of South Africa, Government Communications, *GovChat*, <https://www.salga.org.za/SALGA%20National%20Communicators%20Forum%20Web/Documents/GovChat%20Presentation.pdf>.

¹⁵⁶¹ Centre for The Fourth Industrial Revolution South Africa, *The Network for Global Technology Governance* <https://www.c4ir-sa.co.za/>.

¹⁵⁶² Centre for The Fourth Industrial Revolution South Africa, *About the WEF Affiliate Centre for 4IR South Africa (C4IR SA)* (2020) https://www.c4ir-sa.co.za/wp-content/uploads/2020/12/C4IR-SA_-Introduction_-November-2020-4.pdf.

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The Council for Scientific and Industrial Research (CSIR) and Deloitte South Africa signed a memorandum of understanding to support the World Economic Forum Affiliate Centre for the Fourth Industrial Revolution South Africa (C4IR South Africa) in ensuring the application of emerging technologies.¹⁵⁶³ This support should enhance policy developments on AI.

Public Opinion

In a survey conducted by SIENA researchers in 2019 on South African's awareness of robots, 36 % of the respondents hardly knew about robots and 23% had never heard of AI.¹⁵⁶⁴ The lack of awareness of AI results in a lack of trust in AI. There is a need for more awareness raising, highlighting benefits where there is responsible use of AI and emphasizing the rights-based approach. The South African Social Attitudes Survey revealed that out of 2763 participants, 57% were concerned that the government did not have effective strategies to ensure that jobs are not lost as a result of the fourth industrial revolution.¹⁵⁶⁵ Less than a fifth of respondents were entertaining the idea of a robot administering a medical procedure on them or driving them showing a low acceptance rate of AI.

OECD/G20 Principles

South Africa forms part of the G20 which adopted the G20 human-centered AI principles (AI Principles) which highlight the need to foster public trust and confidence in AI technologies.¹⁵⁶⁶ Furthermore, the AI principles highlight the challenges in the use of AI including privacy, security, ethical issues, new digital divides and the need for AI capacity building. These principles are drawn from the Organisation for Economic Co-operation and Development (OECD). This adoption when viewed against the backdrop of occurring breaches emphasizes the need for implementation of policies that protect human rights.

¹⁵⁶³ Creamer Media's Engineering News, *CSIR, Deloitte ink MoU for 4IR centre collaboration* (2021), <https://www.engineeringnews.co.za/article/csir-deloitte-ink-mou-for-4ir-centre-collaboration-2021-06-09>

¹⁵⁶⁴ SIENNA, *D4:5 Public views on artificial intelligence and robots across 11 EU and non-EU countries* (2020), <https://zenodo.org/record/4068220#.YIGoDegzbIV>. The SIENA Project looks at stakeholder-informed ethics for new technologies with high socio-economic and human rights impact.

¹⁵⁶⁵ 4IRSA, *Digital revolution has South Africans worried: survey* <https://www.4irsa.org/south-africa-4-0/digital-revolution-has-south-africans-worried-survey/>

¹⁵⁶⁶ G20, *Ministerial statement on trade and digital economy 3* (2019), https://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157920.pdf (accessed 28 April 2021).

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Human Rights

The African Charter on Human and Peoples' Rights (the Charter) to which South Africa is a state party, mandates the African Commission on Human and Peoples' Rights (ACHPR) with the role of interpreting the Charter.¹⁵⁶⁷ On February 25, 2021, the ACHPR passed a resolution on the need to undertake a study on human and peoples' rights and AI, robotics and other new and emerging technologies in Africa.¹⁵⁶⁸ The resolution acknowledges the need for comprehensive and multidisciplinary research on the legal, ethical, safety and security opportunities and challenges raised by AI technologies, robotics and other new and emerging technologies in Africa. It also acknowledges the likely impact of AI on the right to privacy, and socio-economic rights in particular, as provided for in the Charter such as the right to work, education, health, social security and access to social services.

Evaluation

Artificial intelligence (AI) is a growing phenomenon in Africa. Based on slow development in information and communication technology, growth in AI policy is happening at a slower rate than in other continents. In South Africa, some notable policy developments are in place which show a growth in use of emerging technologies. Many factors affect this growth such as lack of awareness on AI, lack of relevant skills, limited resources to stimulate development in AI and fear of the adverse effects of technology such as concerns of human jobs being replaced by AI and automation. South Africa human rights violations in the form of data breaches are a cause for concern in South Africa.¹⁵⁶⁹ Data breaches can negatively affect how emerging technologies are viewed and interfere with public perceptions. Nevertheless, AI has the potential to transform service delivery in some notable instances such as the roll-out of COVID-19 health surveillance.¹⁵⁷⁰

The National Development Plan lays down principles for upholding human rights in embracing artificial intelligence in South Africa. It is recommended that South Africa develops a specific national AI strategy that best suits the needs of the country. It also focuses specifically on measures

¹⁵⁶⁷ African Charter on Human and Peoples' Rights, articles 30 and 45(3).

¹⁵⁶⁸ n 20 above.

¹⁵⁶⁹ ESI Africa, *Data breaches are becoming a common phenomenon in South Africa* (2020) <https://www.esi-africa.com/industry-sectors/smart-technologies/data-breaches-are-becoming-a-common-phenomenon-in-south-africa/>

¹⁵⁷⁰ University of Witwatersrand, *AI-powered Algorithm released to detect the third wave in South Africa* (2021) <https://www.wits.ac.za/news/latest-news/research-news/2021/2021-03/ai-powered-algorithm-released-to-detect-the-third-wave-in-south-africa.html>.

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that are aimed at enhancing the use and development of AI. In the meantime, through piecemeal AI strategies found in the PC4IR Report and NDP, economic growth and development of ICTS will be fostered. Hopefully, more specific policies which address emerging technologies such as the use of autonomous weapons and reliance on machine learning will also be developed. There is a need for more awareness-raising in South Africa to improve public understanding of AI.

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Spain

National AI Strategy

Spain has identified AI as “one of the disciplines most likely to influence the rapid transition to a new society and economy.”¹⁵⁷¹ On December 2, 2020.¹⁵⁷² Spain unveiled the National Strategy for Artificial Intelligence. The Spanish government stated it will allocate €600 million for the implementation of the Strategy from 2021 to 2023.¹⁵⁷³ The objective of the National Strategy for AI is to generate trust in the development of inclusive and sustainable AI which focuses on the needs of the citizens. The AI Strategy’s focuses on six goals:

- 1) invigorating scientific research, technical development, and innovation of AI;
- 2) promoting the development of digital capabilities, encouraging national talent and attracting global talent in AI;
- 3) developing data platforms and infrastructure technology to provide support to AI;
- 4) integrating IA in value chains to transform the economy;
- 5) encouraging the use of AI in public administration and in strategic national missions;
- 6) and establishing an ethical and normative framework to strengthen the protection of individual and collective rights and to guarantee inclusion and social wellbeing.

Spain’s National AI Strategy sets out five measures for the successful ethical framework:

- 1) the development of a national stamp of quality for AI,
- 2) the creation of observatories for ethical and juridical evaluation of AI systems,
- 3) the development and launch of Digital Rights Charter,
- 4) the implementation of a national governance model for ethics in AI through the AI Advisory Council,

¹⁵⁷¹ Government of Spain & Ministry of Science, Innovation, and Universities, *Spanish RDI Strategy in Artificial Intelligence* (2019), https://www.ciencia.gob.es/stfls/MICINN/Ciencia/Ficheros/Estrategia_Inteligencia_Artificial_EN.PDF

¹⁵⁷² Government of Spain, *Estrategia Nacional de Inteligencia Artificial* (Dec. 2, 2020), <https://www.lamoncloa.gob.es/presidente/actividades/Documents/2020/021220-ENIA.pdf>

¹⁵⁷³ Government of Spain, *Pedro Sánchez presenta la Estrategia Nacional de Inteligencia Artificial con una inversión pública de 600 millones en el periodo 2021-2023* (Dec. 2, 2020), <https://www.lamoncloa.gob.es/presidente/actividades/Paginas/2020/021220-sanchezenia.aspx>

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5) and the promotion of multisectoral national and international fora for dialogue, awareness, and participation.

The National AI Strategy is part of several overlapping initiatives launched by the Spanish government. The Spanish government has published its 2025 Digital Agenda, which enumerates 50 measures for the Spanish government to take between 2020 and 2025 across 10 thematic axes in order to propel the country's digital transformation. The ninth axis is "Data Economy and Artificial Intelligence" and one of the measures contained therein is the accomplishment of the goals set out by the Strategy.

The Strategy is also part of the Plan for Recovery, Transformation, and Resilience for the Spanish Economy launched in April 2021. The Strategy is part of the Plan's measures on science and innovation, particularly as they relate to reinforcing the National Health System's capacities. The Plan also describes Spain's ambitions to be a global leader in the integration of artificial intelligence into a digitalized economy and its focus on developing this technology in a human-centric way. The Plan titles this a "humanist digitalization", which it seeks to accomplish through the Charter of Digital Rights.

The Strategy intersects with the Spanish government's 2015 Plan for the Advancement of Language Technologies. Within the framework of the Plan, the Spanish government, in collaboration with the Barcelona Supercomputing Center, created the world's first massive Spanish-language AI system (MarIA) in 2021, which can generate and analyze texts in Spanish. This is part of Spain's strategic objectives to promote the development of AI systems in Spanish instead of relying on the more ubiquitous English-language systems.

The National Strategy for AI follows from the Spanish Research, Development and Innovation (RDI) Strategy for Artificial Intelligence, published in 2019.¹⁵⁷⁴ The Spanish RDI Strategy for AI sets out Priorities and Recommendations "to be developed in initiatives and activities defined and financed through the Science, Technology and Innovation Stares Plans (PECTI), mobilizing the synergies between the different levels of public administration and through the co-development of the public and private sectors." The Spanish RDI Strategy included plans to create a National AI Strategy, a Spanish AI Observatory, and a strategic framework for the development of AI in compliance with the "ethical, legal, and social

¹⁵⁷⁴ Government of Spain & Ministry of Science, Innovation, and Universities, *Spanish RDI Strategy in Artificial Intelligence* (2019), https://www.ciencia.gob.es/stfls/MICINN/Ciencia/Ficheros/Estrategia_Inteligencia_Artificial_EN.PDF

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commitments” of Spain and the European environment. Priority six of the RDI Strategy is to “analyze the ethics of AI from the perspective of RDI.”

Spain also endorses the ethical standards proposed by the European Union. Spain particularly support the ethical guidelines put forward by the EU’s High-Level Expert Group (HELG) on Artificial Intelligence in 2018. The EU HLEG AI Guidelines encourage the development of “Trustworthy AI” defined as AI which “(1) should respect fundamental rights, applicable regulation and core principles and values, ensuring an “ethical purpose” and (2) should be technically robust and reliable since, even with good intentions, a lack of technological mastery can cause unintentional harm.”¹⁵⁷⁵

To track the development of AI and ensure the carrying out of the RDI goals, Spain has created a dynamic Map of AI Technology Capabilities which “tracks and displays essential information on the entities which develop, investigate, use, or lend services with AI technologies, on a national level as well as at the level of autonomous communities and provinces.”¹⁵⁷⁶ The information on the map details Spanish technical AI capacity and informs on areas of priority in AI to meet RDI objectives. The Map of AI Technology Capabilities detail the use of AI in public agencies, private businesses, institutions of higher learning, and private non-profit institutions. The Map notes that AI in Spain is currently most used for big data and data analysis as well as machine learning. This information is publicly available, and additions can be submitted by the public.

In October 2020, the Spanish government, along with thirteen other countries, published a position paper on innovative and trustworthy AI.¹⁵⁷⁷ This paper delineates a two-fold vision of the EU’s AI development seeking to promote innovation while managing risks through a clear framework and establish trustworthy AI as a competitive advantage. They state that “The main aim must be to create a common framework where trustworthy and human-centric AI goes hand in hand with innovation, economic growth and competitiveness in order to protect our society, maintain our high-quality

¹⁵⁷⁵ The European Commission’s High Level Expert Group on Artificial Intelligence, *Draft: Ethics Guidelines for AI* (2018), <https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines#Top>

¹⁵⁷⁶ Government of Spain, *Mapa de capacidades de tecnologías de IA*, <https://mapa.estrategiaia.es/>

¹⁵⁷⁷ Position Paper on Behalf of Denmark, Belgium, the Czech Republic, Finland, France Estonia, Ireland, Latvia, Luxembourg, the Netherlands, Poland, Portugal, Spain and Sweden, *Innovative and Trustworthy AI: Two Sides to the Same Coin* (Oct. 2020), <https://www.permanentrepresentations.nl/binaries/nlatio/documents/publications/2020/10/8/non-paper---innovative-and-trustworthy-ai/Non-paper+-+Innovative+and+trustworthy+AI+-+Two+side+of+the+same+coin.pdf>

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public service and benefit our citizens and businesses. This can help the EU to protect and empower their citizens, underpin innovation and progress in society and ensure that their values are protected.”

According a report of the European consumer organization BEUC, 83% of those in Spain think that consumers should be well informed when they deal with an automatic decision system and 80% believe they should have the right to say “no” to automated decision-making.¹⁵⁷⁸ The BEUC report also found high levels of concern in Spain about the potential failure of AI machines, the privacy of voice assistants, manipulation of consumer decisions, and unfair discrimination. More than half of those from Spain surveyed in the BEUC poll “disagree or strongly disagree that current regulation is adequate to efficiently regulate AI.”

Artificial Intelligence Advisory Council

In July of 2020, the Ministry of Economic Affairs and Digital Transformation established the Artificial Intelligence Advisory Council.¹⁵⁷⁹ The Council is composed of Spanish experts in science, economics, education, and other relevant fields. The AI Advisory Council was created to analyze, assess, and support the government on matters of AI. According to the Ministry, the Advisory Council is intended to provide recommendations to the government on measures for the safe and ethical use of AI. The Council members will analyze the implications of AI in different areas, such as industry, the future of work, protection of fundamental rights, data management, the fight against discrimination, and the elimination of social disparities.

Artificial Intelligence Supervision Agency

In 2021, the Spanish government agreed to the creation of an Artificial Intelligence Supervision Agency. The agency’s objective is to minimize “the significant risks to the health and safety of people, as well as to their fundamental rights, which could be derived from the use of AI

¹⁵⁷⁸ BEUC, *Artificial Intelligence What Consumers Say: Findings and Policy Recommendations of a Multi-Country Survey of AI* (Sept. 2020), https://www.beuc.eu/publications/beuc-x-2020-078_artificial_intelligence_what_consumers_say_report.pdf

¹⁵⁷⁹ Government of Spain, *El Gobierno constituye el Consejo Asesor de Inteligencia Artificial* (July 20, 2020), <https://www.mineco.gob.es/portal/site/mineco/menuitem.ac30f9268750bd56a0b0240e026041a0/?vgnextoid=51884ba89bc63710VgnVCM1000001d04140aRCRD>

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systems.”¹⁵⁸⁰ The Spanish government has allotted for its creation in its proposed budget for 2022.¹⁵⁸¹

Charter on Digital Rights

In November 2020, the Spanish Government proposed a Charter on Digital Rights aimed at “recogniz[ing] the challenges posed by the adaptation of existing rights to the virtual environment, and propos[ing] a frame of reference for their protection in that context.”¹⁵⁸² The proposal was published for public comment. The 12-page document was opened for public comment.¹⁵⁸³ Following the public participation process, the final Digital Rights Charter was unveiled in July 2021.¹⁵⁸⁴

Spanish secretary of State for Digitalization and Artificial Intelligence, Carme Artigas says the Charter for Digital Rights works as a “prescriptive document, not regulatory, proposes a framework for the public authorities' action in a way that allows navigating in the current digital environment, taking advantage of all its potential and opportunities.”¹⁵⁸⁵

The Charter includes six main categories of rights, covering all areas of uncertainty and risk: rights of freedom; rights of equality; rights of participation and shaping the public space; rights of the working and business environment; digital rights in specific environments; and rights of guarantees and efficiencies.

¹⁵⁸⁰ Xataka.com, Los algoritmos de las redes sociales serán controlados por una agencia pública: el Gobierno vigilará cómo se aplica la IA (2021), <https://www.xataka.com/legislacion-y-derechos/algoritmos-redes-sociales-seran-controlados-agencia-publica-gobierno-quiere-vigilar-como-se-aplica-ia>

¹⁵⁸¹ Ibid

¹⁵⁸² Documento para Consulta Pública: Carta de Derechos Digitales (Nov. 18, 2020), https://portal.mineco.gob.es/RecursosArticulo/mineco/ministerio/participacion_publica/audiencia/ficheros/SEDIACartaDerechosDigitales.pdf; Government of Spain, Ministry of economic affairs and Digital Transformation, The Government promotes the development of the letter of Digital Rights (Nov. 18, 2020), https://administracionelectronica.gob.es/pae_Home/pae_Actualidad/pae_Noticias/Anio2020/Noviembre/Noticia-2020-11-18--Gobierno-impulsa-Carta-DerechosDigitales.html?idioma=en

¹⁵⁸³ Explica, Government of Spain passes the letter of digital rights to public consultation (Nov. 19, 2020), <https://www.explica.co/government-of-spain-passes-the-letter-of-digital-rights-to-public-consultation/>

¹⁵⁸⁴ Government of Spain (La Moncloa), Sánchez presents the Digital Rights Charter with which "Spain is at the international forefront in protecting citizens' rights" (2021) https://www.lamoncloa.gob.es/lang/en/presidente/news/Paginas/2021/20210714_digital-rights.aspx

¹⁵⁸⁵ IT Europa, Spain offers digital rights charter as model (Nov. 18, 2020), <https://www.iteuropa.com/news/spain-offers-digital-rights-charter-model>

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Algorithmic Transparency

Spain is subject to the General Data Protection Regulation which established rights to “meaningful information about the logic involved” as well as about “the significance and the envisaged consequences.”¹⁵⁸⁶ The Spanish data protection agency (AEPD) has published a detailed guide on processing with AI.¹⁵⁸⁷ The AEPD report explains that “complying with this obligation by making a technical reference to the algorithm implementation may be obscure, confuse or excessive and leading to information fatigue. However, sufficient information must be provided to understand the behaviour of the relevant processing.” The AEPD provides many examples that “must be provided” to understand the behavior of the relevant processing, such as the relative importance or weight of each data category in the decision making, the quality of training data and the type of patterns used, and any reference to audits, “especially on the possible deviation of inference results, as well as certification or certifications performed on the AI system.” As indicated above, the Charter of Digital Rights strengthens principles of Algorithmic Transparency.

The Charter on Digital Rights, described above, guarantees the right that no citizen is discriminated against for decisions based on algorithms and maintains that “transparency, auditability, explicability and traceability” of the same will be ensured. It also adds that people have the right not to be the subject of a decision based solely on automated decision processes, thus recognizing the right to “request human supervision and intervention and challenge automated or algorithmic decisions.” The text recognizes that citizens must be explicitly informed when they are talking to an artificial intelligence system and that assistance by a human being must be guaranteed if the person concerned requests it.”¹⁵⁸⁸

Labor Minister Yolanda Díaz said at a May 2021 press conference, “Now algorithms are going to be put at the service of the majority in society. All commercial companies today use artificial intelligence in one way or another and it is key for us to be courageous and fearlessly govern the technological transition.”¹⁵⁸⁹

¹⁵⁸⁶ [GDPR Art. 22, Art. 13.2.f]

¹⁵⁸⁷ AEPD, *RGPD compliance of processings that embed Artificial Intelligence An introduction* (Feb. 2020), https://www.aepd.es/sites/default/files/2020-02/adequacion-rgpd-ia-en_0.pdf

¹⁵⁸⁸ Government of Spain (La Moncloa), *Carta de Derechos Digitales* (2021), https://www.lamoncloa.gob.es/presidente/actividades/Documents/2021/140721-Carta_Derechos_Digitales_RedEs.pdf

¹⁵⁸⁹ El País, *Spain approves landmark law recognizing food-delivery riders as employees: The legislation also makes it mandatory for digital platforms to be transparent about how*

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Lethal Autonomous Weapons

Spain has responded to the threat of Lethal Autonomous Weapons Systems (LAWS) by affirming that the Spanish military does not have and will not develop such technology and emphasizing the need for meaningful human control for weapons systems to be compliant with international humanitarian law. Additionally, Spain has consented to the 11 Principles on LAWS launched by France in 2019.¹⁵⁹⁰ The Spanish government, however, does not endorse the creation of a preemptive treaty prohibiting LAWS.¹⁵⁹¹

OECD/G20 AI Principles

Spain has endorsed the OECD AI Principles and incorporated many of them into its National AI Strategy and Digital Rights Charter.¹⁵⁹² In June 2020, the OECD reported that Spain is in the “final stages” of developing its National Strategy on AI, with “a suite of objectives from promotion of research to the prevention of discrimination and respect for human rights.”¹⁵⁹³ Spain published its national AI Strategy in December 2020.¹⁵⁹⁴

Human Rights

Spain ranks highly for political rights and civil liberties, through there was a slight dip in the 2021 score (90/100) as compared with 2020 (92/100). According to Freedom House, “Spain’s parliamentary system features competitive multiparty elections and peaceful transfers of power

their algorithms affect working conditions (May 12, 2021),

https://english.elpais.com/economy_and_business/2021-05-12/spain-approves-landmark-law-recognizing-food-delivery-riders-as-employees.html

¹⁵⁹⁰ French Ministry for Europe and Foreign Affairs, *11 Principles on Lethal Autonomous Weapons Systems (LAWS)* (September 2019), <https://www.diplomatie.gouv.fr/en/french-foreign-policy/united-nations/multilateralism-a-principle-of-action-for-france/alliance-for-multilateralism/article/11-principles-on-lethal-autonomous-weapons-systems-laws>

¹⁵⁹¹ Human Rights Watch, *Stopping Killer Robots- Country Positions on Banning Fully Autonomous Weapons Systems and Retaining Human Control* (Aug. 20, 2020), <https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and#>

¹⁵⁹² OECD.AI Policy Observatory – Spain (2021),

<https://oecd.ai/en/dashboards/countries/Spain>

¹⁵⁹³ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹⁵⁹⁴

https://www.lamoncloa.gob.es/lang/en/presidente/news/Paginas/2020/20201202_enia.asp

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between rival parties. The rule of law prevails, and civil liberties are generally respected.”¹⁵⁹⁵

Evaluation

Spain has developed a strong ethics-focused national AI strategy, created an independent AI advisory council, enacted a Charter for Digital Rights, and strongly endorsed the EU’s policies and statements on ethical AI as well as the OECD AI Principles. The Map of AI Technology Capabilities is the most authoritative source on AI developments in Spain, but it only includes technological capabilities without informing on adherence to ethical principles. On issues of data privacy, Spain has expanded upon the EU’s General Data Protection Regulation (GDPR) and issued a more robust human rights centered law.¹⁵⁹⁶ This precedent shows that Spain is capable of undertaking initiative beyond what is required by the EU. Spain has not explicitly endorsed the Universal Guidelines for AI, but the national AI strategy reflects elements of the UGAI. The decision in 2021 to establish a legal right for algorithmic transparency is an AI policy milestone.

¹⁵⁹⁵ Freedom House, Freedom in the World 2021 – Spain (2021), <https://freedomhouse.org/country/spain/freedom-world/2021>; Freedom House, Freedom in the World 2020 – Spain (2020), <https://freedomhouse.org/country/spain/freedom-world/2020>

¹⁵⁹⁶ Gobierno de España- Boletín Oficial del Estado, *Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales* (2018), <https://www.boe.es/eli/es/lo/2018/12/05/3/con>

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Sweden

National AI Strategy

In May 2018, Swedish announced the National Approach to Artificial Intelligence. The national approach to AI reflects the government’s goal “to make Sweden a leader in harnessing the opportunities that the use of AI can offer, with the aim of strengthening Sweden’s welfare and competitiveness.”¹⁵⁹⁷

Sweden emphasized that a “cross-cutting theme should be sustainable AI, meaning that AI applications should be ethical, safe, secure, reliable and transparent” more specifically regarding “the use of AI algorithms.” When referring to the potential threats, the Government refers to “challenges related to rule of law procedures and the automation of agency decisions,” “the risks to both society and individuals,” “fundamental needs for privacy”, “discrimination, loss of trust,” and the consequences for the functioning of democracy.

Accountability is not mentioned. The emphasis is on responsible design and use of AI. For example, “it is important that AI systems are carefully designed to prevent them from doing harm. It is therefore important that companies and public institutions collaborate with relevant academics, for example through joint projects or staff exchanges.”

The Swedish National Approach to AI should also be read against the background of a 2020 joint response to the European Commission’s White Paper on AI.¹⁵⁹⁸ In this “non-paper,” Sweden and 13 other EU member states, describe human-centric and trustworthy AI “as a competitive advantage.” According to the non-paper, Sweden supports the use of hard law tools for “creating a genuinely single market for AI.” Sweden also favors the use of “soft law solutions such as self-regulation, voluntary labelling and other voluntary practices as well as robust standardisation process.” As for risks to individuals or to society stemming from the use of AI, Sweden advocates for an evidence-based and “well-calibrated and proportionate approach.”

¹⁵⁹⁷ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf>

¹⁵⁹⁸ *Non-paper - Innovative and trustworthy AI: two sides of the same coin* (Aug. 10, 2020),

<https://www.permanentrepresentations.nl/binaries/nlatio/documents/publications/2020/10/8/non-paper---innovative-and-trustworthy-ai/Non-paper+-+Innovative+and+trustworthy+AI+-+Two+side+of+the+same+coin.pdf>

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The original National Approach to AI states “Sweden must create the enabling conditions.” The Government defines the “key conditions for realising the potential of AI as 1) Education and training, (2) Research, (3) Innovation, and (4) Framework and infrastructure. Three Ministries – Ministry of Infrastructure; Ministry of Enterprise and Innovation; and Ministry of Education and Research – are responsible for AI policies and independent agencies under these Ministries implement these policies. In relation to education and training, “the Government’s assessment is that

- Swedish higher education institutions need to provide a sufficient number of people with AI education and training, particularly in continuing and further education for professionals with a university degree or equivalent.
- Sweden needs a strong AI component in non-technical programmes to create the conditions for broad and responsible application of the technology
- Sweden needs a strong link between research, higher education and innovation in the field of AI.”¹⁵⁹⁹

In the “Sweden AI Strategy Report,”¹⁶⁰⁰ the European Commission noted that “Swedish universities have started proposing bachelor’s and master’s programmes in AI fields,” with some courses tackling ethical aspects of AI.¹⁶⁰¹ The same goes for continuing and further education for professionals and citizens “rolled out in an effective policy in the form of a course on the Elements of AI”, financed by Vinnova, Sweden’s innovation agency.

In relation to research, the Government’s assessment¹⁶⁰² is that

¹⁵⁹⁹ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

¹⁶⁰⁰ European Commission, *Sweden AI Strategy Report*, (Feb. 2020),

https://knowledge4policy.ec.europa.eu/ai-watch/sweden-ai-strategy-report_en

¹⁶⁰¹ See Uppsala University, Master's Programme in Data Science, [Syllabus for Data, Ethics and Law, Syllabus for artificial intelligence](#); Stockholm University, Master’s Programme in Artificial Intelligence, [Course on Open and big data management](#) tackling Ethical aspects of big data and open data; Chalmers University, [Data Science and AI, MSc](#), the Wallenberg Artificial Intelligence, Autonomous Systems and Software Program (WASP) Graduate School offers an [AI-track mandatory course](#) tackling ethical aspects.

¹⁶⁰² Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

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- Sweden needs both strong basic research and strong applied research in AI to ensure knowledge and skills supply in the field.
- Sweden needs strong relations with leading international AI research environments.
- Sweden needs to exploit the synergies between civil research and defense research from a total defense perspective.

In relation to innovation and use, the Government's assessment is that

- Sweden needs pilot projects, testbeds and environments for development of AI applications in the public and private sectors, that can contribute to the use of AI evolving in a safe, secure and responsible manner.
- Sweden needs to develop partnerships and collaborations on the use of AI applications with other countries, especially within the EU.

Apart from EU funding programs, Vinnova, Sweden's innovation agency is one of the main sources of funding which has fostered the development of AI applications through AI Innovation of Sweden,¹⁶⁰³ organized as a national center for applied AI research and innovation with almost 70 partners from the industrial and public sectors, research institutions, and the academic world. It also funds AI-related innovation projects promoting citizen science which "is considered an important instrument for maintaining confidence in science and society."¹⁶⁰⁴ In April 2021, a total of 256 ongoing projects matched the keywords "artificial intelligence" and "AI" in Vinnova's project database.¹⁶⁰⁵ It also funds the development of innovative services that help citizens and journalists to review the public sector¹⁶⁰⁶ and SMEs and public organisations when they start the first innovation project in AI.

In relation to framework and infrastructure, the Government's assessment is that

- Sweden needs to develop rules, standards, norms and ethical principles to guide ethical and sustainable AI and the use of AI.

¹⁶⁰³ AI Innovation of Sweden, <https://www.ai.se/en>. Nodes and co-location areas are created or planned across Sweden to develop partnerships for AI innovation: the Gothenburg node, the Greater Stockholm node, the Southern Sweden node, the Northern Sweden node, the Örebro node.

¹⁶⁰⁴ Vinnova, <https://www.vinnova.se/en/>. See also Vinnova, *Civic tech: Digital services for strengthening trust between citizens and the public sector*.

¹⁶⁰⁵ *Sweden AI Strategy Report* https://knowledge4policy.ec.europa.eu/ai-watch/sweden-ai-strategy-report_en

¹⁶⁰⁶ "This is done through interactive visualization of climate data at the local, level, increased transparency in procurement data and simulation of how the citizen's own data can be used in a secure way", Vinnova, News, (Oct. 26, 2020), <https://www.vinnova.se/en/>.

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- Sweden needs to push for Swedish and international standards and regulations that promote the use of AI and prevent risks.
- Sweden needs to continuously review the need for digital infrastructure to harness the opportunities that AI can provide.
- Sweden needs to continue to work on making data available to serve as infrastructure for AI use in areas where it adds value.
- Sweden needs to continue to play an active role in the EU's efforts to promote digitization and reap the benefits that the use of AI can bring.¹⁶⁰⁷

The National Approach to Artificial Intelligence states, “The goal is closely linked to the digital transformation goal adopted by the Riksdag [the Swedish Parliament] and complements the Government’s Digital Strategy.”

In August 2018, the Swedish government created a Committee for Technological Innovation and Ethics (KOMET). AlgorithmWatch noted that the head of the Committee is “a former entrepreneur and CEO, whose prior work for the government included being head of the section for innovation within the Ministry of Enterprise and Innovation.”¹⁶⁰⁸ AlgorithmWatch also complained that: “The committee is tasked with producing analyses of barriers for the adoption of ‘the fourth industrial revolution’, such as existing regulatory frameworks, to map the need for adjusting existing regulatory frameworks, to continuously come up with suggestions for the government regarding policy developments, promote a dialogue between relevant governmental agencies and regional actors, educational institutions, the non-governmental sector, and business for efficient collaboration concerning policy-developments. It is, however, not stated how, and more precisely which of these actors will be involved.”

The Swedish Government acknowledged the General Data Protection Regulation (GDPR) as “an important part of the AI framework.”¹⁶⁰⁹

¹⁶⁰⁷ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

¹⁶⁰⁸ Algorithmwatch, *Sweden: New governmental committee for coordinated and accelerated development of policies related to the fourth industrial revolution (2019-2020)*, <https://algorithmwatch.org/en/automating-society/sweden/>.

¹⁶⁰⁹ Government Offices of Sweden, *National Approach to Artificial Intelligence* (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

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In September 2020, the International Bar Association released a report which stated, “there is currently no AI laws in Sweden. Historically, the legislative approach in Sweden has been to pass technology-agnostic legislation that does not need to be changed with every advance in technology.”¹⁶¹⁰ Thus, “it is of central priority for the Swedish legislator to assess current legislation from an AI perspective and implement necessary changes. Furthermore, support in the interpretation of legislation is required from courts and public authorities. Access to data, information security and robustness, together with the ethical use of AI, are principles of central importance in the future regulatory approach.”

In October 2021, a national summit on AI and democracy, entitled “the Future of Democracy Summit” was initiated to focus on the question of how digitalisation and AI can be used in a democratically sustainable way.¹⁶¹¹

The Trelleborg Controversy

The automation of government services has been underway in Sweden since the 1970s. By 2019, “more than 80% of all government decisions that the National Audit has reviewed were automated. This involves 121 million decisions by 13 authorities.”¹⁶¹² Various benefits, such as Welfare payments, from parental benefits to dental care subsidies, are allocated without any human intervention.

As for municipalities, who are in charge of social services, a 2019 report published by the Union for Professionals, found that “only 16 out of a total of 290 municipalities have implemented RPA [Robotic Processing Automation] in their administration of social benefits.”¹⁶¹³ The Trelleborg Municipality was the only one to implement solely automated decision-making.

In 2019 the journalist Freddi Ramel, and Simon Vinge, chief economist at the Union for Professionals, challenged the Trelleborg automated decision system. According to AlgorithmWatch, the Swedish

¹⁶¹⁰ International Bar Association, *Guidelines and Regulations to Provide Insights on Public Policies to Ensure Artificial Intelligence’s Beneficial Use as a Professional Tool* (Sept. 2020), <https://www.ibanet.org/Document/Default.aspx?DocumentUId=f5099a33-1e70-4a32-839d-589236b7568d>.

¹⁶¹¹ Future of Democracy, *Sustainable citizenship in a digital age – Future of Democracy Summit* <https://www.futureofdemocracy.se/summit>

¹⁶¹² Nord News, *The Swedish National Audit Office: Automatic government decisions are becoming more common* (Nov. 19, 2020), <https://nord.news/2020/11/19/the-swedish-national-audit-office-automatic-government-decisions-are-becoming-more-common/>

¹⁶¹³ Lupita Svensson, “Tekniken är den enkla biten” Om att implementera digital automatisering i handläggningen av försörjningsstöd (2019), <https://akademssr.se/sites/default/files/files/LupitaSvensson.pdf>

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Parliamentary Ombudsman has so far failed to determine whether the municipality provided “meaningful information” as required by Article 15 of the GDPR.¹⁶¹⁴ However, Ramel obtained access to the source code after a court ruled that the code was a public record under the Swedish Freedom of Information Act. The Trelleborg municipality subsequently undertook an investigation.

Independent Oversight

The Swedish Government acknowledged the General Data Protection Regulation (GDPR) as “an important part of the AI framework.”¹⁶¹⁵ Sweden’s Authority for Privacy Protection’s (IMY) “role is to uphold the protection of personal data, monitoring that they are handled correctly and do not fall into the wrong hands.”¹⁶¹⁶ It remains active. In 2019, it issued its first fine in a case involving facial recognition. The IMY concluded that a school that conducted a pilot using facial recognition to keep track of students’ attendance in school violated the GDPR and imposed a fine on the municipality of approximately 20,000 euros.¹⁶¹⁷ The IMY has also held the police accountable for its unlawful use of facial recognition technology, which is detailed further in the facial recognition section below.¹⁶¹⁸

In May 2019, the Ministry of Infrastructure launched three assignments to strengthen the country’s open access efforts.¹⁶¹⁹ It assigned Sweden’s Lantmäteriet to analyze the consequences of free access to valuable amounts of data, a special investigator to analyze “the need for constitutional amendments and ensure appropriate national regulation”, and

¹⁶¹⁴ AlgorithmWatch, *Central authorities slow to react as Sweden’s cities embrace automation of welfare management* (2020),

<https://automatingsociety.algorithmwatch.org/report2020/sweden/sweden-story/>

¹⁶¹⁵ Government Offices of Sweden, *National Approach to Artificial Intelligence* (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

¹⁶¹⁶ Swedish Authority for Privacy Protection, *Welcome to IMY*, <https://www.imy.se/en/>

¹⁶¹⁷ Swedish Authority for Privacy Protection, *Facial recognition in school renders Sweden’s first GDPR fine*, 21 August 2019, <https://www.imy.se/en/about-us/arkiv/nyhetsarkiv/facial-recognition-in-school-renders-swedens-first-gdpr-fine/>

¹⁶¹⁸ EDPB, *Swedish DPA: Police unlawfully used facial recognition app* (Feb. 11, 2021), https://edpb.europa.eu/news/national-news/2021/swedish-dpa-police-unlawfully-used-facial-recognition-app_en

¹⁶¹⁹ Swedish Government, *The government is gathering strength around artificial intelligence and open data* (May 2, 2019), www.regeringen.se/pressmeddelanden/2019/05/regeringen-kraftsamlar-kring-artificiell-intelligens-och-oppna-data.¹_{SEP}

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Sweden's Agency for Digital Administration (DIGG) to "increase the public administration's ability to make open data available and to conduct open and data-driven innovation."¹⁶²⁰ This has resulted in the launch of Sweden's data portal with new functionality for APIs, and the establishment of principles, guidelines, and recommendations "in order to increase the public administration's ability to make open data available."¹⁶²¹ Much of this work was based on DIGG's piloted projects with business, academia, and civil society at challengesgov.se.

In the January 2020 report, Sweden's Agency for Digital Administration (DIGG) recommended that the Government establish a center with expertise in AI; develop a platform for collaboration, co-development and innovation; develop an AI guide; create legal conditions to facilitate experimental activities; develop vocational and role-specific training in AI; and develop a national data strategy for public administrations.¹⁶²² DIGG also set up an expert group on AI for public administration, mainly composed of academics, which aims to provide advises to DIGG in the fulfilment of its mission.¹⁶²³

AI Sweden also established a Legal Expert Group, which consists of legal experts from its partners. The Group discusses legal questions related to AI and data and they "collaborate in trying to create, for example, white papers, guidelines and/or common interpretations and solutions for legal issues that could benefit all partners within AI Sweden."¹⁶²⁴ In 2021, the Legal Expert Group met numerous times and discussed matters such as the practical use of applied AI, the concept of Federated Learning, questions regarding anonymization and pseudonymization, the EU Proposal for an AI Act, intellectual property rights, and standardized agreements for sharing data. AI Sweden and the Legal Expert Group also initiated a collaboration with the Swedish Authority for Privacy Protection (IMY). Future

¹⁶²⁰ Swedish Government, *The government is gathering strength around artificial intelligence and open data* (May 2, 2019), www.regeringen.se/pressmeddelanden/2019/05/regeringen-kraftsamlar-kring-artificiell-intelligens-och-oppna-data.^[L]^[SEP]

¹⁶²¹ DIGG, *Öppna data, datadriven innovation och AI* (Open data, data-driven innovation and AI), 29 Jan. 2021, <https://www.digg.se/publicerat/publikationer/2021/oppna-data-datadriven-innovation-och-ai>

¹⁶²² DIGG, *Promote the ability of public administration to use AI*, 13 Jan. 2020, <https://www.digg.se/publicerat/publikationer/2020/framja-den-offentliga-forvaltningens-formaga-att-anvanda-ai>

¹⁶²³ DIGG, *Referensgrupp inom AI*, https://www.digg.se/om-oss/regeringsuppdrag/oppna-data-datadriven-innovation-och-ai#referensgrupp_inom_ai. [MT].

¹⁶²⁴ AI Sweden, *Legal Expert Group*, <https://www.ai.se/en/legal-expert-group>

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discussions will concentrate on using AI in a legal context, such as using natural language processing (NLP) as a tool in legal work.¹⁶²⁵

Lastly, the independent Equality Ombudsman (DO) plays a role in ensuring the absence of discrimination which could result from a biased algorithm.¹⁶²⁶

Foreign Policy and AI

As for the international landscape, Peter Eriksson, the Swedish Minister for Housing and Digital development, signed the declaration on “AI in the Nordic-Baltic region” establishing a collaborative framework on “developing ethical and transparent guidelines, standards, principles and values to guide when and how AI applications should be used” and “on the objective that infrastructure, hardware, software and data, all of which are central to the use of AI, are based on standards, enabling interoperability, privacy, security, trust, good usability, and portability.”¹⁶²⁷ This Declaration has recently been reinforced by the Ministerial Declaration Digital North 2.0.¹⁶²⁸ In November 2021, the Ministers released another joint statement announcing a focus on digital inclusion, striving to implement measures to make digital services more accessible to all Swedish inhabitants and ensuring that those who do not possess the necessary level of skills get the opportunity to acquire them.¹⁶²⁹

Public Participation

As for public participation, the Government states in the National Approach that “For Sweden to reap the benefits of AI, all sectors of society must be involved.” It is, however, debatable to what extent different groups in society are actually involved. According to AlgorithmWatch, most of the funding and strategic development takes place in the universities and as

¹⁶²⁵ AI Sweden, Update from AI Sweden's Legal Expert Group (Jan. 17, 2022), <https://www.ai.se/en/news/update-ai-swedens-legal-expert-group>

¹⁶²⁶ Diskriminerings Ombudsmannen, *Welcome to the Equality Ombudsman* (Oct. 20, 2020), <https://www.do.se/other-languages/english/>. See also Emma Lundberg, *Automated decision-making vs indirect discrimination – Solution or aggravation* (2019), <https://www.diva-portal.org/smash/get/diva2:1331907/FULLTEXT01.pdf>.

¹⁶²⁷ Nordic Cooperation, *AI in the Nordic-Baltic region* (May 14, 2018), <https://www.norden.org/en/declaration/ai-nordic-baltic-region>.

¹⁶²⁸ Nordic Cooperation, *Ministerial Declaration Digital North 2.0* (Sept. 29, 2020), <https://www.norden.org/en/declaration/ministerial-declaration-digital-north-20>.

¹⁶²⁹ Nordic Cooperation, *Common statement on the importance of promoting digital inclusion as a central part of the digital transformation in the Nordic-Baltic region*, 26 Nov. 2021, <https://www.norden.org/en/declaration/common-statement-importance-promoting-digital-inclusion-central-part-digital>.

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support for business environments.”¹⁶³⁰ Nevertheless, AlgorithmWatch also describes the “addAI initiative” which “is a collaboration between experts in academia, government and companies to discuss and explore the impact of smart algorithms and AI on society through the organisation of workshops and participation in public events.”

In October 2021, the “Future of Democracy Summit” hosted stakeholders from business, civil society, academia, and government to discuss sustainable AI and democracy.¹⁶³¹

Facial recognition

In March 2020, the data protection officer for the Swedish police undertook an investigation to determine whether the police may have used ClearView AI, an AI product for mass surveillance enabled by facial recognition.¹⁶³² The Swedish police confirmed that they have used Clearview AI, after previously denying use of the face surveillance tool.¹⁶³³ Subsequently, the Swedish DPA “initiated an inspection to find out whether Swedish authorities use the face recognition technology provided by the US company Clearview AI.”¹⁶³⁴ The DPA noted that the European Data Protection Board “will produce guidance on how law enforcement authorities should approach facial recognition technology. Sweden is one of the driving countries in the world.” In 2021, the Swedish DPA found that the Swedish Police Authority had processed personal data in breach of the Swedish Criminal Data Act when using Clearview AI to identify individuals. The investigation concluded that Clearview AI¹⁶³⁵ had been used by the Police on several occasions and sometimes without any prior authorisation. The Police had failed to implement sufficient organisational

¹⁶³⁰ Anne Kuan and Julia Velkovic, *Automating Society: Sweden* (Jan. 29, 2019), <https://algorithmwatch.org/en/automating-society-sweden/>.

¹⁶³¹ Future of Democracy, *Sustainable citizenship in a digital age – Future of Democracy Summit* <https://www.futureofdemocracy.se/summit>

¹⁶³² SVT NYHETER, *Intern utredning: Polisen får inte använda kritiserad AI-tjänst – skulle bryta mot lagen* (Mar. 6, 2020) [MT], <https://www.svt.se/nyheter/inrikes/svensk-polis-forbjuds-att-anvanda-kontroversiella-ai-tjansten>

¹⁶³³ Mikael Grill Peterson and Linea Carlén, *Polisen bekräftar: Har använt omdiskuterade Clearview AI*, SVT NYHETER, (March 11, 2020) [MT], <https://www.svt.se/nyheter/inrikes/ekot-polisen-bekraftar-anvandning-av-kontroversiell-app>

¹⁶³⁴ The Swedish Data Protection Authority, The Data Inspectorate initiates supervision due to Clearview AI, <https://www.datainspektionen.se/nyheter/datainspektionen-inleder-tillsyn-med-anledning-av-clearview-ai/>.

¹⁶³⁵ EDPB, *Swedish DPA: Police unlawfully used facial recognition app* (Feb. 11, 2021), https://edpb.europa.eu/news/national-news/2021/swedish-dpa-police-unlawfully-used-facial-recognition-app_en

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measures to ensure and be able to demonstrate that the processing of personal data in this case has been carried out in compliance with the Criminal Data Act. No impact assessment had been concluded. As a result, a 250,000 Euros fine was imposed.

In 2019, the Swedish DPA did approve the use of facial recognition technology by the police to help identify criminal suspects. However, such an authorization relates to the use of biometric templates in databases under the control of public authorities and established under Union or Member States law.¹⁶³⁶ As Andrea Jelinek, Chair of the European Data Protection Body, subsequently emphasized, “[t]he possible use of a service such as offered by Clearview AI by law enforcement authorities would, however, be fundamentally different, in that it would imply, as part of a police or criminal investigation, the sharing of personal data with a private party outside the Union and the biometric matching of such data against the latter’s mass and arbitrarily populated database of photographs and facial pictures accessible online.”¹⁶³⁷ She also clearly questions the legality of the use of Clearview AI by public authorities.

In 2019, the Swedish DPA issued its first fine in a case involving facial recognition. A school in northern Sweden conducted a pilot using facial recognition to keep track of students' attendance in school. The Swedish DPA concluded that the test violates the GDPR and imposed a fine on the municipality of approximately 20,000 euros. The school processed sensitive biometric data unlawfully and failed to do an adequate impact assessment including seeking prior consultation with the Swedish DPA. The school based the processing on consent but the Swedish DPA considers that consent was not a valid legal basis given the clear imbalance between the data subject and the controller.¹⁶³⁸

In 2021, the Swedish DPA concluded that the Swedish Police Authority breached the Swedish Criminal Data Act with its use of Clearview AI to identify individuals, having used it on several occasions

¹⁶³⁶ Official Journal of the European Union, *Directive EU 2016/680 of the European Parliament and of the Council* (Apr. 27, 2016), <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L0680&from=EN>

¹⁶³⁷ EDPB response to MEPs Sophie in ‘t Veld, Moritz Körner, Michal Šimečka, Fabienne Keller, Jan-Christoph Oetjen, Anna Donáth, Maite Pagazaurtundúa, Olivier Chastel, concerning the facial recognition app developed by Clearview AI (June 10, 2020) https://edpb.europa.eu/sites/edpb/files/files/file1/edpb_letter_out_2020-0052_facialrecognition.pdf.

¹⁶³⁸ <https://www.datainspektionen.se/nyheter/2019/facial-recognition-in-school-renders-swedens-first-gdpr-fine/>.

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without any prior authorisation.¹⁶³⁹ The Police had failed to implement sufficient organizational measures to ensure that the processing of personal data in this case has been carried out in compliance with the Criminal Data Act. IMY imposed a 250,000 Euros fine.

Lethal Autonomous Weapons

Beginning in 2013, Swedish NGOs called for Sweden to endorse an official ban of LAWS.¹⁶⁴⁰ As one NGO coalition stated recently “A future where machines themselves decide over life and death, what and who is to be attacked in an armed conflict, is not the future we want. But the fact is that we are on our way there - and development is fast.”¹⁶⁴¹ Previously, leaders in the Swedish government declared that “Sweden must take a leading role in the work for a ban on deadly autonomous weapon systems.” However, the position adopted by Sweden so far seems to be more nuanced.

The Swedish government has emphasized human control and said, “that multilateralism remains our only chance to address our many common challenges and to ensure international peace and security.”¹⁶⁴² At the 75th UN General Assembly meeting in October 2020, Sweden’s Ambassador stated “Sweden is of the strong conviction that human control over the use of force always must be upheld.” She also expressed Sweden’s support to the 11 LAWS Guiding Principles.¹⁶⁴³ Earlier, Sweden also explained that the “specific measures required for human control will thus need to be context dependent and assessed on a case-by-case basis” and referred to a report, supported by Sweden, together with Germany, Switzerland and the Netherlands.¹⁶⁴⁴ The Swedish government has also set up a working group

¹⁶³⁹ EDPB, *Swedish DPA: Police unlawfully used facial recognition app* (Feb. 11, 2021), https://edpb.europa.eu/news/national-news/2021/swedish-dpa-police-unlawfully-used-facial-recognition-app_en

¹⁶⁴⁰ Campaign to Stop Killer Robots, *Building Awareness in Sweden* (Oct. 13, 2020), <https://www.stopkillerrobots.org/2013/10/sweden-outreach/>;

¹⁶⁴¹ Amnesty International Sweden, *Sweden Must Stand Against Killer Robots* (Sept. 21, 2020) [GT], <https://www.amnesty.se/aktuellt/sverige-maste-sta-upp-mot-mordarrobotar-debattartikel-publicerad-209-2020/>.

¹⁶⁴² Government of Sweden, Ministry of Foreign Affairs, *Statement delivered by Ambassador Anna Karin Eneström, Permanent Representative of Sweden to the United Nations at the General Debate of the First Committee, 75th session of the UN General Assembly, United Nations* (Oct. 14, 2020), https://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com20/statements/14Oct_Sweden.pdf

¹⁶⁴³ Geneva Internet Platform, *GGE on lethal autonomous weapons systems*, <https://dig.watch/process/gge-laws#view-14508-1>

¹⁶⁴⁴ Stockholm International Peace Research Institute, *Limits on Autonomy in Weapon Systems: Identifying Practical Elements of Human Control* (June 2020),

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on autonomous weapons. According to the NGO the Swedish Peace and Arbitration Society, this “working group is defense-oriented, with a majority of its members coming from defense-related authorities and institutions.”¹⁶⁴⁵

OECD AI Principles

Sweden endorsed the OECD AI Principles. In 2021, the OECD noted that Sweden published a document outlining its national approach to AI in 2019. “The purpose of this document was to identify an overall direction for AI-related work in Sweden and lay the foundation for future priorities.” Sweden also described an AI governance structure with “three Ministries – Ministry of Infrastructure; Ministry of Enterprise and Innovation; and Ministry of Education and Research – are responsible for AI policies and independent agencies under these Ministries implement these policies.”¹⁶⁴⁶

Algorithmic Transparency

Sweden is subject to the General Data Protection Regulation which established rights to “meaningful information about the logic involved” as well as about “the significance and the envisaged consequences.”¹⁶⁴⁷ The Swedish Data Protection Authority is competent to handle complaints in this regard.¹⁶⁴⁸ In 2019, the Equality Ombudsman Agneta Broberg warned that the sanctions available under the Discrimination Act are not effective to tackle the challenges of AI and discriminatory algorithms.¹⁶⁴⁹

Following the Trelleborg episode concerning automated decisions by municipalities, the Union for Professionals called for the creation of an

<https://www.sipri.org/publications/2020/other-publications/limits-autonomy-weapon-systems-identifying-practical-elements-human-control-0>

¹⁶⁴⁵ Swedish Peace and Arbitration Society, *Questions and Answers about Killer Robots*, [MT] <https://www.svenskafreds.se/vad-vi-gor/nedrustning/stoppamordarrobotar/faq-mordarrobotar/>

¹⁶⁴⁶ OECD, *State of Implementation of the OECD AI Principles: Insights from National AI Policies* (June 2021), <https://www.oecd.org/digital/state-of-implementation-of-the-oecd-ai-principles-1cd40c44-en.htm>

¹⁶⁴⁷ [GDPR Art. 22, Art. 13.2.f].

¹⁶⁴⁸ The Swedish Data Protection Authority, <https://www.datainspektionen.se/other-lang/in-english/>.

¹⁶⁴⁹ Diskriminerings Ombudsmannen, *Skyddet mot diskriminering behöver ses över (Protection Against Discrimination Needs to be Reviewed)*, (Feb. 21, 2020), <https://www.do.se/om-do/pressrum/aktuellt/aktuellt-under-2020/skyddet-mot-diskriminering-behoover-ses-over/>; Diskriminerings Ombudsmannen, *Annual Report 2019*, <https://www.do.se/globalassets/om-do/do-arsredovisning-2019.pdf>.

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algorithm ombudsman.¹⁶⁵⁰ “The Union has, among other things, conducted a survey that shows that the requirement for an Algorithm Ombudsman has broad support among the public - and that transparency and openness are absolutely crucial for there to be trust in algorithms and automation.” In this regard, a 2020 survey organized by BEUC, the European Consumer Organization, which involved the Swedish Consumer Organization, revealed that “more than half of Sweden's consumers feel that artificial intelligence (AI) is used to manipulate them. And over 60 percent wish they could say no to automated decision making.”¹⁶⁵¹

Lastly, another independent government agency, the Equality Ombudsman (DO), may also play a part in ensuring the absence of discrimination which could result from a biased algorithm.¹⁶⁵² The case of *Freddi Ramel v. the Trelleborg municipality* previously mentioned also makes clear that the principle of public access does cover the source code of the software used for automated decisions and can be vindicated before the relevant administrative court.

Human Rights

Sweden is a signatory to many international human rights treaties and conventions, among which the Universal Declaration of Human Rights and the Council of Europe’s European Convention on Human Rights and the Convention 108+, the Modernized Convention for the protection of individuals with regard to the processing of personal data. Sweden typically ranks among the top nations in the world for the protection of human rights and transparency.¹⁶⁵³

According to Freedom House, “Sweden is a parliamentary monarchy with free and fair elections and a strong multiparty system. Civil liberties and political rights are legally guaranteed and respected in practice, and the rule of law prevails.”¹⁶⁵⁴ It consequently ranks among the top

¹⁶⁵⁰ Union for Professionals, *Algorithm Policy in a Digital World*, <https://akademssr.se/opinion/algoritmpolitik>.

¹⁶⁵¹ <https://www.sverigeskonsumenter.se/nyheter-press/nyheter-och-pressmeddelanden/las-mer-om-undersokningen-har/> [MT]; BEUC, *Artificial intelligence: what consumers say*, <https://www.sverigeskonsumenter.se/media/kbfg3wya/beuc-ai.pdf>.

¹⁶⁵² Diskriminerings Ombudsmannen, *Welcome to the Equality Ombudsman* (Oct. 20, 2020), <https://www.do.se/other-languages/english/>. See also Emma Lundberg, *Automated decision-making vs indirect discrimination – Solution or aggravation* (2019), <https://www.diva-portal.org/smash/get/diva2:1331907/FULLTEXT01.pdf>.

¹⁶⁵³ According to Freedom House, Sweden’s Global freedom score is 100/100, <https://freedomhouse.org/country/sweden/freedom-world/2020>.

¹⁶⁵⁴ Freedom House, *Freedom in the World 2021– Sweden (2021)*, <https://freedomhouse.org/country/sweden/freedom-world/2021>

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nations for political rights and civil liberties, earning a perfect 100/100 score.

Evaluation

Sweden endorsed the OECD AI Principles and is committed to developing trustworthy AI. Sweden ranks at the top among nations for the protection of political rights and civil liberties and has proactive ombudsman institutions and an active data protection agency. However, the lack of a clear strategy to involve citizens in the debate over the future of AI, Sweden's opposition, along with other Nordic countries, to a strong regulatory framework for AI raises concern about Sweden's ability to both support technical innovation and avoid ethical risks. There are also concern about the use of the controversial ClearviewAI facial recognition technology in Sweden.

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Switzerland

National AI Strategy

The Swiss government recently announced AI Guidelines for the Federal Government.¹⁶⁵⁵ The AI Guidelines are intended to ensure a coherent government policy for AI. The AI Guidelines emphasize putting people at the center; Framework conditions for the development and use of AI, Transparency, traceability and Explainability; Accountability; Safety; Active participation in shaping the governance of AI; and Involvement of all affected national and international actors. Specific AI guidelines will be formulated for education and science. Future AI work will be undertaken by the Federal Office of Communications OFCOM together with the federal agencies concerned.¹⁶⁵⁶

The AI Guidelines follow from the Digital Switzerland Strategies. These strategies encompass the Swiss governments principles and key objectives for the digital transformation across all sectors.¹⁶⁵⁷¹⁶⁵⁸¹⁶⁵⁹ Although these reports do not have the sole focus of AI, the federal government has taken further action to focus on AI. Following the Digital Switzerland Strategy 2018, the federal government identified several areas for further enquiry:

- International law and the use of AI in public opinion and decision making
- How the use of AI in the federal administration can be improved

¹⁶⁵⁵ Der Bundesrat, *Leitlinien, “Künstliche Intelligenz” für den Bund* (Nov. 2020) [DT], https://www.sbf.admin.ch/dam/sbf/de/dokumente/2020/11/leitlinie_ki.pdf.download.pdf/Leitlinien%20Künstliche%20Intelligenz%20-%20DE.pdf

¹⁶⁵⁶ Der Bundesrat, *Leitlinien “Künstliche Intelligenz” für die Bundesverwaltung verabschiedet* (Nov. 25, 2020) [DT], <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen.msg-id-81319.html>)

¹⁶⁵⁷ Schweizerischer Eidgenossenschaft, *Digital Switzerland» Strategy*, September 2020, https://www.bakom.admin.ch/dam/bakom/en/dokumente/informationengesellschaft/strategie/strategie_digitale_schweiz.pdf.download.pdf/Strategie-DS-2020-EN.pdf

¹⁶⁵⁸ Schweizerischer Eidgenossenschaft, *Digital Switzerland» Strategy*, September 2018, https://www.bakom.admin.ch/dam/bakom/en/dokumente/informationengesellschaft/strategie/Strategie_DS_Digital_2-EN-barrierenfrei.pdf.download.pdf/Strategie_DS_Digital_2-EN-barrierenfrei.pdf

¹⁶⁵⁹ Schweizerischer Eidgenossenschaft, *Digital Switzerland» Strategy*, April 2016, https://www.bakom.admin.ch/dam/bakom/en/dokumente/bakom/digitale_schweiz_und_internet/Strategie%20Digitale%20Schweiz/Strategie/Strategie%20Digitale%20Schweiz.pdf.download.pdf/digital_switzerland_strategy_Brochure.pdf

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- The Department of Education, Research and Innovation (SBFI) was given the task of preparing stakeholders for the digital transformation through their policy work.
- An Interdepartmental Working Group on Artificial Intelligence was established to pursue strategic objectives for the federal government.¹⁶⁶⁰

These areas of further enquiry resulted in three reports prepared by the federal government with the following focuses:

- Artificial Intelligence in Cyber Security and Security Policy¹⁶⁶¹
- International Committees and Artificial Intelligence¹⁶⁶²
- Artificial Intelligence, the Media and the Public¹⁶⁶³

The report on “Artificial Intelligence in Cyber Security and Security Policy” gives an overview of how AI is influencing national security and how the military and government are dealing with this. It further lists considerations that need to be made in this regard. This includes how fundamental and human rights are affected, how legal and ethical considerations can be integrated and what new regulatory measures need to be implemented.¹⁶⁶⁴

The report on International Committees and Artificial Intelligence also gives an overview of different international organizations and their efforts in AI policy. It further goes on to give recommendations of concrete action in Swiss foreign policy. The report mentions the importance of the

¹⁶⁶⁰ Schweizerischer Eidgenossenschaft: Staatssekretariat für Bildung, Forschung und Innovation SBFI, Künstliche Intelligenz, <https://www.sbf.admin.ch/sbf/de/home/bfi-politik/bfi-2021-2024/transversale-themen/digitalisierung-bfi/kuenstliche-intelligenz.html>

¹⁶⁶¹ Schweizerischer Eidgenossenschaft: Eidgenössisches Department für Verteidigung, Bevölkerungsschutz und Sport, Künstliche Intelligenz in der Cybersicherheit und Sicherheitspolitik, https://www.sbf.admin.ch/dam/sbf/de/dokumente/2019/12/k-i_c-s.pdf.download.pdf/k-i_c-s_d.pdf

¹⁶⁶² Schweizerischer Eidgenossenschaft, International Gremien und Künstliche Intelligenz, August 2019, https://www.sbf.admin.ch/dam/sbf/de/dokumente/2019/12/i-g_k-i.pdf.download.pdf/i-g_ki_d.pdf

¹⁶⁶³ Schweizerischer Eidgenossenschaft: Eidgenössisches Department für Umwelt, Verkehr, Energie und Kommunikation UVEK, Künstliche Intelligenz, Medien und Öffentlichkeit, August 2019, https://www.sbf.admin.ch/dam/sbf/de/dokumente/2019/12/i-g_k-i.pdf.download.pdf/i-g_ki_d.pdf

¹⁶⁶⁴ Schweizerischer Eidgenossenschaft: Eidgenössisches Department für Verteidigung, Bevölkerungsschutz und Sport, Künstliche Intelligenz in der Cybersicherheit und Sicherheitspolitik, 2019. https://www.sbf.admin.ch/dam/sbf/de/dokumente/2019/12/k-i_c-s.pdf.download.pdf/k-i_c-s_d.pdf

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Swiss governments taking a position that upholds existing Swiss values like the respect of human rights, the rule of law, democracy and liberal values.¹⁶⁶⁵

The report on Artificial Intelligence, the Media and the Public outlines the challenges associated with AI and mass media. It describes current regulations and areas that could be improved. The report mentions the importance of ensuring transparency, accountability and traceability/comprehensibility when AI is deployed in journalism, in the media or in social media.¹⁶⁶⁶

The 2019 Report of the Interdepartmental Working Group on Artificial Intelligence summarizes three reports by the federal government. The report attempts to give an overview of AI, the current legal situation and then considers AI in 17 different policy areas. The report emphasizes the need for transparency, fairness or non-discrimination, accountability and compliance with fundamental and human rights. The group points out that the more human or fundamental rights are involved in a topic, the more transparency and comprehensibility is required. They came to the conclusion that no fundamental change to the Swiss regulatory framework is necessary due to the fact that the legal principles of Swiss technology policy are formulated in a technology-neutral manner which allows them to be applied to AI systems. However, made several recommendations:

- AI should be monitored continuously as the report is only a snapshot of the current situation and respective legal action need to be taken when new developments are identified
- The Swiss government should engage in more international information and knowledge sharing on AI governance
- AI policy should be integrated into the “Digital Switzerland” Strategy
- Clarification of the 17 policy areas are necessary.¹⁶⁶⁷

¹⁶⁶⁵ Schweizerischer Eidgenossenschaft, International Gremien und Künstliche Intelligenz, August 2019, https://www.sbf.admin.ch/dam/sbf/de/dokumente/2019/12/i-g_k-i.pdf.download.pdf/i-g_ki_d.pdf

¹⁶⁶⁶ Schweizerischer Eidgenossenschaft: Eidgenössisches Department für Umwelt, Verkehr, Energie und Kommunikation UVEK, Künstliche Intelligenz, Medien und Öffentlichkeit, August 2019, https://www.sbf.admin.ch/dam/sbf/de/dokumente/2019/12/k-i_m-o.pdf.download.pdf/k-i_m-o_d.pdf

¹⁶⁶⁷ Schweizerische Eidgenossenschaft: Interdepartementalen Arbeitsgruppe «Künstliche Intelligenz», Herausforderungen der künstlichen Intelligenz: Bericht der interdepartementalen Arbeitsgruppe «Künstliche Intelligenz» an den Bundesrat, https://www.sbf.admin.ch/dam/sbf/de/dokumente/2019/12/bericht_idag_ki.pdf.download.pdf/bericht_idag_ki_d.pdf

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These recommendations were then integrated in the Digital Switzerland Strategy 2020.¹⁶⁶⁸ The Strategy 2020 emphasizes: Putting people at the forefront, providing room for development, facilitating structural change, and networking the shaping of transformation processes.¹⁶⁶⁹ And the following key objectives:

- Enabling equal participation for all and strengthening solidarity
- Guaranteeing security, trust and transparency
- Continuing to strengthen people's digital empowerment and self-determination
- Ensuring value creation, growth and prosperity
- Reducing the environmental footprint and energy consumption

In comparison to the 2018-2020 Strategy, the 2020-2022 Strategy emphasizes “the aspects of data and environment.”¹⁶⁷⁰ Transparency, sustainable development and equal opportunities and participation have been key objectives encompassed in these reports since the first version was released in 2016.¹⁶⁷¹¹⁶⁷²

Swiss Foreign Policy and AI

One of the thematic focus areas of the Swiss Foreign Policy Strategy 2020-2023 is “digitalization.” The Ministry writes, “The focus is on people’s needs. The rule of law and universal human rights – such as freedom of expression and information and the right to privacy – must also be guaranteed online. It is important to defend liberties such as press freedom.” Furthermore, the Ministry seeks to “position Geneva as the location for global digitalisation and technology debate” and to promote

¹⁶⁶⁸ Schweizerische Eidgenossenschaft: Federal Office of Communications, Digital Switzerland, July 2020, <https://www.bakom.admin.ch/bakom/en/homepage/digital-switzerland-and-internet/strategie-digitale-schweiz.html>

¹⁶⁶⁹ Schweizerischer Eidgenossenschaft, Digital Switzerland Strategy, 2020, <https://www.digitaldialog.swiss/en/>

¹⁶⁷⁰ Schweizerischer Eidgenossenschaft: Federal Office of Communications OFCOM, Digital Switzerland, July 2020, <https://www.bakom.admin.ch/bakom/en/homepage/digital-switzerland-and-internet/strategie-digitale-schweiz.html>

¹⁶⁷¹ Schweizerischer Eidgenossenschaft: Federal Office of Communications OFCOM, Digital Switzerland: Strategy, November 2018, <https://www.bakom.admin.ch/bakom/en/homepage/digital-switzerland-and-internet/strategie-digitale-schweiz/strategy.html>

¹⁶⁷² Schweizerischer Eidgenossenschaft, Digital Switzerland» Strategy, September 2018, https://www.bakom.admin.ch/dam/bakom/en/dokumente/informationsgesellschaft/strategie/Strategie_DS_Digital_2-EN-barrierenfrei.pdf.download.pdf/Strategie_DS_Digital_2-EN-barrierenfrei.pdf

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sustainable development using digital technologies, digital self-determination and cyber diplomacy.¹⁶⁷³

In 2018 an expert group on the future of data processing and data security published 51 recommendations for the federal government. The federal government and its ministries adopted 31 of them. These included:

- “The Confederation and the cantons adapt the powers and resources of the data protection authorities to enable them to perform their statutory tasks of sensitization, consultation and supervision comprehensively and effectively.
- “In cooperation with the cantons, the Confederation creates forms of cooperation between data protection supervisory authorities (e.g., competence center).”
- “In implementing the e-government strategy for Switzerland, the Confederation and the cantons will ensure that the "offline" population group is not socially excluded by digitization.”
- “The Confederation, cantons and municipalities promote open and participatory systems and processes (...) in order to achieve social goals such as digital transformation, resilience and sustainability more quickly.”
- “The Confederation and the cantons ensure that students at upper secondary schools and all students develop the basic skills and competencies necessary for handling and shaping digital technologies and transformation.”
- “The Confederation and the cantons are committed to ensuring that the protection of fundamental values, human rights and human dignity is also secured in the digital age and that informational self-determination is promoted.”
- “The Confederation will ensure sufficient transparency, traceability, comprehensibility and accountability of digital processes and algorithms to create a trust-based digital economy and society.”

Many of these recommendations coincide with ongoing activities. For example, an association of the cantonal data protection authorities is in place, the federal government is working with the cantons and universities to integrate digital skills and knowledge into their respective curriculums and the revision of the Data Protection Act which was approved by the

¹⁶⁷³Schweizerische Eidgenossenschaft: Federal Department of Foreign Affairs FDFA, Foreign Policy Strategy 2020-2023, January 2020, https://www.eda.admin.ch/dam/eda/en/documents/publications/SchweizerischeAussenpolitik/Aussenpolitische-Strategie-2020-23_EN.pdf

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Swiss parliament in 2020.¹⁶⁷⁴ If it is not challenged in a referendum then it is set to come into force in 2021.¹⁶⁷⁵ The revision improves transparency for citizens, gives the Swiss Federal Data Protection and Information Commissioner more competencies and resources and aligns Swiss data protection law with the European Data Protection Regulation.¹⁶⁷⁶

Independent AI oversight

The Federal Data Protection and Information Commissioner (FDPIC) is the “competent authority for data processing by federal bodies and private persons, including enterprises.” Furthermore, data processing by cantonal or communal authorities is supervised by cantonal and communal data protection commissioners.¹⁶⁷⁷ The revision of Swiss Data Protection Act ascribed more competencies and resources to the FDPIC which should allow for more comprehensive oversight over the regulation of the data protection laws.¹⁶⁷⁸

Further, in 2019 the Federal Council approved the proposal to establish a national human rights institution (NHRI). The NHRI is the result of a pilot project called the Swiss Centre of Expertise in Human Rights (SCHR). According to the Federal Council “The NHRI will be independent,

¹⁶⁷⁴ Schweizerischer Eidgenossenschaft: Eidgenössisches Department für Umwelt, Verkehr, Energie und Kommunikation UVEK, Bericht zu den Empfehlungen der Experten- gruppe zur Zukunft der Datenbearbeitung und Datensicherheit: Kenntnisnahme und weiteres Vorgehen, October 2019, https://www.bakom.admin.ch/dam/bakom/en/dokumente/informationgesellschaft/datenpolitik/empfehlungen_experten_gruppe.pdf.download.pdf/Bericht%20zu%20den%20Empfehlungen%20der%20Expertengruppe.pdf

¹⁶⁷⁵ Swiss IT Magazine, Entwurf zur Totalrevision des Datenschutzgesetzes angenommen (Sept. 28, 2020), https://www.itmagazine.ch/artikel/73072/Entwurf_zur_Totalrevision_des_Datenschutzgesetzes_angenommen.html

¹⁶⁷⁶ Schweizerischer Eidgenossenschaft: Eidgenössisches Justiz- und Polizeidepartment EJDP, Den Datenschutz verbessern und den Wirtschaftsstandort stärken (Sept. 2017), <https://www.bj.admin.ch/ejpd/de/home/aktuell/news/2017/2017-09-150.html>

¹⁶⁷⁷ Schweizerischer Eidgenossenschaft: Federal Data Protection and Information Commissioner, Data Protection – Switzerland, <https://www.edoeb.admin.ch/edoeb/en/home/the-fdpic/links/data-protection---switzerland.html>

¹⁶⁷⁸ Schweizerischer Eidgenossenschaft: Eidgenössisches Justiz- und Polizeidepartment EJDP, *Den Datenschutz verbessern und den Wirtschaftsstandort stärken* (Sept. 2017), <https://www.bj.admin.ch/ejpd/de/home/aktuell/news/2017/2017-09-150.html>

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include members from across society and receive an annual financial support from the Confederation.”¹⁶⁷⁹

Public Participation

Switzerland is a direct democracy which means that citizens have the right to decide on policy directly, either by referendums or citizen-initiated referendums.¹⁶⁸⁰¹⁶⁸¹ Further, policy revisions or proposals of importance go through a consultation procedure with relevant stakeholders to include their opinions and needs and therefore to minimize the chance of a referendum.¹⁶⁸²

Further specifically in technology policy, the website for the “Digital Switzerland” Strategy (www.digitaldialog.swiss) provides a summary of the Strategy and lists related initiatives and committees. Updates on how the Strategy is being implemented are also published on this website.¹⁶⁸³ Through the digital dialogue website, organisations, companies, municipalities and cantons can propose measures for a Digital Switzerland in the action plan. You can directly upload a proposal on this website and it will be reviewed in the context of the “Digital Switzerland” action plan.¹⁶⁸⁴

In 2018, the Federal Council established the opendata.swiss website, “the Swiss public administration’s central portal for open government data.”¹⁶⁸⁵ The website, managed by the Federal Statistical Office, “supports organisations in publishing their open data” and “continuously monitors the quality of the catalogue.”

Finally, the “Plateforme Tripartite Suisse” is an information hub and platform to exchange dialogue. It was founded in light of the “World Summit on the Information Society” in 2003 to prepare for this conference. It now “serves as a national forum for the informal exchange of information and experience on WSIS implementation and follow-up activities. It is open to all interested representatives from the administration, the business sector,

¹⁶⁷⁹ The Federal Council, National human rights institution to be established in Switzerland (Dec. 13, 2019), <https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-77508.html>

¹⁶⁸⁰ Schweizerischer Eidgenossenschaft: Bundeskanzlei, *Referenden*, <https://www.bk.admin.ch/bk/de/home/politische-rechte/referenden.html>

¹⁶⁸¹ Schweizerischer Eidgenossenschaft: Bundeskanzlei, *Volksinitiativen*, <https://www.bk.admin.ch/bk/de/home/politische-rechte/volksinitiativen.html>

¹⁶⁸² Schweizerischer Eidgenossenschaft: Der Bundesrat: Das Portal der Schweizer Regierung, *Vernehmlassungen* (July 2019), <https://www.admin.ch/gov/de/start/bundesrecht/vernehmlassungen.html>

¹⁶⁸³ Digital Switzerland Strategy, <https://www.digitaldialog.swiss/en/>

¹⁶⁸⁴ Digital Switzerland Strategy, <https://digitaldialog.typeform.com/to/ulwdzc>

¹⁶⁸⁵ opendata.swiss, *Portal*, <https://opendata.swiss/en/about/>

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civil society and the internet community at the national level and meets on an ad-hoc basis.”¹⁶⁸⁶

AI Events in Geneva

Switzerland is a hub for international policy as many international organizations are based in Geneva. The United Nations hosted the first annual AI for Good Global Summit in 2017.¹⁶⁸⁷ Co-organized by ITU and the XPRIZE Foundation, the event convened 500 representatives of government, industry, academic and research institutes, United Nations agencies and civil society to “explore the potential of AI to accelerate progress in fields such as health, education, energy and the protection of our environment.” The most recent AI for Good Summit was held online.

In October 2020, the Swiss Federal Institute of Technology (ETH) in Zürich launched the Center for AI. The research center comprises 29 professorships, a new executive director and a fellowship program.¹⁶⁸⁸ The vision for this research center is to “lead the way towards trustworthy, accessible, and inclusive AI systems for the benefit of society.” Among the key goals:

- To “contribute to international networks (Europe & beyond)”
- To “provide a stimulating, transdisciplinary, and inclusive environment”
- To “address ethical, societal, and policy implications”
- To “engage with the general public on AI topics”¹⁶⁸⁹

AI and Criminal Justice

According to AlgorithmWatch, the Swiss government is using AI in the penal system. The application helps to triage inmates, which is the first of several steps to develop the inmate’s release plan. Further, the Federal government uses a system for automatic vehicle detection and traffic monitoring at state borders. Finally, the Federal Customs Administration uses a different system, like a data processing system, to help assess goods coming into the country. Some cantons use a police software to predict domestic burglaries. According to AlgorithmWatch, “it should be noted that

¹⁶⁸⁶ Schweizerischer Eidgenossenschaft : Federal Office of Communications OFCOM, May 2007, <https://www.bakom.admin.ch/bakom/en/homepage/ofcom/international-activities/un-world-summit-on-the-information-society/wsis.html>

¹⁶⁸⁷ International Telecommunications Union, *Artificial Intelligence* <https://www.itu.int/en/ITU-T/AI/Pages/201706-default.aspx>

¹⁶⁸⁸ ETH Zürich, *New Centre for AI research* (Oct. 20, 2020), <https://ethz.ch/en/news-and-events/eth-news/news/2020/10/pr-new-centre-for-ai-research.html>

¹⁶⁸⁹ ETH Zürich: ETH AI Center, *About Us*, <https://ai.ethz.ch/about-us.html>

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the use of predictive policing in Switzerland is currently limited to a relatively small and clearly defined area of preventive police work.”¹⁶⁹⁰

Algorithmic Transparency

Switzerland is outside the European Union and is therefore not directly subject to the GDPR. The Federal Act on Data Protection (FADP) was revised as of September 2020 to comply with the modernized Council of Europe Convention 108.¹⁶⁹¹ Switzerland ratified the Council of Europe Convention in 2019.¹⁶⁹² Article 9(1)(c) of the Convention gives every individual the right “to obtain, on request, knowledge of the reasoning underlying data processing where the results of such processing are applied to him or her.”¹⁶⁹³ The Swiss Data Protection Act establishes a Data Protection and Information Commissioner (FDPIC) with independent supervisory authorities. The Act creates obligations to undertake privacy impact assessments in certain circumstances. A key amendment increased transparency in data processing.¹⁶⁹⁴

Article 21 of the new FADP introduces the "Duty to inform in the case of an automated individual decision."¹⁶⁹⁵ The FADP states that: (1) “The person responsible shall inform the person concerned of a decision that is based exclusively on automated processing that is associated with a legal consequence for them or significantly affects them (automated individual decision) and (2) “On request, it shall give the data subject the opportunity to state his or her position. The data subject may request that the automated individual decision be reviewed by a natural person.”

Further, article 25(g) establishes a data subject's right to algorithmic transparency in the case of an automated individual decision: "In any case, the following information will be communicated to the data subject: g. if

¹⁶⁹⁰ AlgorithmWatch, *Automating Society 2020*, (Oct. 2020), <https://automatingsociety.algorithmwatch.org/report2020/switzerland/>

¹⁶⁹¹ Linklaters, *Data Protected – Switzerland* (Oct. 2020), <https://www.linklaters.com/en-us/insights/data-protected/data-protected---switzerland>

¹⁶⁹² Council of Europe, <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/223/signatures>

¹⁶⁹³ Council of Europe, *128th Session of the Committee of Ministers* (May 17-18, 2018), https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=09000016807c65bf

¹⁶⁹⁴ Lexology, *Revision of Swiss data protection act adopted* (Sept. 25, 2020), <https://www.lexology.com/library/detail.aspx?g=ebc8ce19-0fee-457d-a94f-a0625e4805b8>

¹⁶⁹⁵ Swiss Parliament, *Vorlage der Redaktionskommission für die Schlussabstimmung, Bundesgesetz über den Datenschutz (DSG)* (Sept. 25, 2020) (“Presentation by the editorial board for the final vote on the Data Protection Act”) [DT]ra, <https://www.parlament.ch/centers/eparl/curia/2017/20170059/Schlussabstimmungstext%203%20NS%20D.pdf>

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applicable, the existence of an automated individual decision and the logic on which the decision is based."

OECD AI Principles

Switzerland endorsed the G20 AI Principles. Regarding implementation of the AI Principles, the OECD notes Switzerland's active involvement in relevant international organisations and processes. "Particularly important for Switzerland is to ensure that fundamental and established values and norms such as human rights are respected and that all relevant stakeholders are involved in decision-making."¹⁶⁹⁶

Human Rights

Switzerland is a signatory to many international human rights treaties and conventions. Switzerland typically ranks among the top nations in the world for the protection of human rights and transparency.¹⁶⁹⁷ In 2021, Freedom House gave Switzerland the score of 96/100, unchanged from 2021, and noted that "the government is generally transparent in its operations. In recent years, an increasing number of cantonal governments have passed transparency laws that make government data more accessible to citizens."

Evaluation

Switzerland has newly established a national set of guidelines on ethics that are aimed at the public administration. Further, across most reports and initiatives, ethics have been considered, integrated and implemented in the governments work on AI policy. However, there is no clear regulatory strategy for the private sector. There is also, at the moment, no express support for the Universal Guidelines for AI. Switzerland is one of many countries that endorsed the UNESCO Recommendation on AI Ethics.

¹⁶⁹⁶ G20 Digital Economy Task Force, *Examples of National AI Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>.

¹⁶⁹⁷ Freedom House, *Freedom in the World 2021: Switzerland* (2021), <https://freedomhouse.org/country/switzerland/freedom-world/2021>

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Taiwan

AI Action Plan

“Beyond sparking a scientific and technological revolution, artificial intelligence (AI) will fundamentally transform human life and industry and create boundless business opportunities.” This sentence officially introduces the 2018 Taiwan Government’s four-year AI Action Plan¹⁶⁹⁸ which aims to propel Taiwan “into the ranks of the world's leading smart nations.”

With a total budget of 1.1 billion EUR over 2018-2021, “guided by the principles of deregulation, open access and technology investment,” the AI Action Plan is designed to “sharpen Taiwan's advantages, prioritize innovation and real-world implementation, and develop software and hardware in tandem, thereby injecting greater momentum into Taiwan's industries.”

To this end, the Action Plan focuses on five action areas: i) developing AI talent; ii) promoting Taiwan's lead role in AI by expanding its world-leading position in the semiconductor chip industry; iii) building Taiwan into an AI innovation; iv) liberalizing laws and opening test grounds to ease restrictions on innovative technologies; and v) Transforming industry with AI.

The AI Action Plan follows on the five-year AI strategy developed by the Ministry of Science and Technology¹⁶⁹⁹ (MOST) to “cultivate AI technology specialists and create an environment for AI scientific research.” This “Grand Strategy for a Small Country¹⁷⁰⁰” has a budget of 490 million EUR over 2017-2021 and builds on Taiwan’s “strengths and potential advantages, such as semiconductors and information and communications technology.”

The AI Strategy aims to “develop select fields for the future, including the internet of things, security solutions and driverless vehicles”

¹⁶⁹⁸ Government of Taiwan, Executive Yuan, *AI Taiwan Action Plan* (Aug. 7, 2019), <https://english.ey.gov.tw/News3/9E5540D592A5FECD/1dec0902-e02a-49c6-870d-e77208481667>. The Executive Yuan is an executive branch of the Taiwan Government. It is a Council headed by the premier which includes the vice-premier, ministers, chairpersons of commissions, and ministers without portfolio. See also: Government of Taiwan, *AI Taiwan*, <https://ai.taiwan.gov.tw/#actionplan>

¹⁶⁹⁹ The Ministry of Science and Technology (MOST) is one of the ministries under the Executive Yuan in Taiwan and is responsible for the scientific and technological innovation of Taiwan.

¹⁷⁰⁰ Executive Yuan, R. O. C. (Taiwan). AI innovation: Grand strategy for a small country (-Major Policies Detail) <https://english.ey.gov.tw/News3/9E5540D592A5FECD/edadb735-e6a6-43e1-ac93-1959602bb3ec>

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and has five “key facets”: i) R&D services with the creation of an AI cloud service and high-speed computing platform; ii) Value-added innovation with the establishment of four AI innovation research centers; iii) Creativity and practice with an AI Robot Makerspace; iv) Industrial pilot program with an AI semiconductor “moonshot” project; and v) Social participation with three “Formosa Grand Challenge” technology competitions to uncover talent, develop technology and stimulate creativity. Ethical questions are also targeted in Taiwan – as one of the many aspects related to AI.¹⁷⁰¹

AI Core Values

MOST announced in September 2019 AI Technology R&D Guidelines “in a bid to create a reliable environment conforming to international trends of AI R&D and to provide directions for Taiwan AI researchers to follow.”¹⁷⁰² When presenting the Guidelines Science and Technology Minister Chen Liang-gee said that his ministry “has the responsibility of helping humans be able to trust” AI¹⁷⁰³ and that “those who provide digital tools must be ethical.”¹⁷⁰⁴ He also explained that the whole world is still watching the evolution of artificial intelligence and that it is right now “more appropriate to adopt guidelines than sanctions.”

The AI R&D Guidelines are based on three core values¹⁷⁰⁵: (1) Human-centered (the human being should be at the heart of research, an AI-based society should respect human dignity, rights and freedom, and application of AI is to prompt human welfare and hike human living standards); (2) Sustainable development (AI R&D should seek balance among economic growth, social progress and environmental protection to reach co-existence and common prosperity among human being, society and environment); (3) Diversity and inclusion (AI R&D is to create an AI-based human society of diverse value concepts and backgrounds via interdisciplinary dialog mechanisms).

¹⁷⁰¹ Netherland Innovation Network, *Artificial Intelligence; an overview of policies and developments in Taiwan* (Mar. 2020), <https://www.rvo.nl/sites/default/files/2020/04/AI-Developments-in-Taiwan.pdf>

¹⁷⁰² Bryan Chuang, Adam Hwang, *MOST announces AI R&D guidelines*, DigiTIMES (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>

¹⁷⁰³ Shirley Lin, *Taiwan first in world to set R&D guidelines for AI*, *Radio Taiwan International* (Sept. 23, 2019), <https://en.rti.org.tw/news/view/id/2001895>

¹⁷⁰⁴ Radio Taiwan International, *The French Ministry of Science defines a research framework for artificial intelligence* (Sept. 23, 2019) (original in French) [GT], <https://fr.rti.org.tw/news/view/id/90832>

¹⁷⁰⁵ Bryan Chuang, Adam Hwang, *MOST announces AI R&D guidelines*, DigiTIMES (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>

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AI R&D Guidelines

“AI research and development must be people-oriented,” the Minister said, asking that research teams retain the source codes and AI training materials so that the work can be traced. The complexity of AI means that it is vulnerable to misuse, which countries are seeking to mitigate by establishing standards for its development, he said. In particular, because AI technology systems learn from data, they can perpetuate and amplify human biases, he said.¹⁷⁰⁶ “After an artificial intelligence program is written, it evolves based on the data provided to it. If the data is discriminatory, the program will be discriminatory. If the data is deviant, it will be deviant.”

More precisely, eight guidelines derive from Taiwan’s AI core values, including i) Common good and well-being; ii) Fairness and non-discrimination; iii) Autonomy and control; iv) Safety; v) Privacy and data governance; vi) Transparency and traceability; vii) Explainability; and viii) Accountability and communication.¹⁷⁰⁷

The official press release points to the fact that the core of AI technology is its people-oriented nature, so researchers must safeguard human rights and preserve human dignity and that the guideline’s eight criteria emphasize promoting shared benefits and common well-being, with researchers who should aim to develop systems that are free of discrimination. Likewise, AI tools should support human policies, and people using the tool.¹⁷⁰⁸

“Human-centered AI” for Taiwan AI start-up iKala means the involvement of people in AI development and applications, as well as the creation of ethical, humane AI. As an illustration, iKala Co-founder and CEO Cheng cites the example of an innovative picture-as-a-service (PicaaS) technology which automatically edits product pictures to allow companies to circulate clean photos of their products. However, following complaints that it could potentially be used to infringe on image owners’ intellectual property rights, Cheng and his team re-trained the software to recognize and reject copyrighted images. “That’s the kind of responsible AI

¹⁷⁰⁶ Radio Taiwan International, *The French Ministry of Science defines a research framework for artificial intelligence* (Sept. 23, 2019) (original in French) [GT], <https://fr.rti.org.tw/news/view/id/90832>

¹⁷⁰⁷ Bryan Chuang, Adam Hwang, *MOST announces AI R&D guidelines*, DigiTIMES (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>

¹⁷⁰⁸ Overseas Community Affairs Council, *AI Taiwan: Ministry releases guidelines for AI research* (Sept. 24, 2019), <https://ai.taiwan.gov.tw/news/ministry-releases-guidelines-for-ai-research/>

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we want to be working on,” says Cheng. “Putting humans in the equation – not just stealing and not just replacing people.”¹⁷⁰⁹

Medical Data and AI Ethics

Two research projects on AI Ethics in the medical and biomedical areas are ongoing. One examines the Ethical, Legal, and Societal Issues Surrounding Artificial Intelligence-Assisted Medical Care (ELSI-AIM¹⁷¹⁰) and is in its second year. Another one (NCKU AI Biomedical Research Center on AI Ethics) focuses on AI for biomedical research with a multi-disciplinary team of clinicians, biomedical, AI experts, legal and ethical advisors.¹⁷¹¹ The Taiwan Biobank created in 2012 is a repository of tissues/information but is not allowed to directly carry out research. Information on the participants, all voluntary, whose samples are included in the biobank will link several sources of data: national identification number, National Health Insurance system, cancer registry, and cause of death registry.¹⁷¹² Its operations are regulated by detailed legislation.

Current discussion seems to focus on how the Taiwan Biobank can be transformed by leveraging digital technologies. For some, greater participant engagement and the uptake of Information Technology (IT) and Artificial Intelligence (AI) applications can be used in partnership with vertical and horizontal integration as part of a four-pronged approach to promote biobank sustainability, and facilitate the biobank’s

¹⁷⁰⁹ Jeremy Olivier, *Taiwan Tests the Limits with Artificial Intelligence*, Taiwan Business (May 15, 2020), <https://topics.amcham.com.tw/2020/05/taiwan-tests-limits-ai/>

¹⁷¹⁰ Joint Research Center for AI Technology and All Vista Healthcare sponsored by: Ministry of Science and Technology - http://mahc.ntu.edu.tw/en/research_view.php?id=13

This project includes four subprojects: (1) The deliberation of ethical issues on artificial intelligence-assisted medicine; (2) legal and policy implications of artificial intelligence in medicine; (3) the implications of societal issues on artificial intelligence-assisted end-of-life physician-patient communication: opportunities and challenges; and (4) artificial intelligence-based medicine assisted system from analytical design to practical application.

¹⁷¹¹ NCKU - MoST AI Biomedical Research Center The MoST AI Biomedical Research Center is located at the National Cheng Kung University (NCKU). The research center focuses on AI for biomedical research. Currently there are fourteen projects ongoing with a focus in four areas: smart medicine, smart healthcare, smart biotechnology and ethics and humanities.

¹⁷¹² Michael Cheng-tek, *Taiwanese Experience of Data-Sharing in Biobanking* (PPT slides)

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transformation.¹⁷¹³ Others seem more cautious,¹⁷¹⁴ pointing to key issues raised by the current ethical governance¹⁷¹⁵ of the Taiwan Biobank, namely i) the handling of ethnicity, including the special requirements that it imposes with respect to obtaining participant consent, and ii) transparency (and accountability) around the undertaking's governance.

Covid-19 and Big Data Analytics

In January 2020, Taiwan integrated its national health insurance database with its immigration and customs database to begin the creation of big data for analytics and allow case identification by generating real-time alerts during a clinical visit based on travel history and clinical symptoms.¹⁷¹⁶

"The combination of these two sets of data allows us to generate alerts to tell healthcare staff when a patient returns from a risk area," said Yu-Lun Liu, doctor in the intelligence department of the Taiwan Center for disease control (CDC). The identified patients are then treated through a separate circuit, limiting contact with other patients.¹⁷¹⁷ To strengthen this new data set, the authorities are "working with telephone providers, on the basis of roaming data, to identify people whose last stopover is not necessarily an area at risk, but who have made trips with stops in areas affected by the epidemic." "The authorities are developing a model for processing public video surveillance images to estimate the proportion of masked people." "This artificial intelligence-based model has allowed us to

¹⁷¹³ Journal of Translational Medicine - Transformation of the Taiwan Biobank 3.0: vertical and horizontal integration by Jui-Chu Lin, Wesley Wei-Wen Hsiao and Chien-Te Fan

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7406956/>

¹⁷¹⁴ August 2018 – Journal of Law, Technology and Society - Biobank Governance: The Cautionary Tale of Taiwan Biobank by *Shawn H.E. Harmon, Shang-Yung Yen and Shu-Mei Tang*

<https://script-ed.org/article/biobank-governance-the-cautionary-tale-of-taiwan-biobank/>

¹⁷¹⁵ Taiwan Biobank established an Ethics and Governance Council (EGC) to act as an independent guardian of Taiwan Biobank's Ethics and Governance Framework, and to advise the Competent Authority (the MOHW) on its revision from time to time. Cited above: <https://script-ed.org/article/biobank-governance-the-cautionary-tale-of-taiwan-biobank/>

¹⁷¹⁶ March 3, 2020 - How Taiwan Used Big Data, Transparency and a Central Command to Protect Its People from Coronavirus by Beth Duff-Brown
<https://fsi.stanford.edu/news/how-taiwan-used-big-data-transparency-central-command-protect-its-people-coronavirus>

¹⁷¹⁷ L'Usine Digital, *Covid-19 : comment Taïwan s'est appuyé sur la technologie pour contenir l'épidémie* (March 20, 2020),

<https://www.usine-digitale.fr/article/covid-19-comment-taiwan-s-est-appuye-sur-la-technologie-pour-contenir-l-epidemie.N943431>

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see a rapid increase in the number of people wearing masks. We have chosen to stop their export and increase local production," recalls Yu-Lun Liu. "

In March 2020, the BBC reported that when the phone belonging to an American University student in Taiwan, who was subject to 14 days' quarantine after returning from Europe, ran out of battery power, in less than an hour he had received phone calls from four different local administrative units, a text message notifying him he would be arrested if he had broken quarantine, and a visit from two police officers. The phone tracking system uses phone signals to triangulate locations of the more than 6,000 people subject to home quarantine; an alert is sent to the authorities if the phone is turned off for more than 15 minutes.¹⁷¹⁸

Autonomous vehicles

In November 2018, the Legislative Yuan passed the Act for Unmanned Vehicle Technology Innovative Experiments, which was enacted by the President in December 2018. Entered into force in May 2019, the Act frees autonomous vehicles and drones from limits by some traffic regulations in their test runs.¹⁷¹⁹ Moreover, the regulations specifically call for AI-boosted algorithmic unmanned platforms.¹⁷²⁰ Taiwan CAR (Connected, Autonomous, Road-test) Lab,¹⁷²¹ the nation's first closed field for testing self-driving cars, also opened for use in 2019.

¹⁷¹⁸ BBC, *Coronavirus: Under surveillance and confined at home in Taiwan* (March 24, 2020), <https://www.bbc.co.uk/news/technology-52017993>

¹⁷¹⁹ GNSS Asia, *Taiwan's Executive Yuan Approves Bill Promoting Unmanned Vehicle Experimentation* (May 24, 2019), <https://gnss.asia/new/taiwans-executive-yuan-approves-bill-promoting-unmanned-vehicle-experimentation/>

¹⁷²⁰ Yisuo Tzeng, *Prospect for Artificial Intelligence in Taiwan's Defense*, Jewish Policy Center (Winter 2019), <https://www.jewishpolicycenter.org/2019/01/11/prospect-for-artificial-intelligence-in-taiwans-defense/>

¹⁷²¹ Taiwan Car Lab,

[http://taiwancarlab.narlabs.org.tw/index_en.html#:~:text=The%20Taiwan%20CAR%20\(Connected%2C%20Autonomous,evaluation%20of%20self%2Ddriving%20vehicles.&text=Taiwan%20CAR%20Lab%20is%201.75%20hectare.](http://taiwancarlab.narlabs.org.tw/index_en.html#:~:text=The%20Taiwan%20CAR%20(Connected%2C%20Autonomous,evaluation%20of%20self%2Ddriving%20vehicles.&text=Taiwan%20CAR%20Lab%20is%201.75%20hectare.)

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Facial Recognition

Facial recognition is implemented in Taiwan in various sectors, such as banks,¹⁷²² retail stores,¹⁷²³ airports,¹⁷²⁴ and law enforcement.¹⁷²⁵ In June 2019, the Taiwan Railways Administration announced that, due to privacy concerns, its surveillance system trial would not include facial recognition.¹⁷²⁶ The artificial intelligence–based surveillance will still be capable of monitoring passenger behavior, including trespassing, loitering in restricted areas and prohibited acts.¹⁷²⁷

More recently, Liao Wei-min, associate professor at Taiwan National Chung Hsing University’s Department of Law called for legislation regarding facial recognition and data collection.¹⁷²⁸ He wrote, “What is essentially a beneficial technology is deeply problematic given the lack of precise and targeted legislation, and this is the fault not of civil servants, but their politically appointed masters. Something needs to be done to address this.”

Algorithmic Transparency

The Taiwan Personal Data Protection Act (PDPA) regulates “the collection, processing and use of personal data so as to prevent harm on personality rights, and to facilitate the proper use of personal data.”¹⁷²⁹ The PDPA applies to AI applications, but does not explicitly provisions

¹⁷²² Luana Pascu, *Public Bank of Taiwan rolls out Kneron edge AI facial recognition*, *Biometric Update* (Sept. 24, 2019), <https://www.biometricupdate.com/201909/public-bank-of-taiwan-rolls-out-kneron-edge-ai-facial-recognition>

¹⁷²³ Telpo, *7-Elevm Open the 2nd Face Recognition Unstaffed Store in Taiwan* (Nov. 20, 2018), <https://www.telpo.com.cn/blog/7-eleven-taiwan-face-recognition-store.html>

¹⁷²⁴ Gorilla, *Taiwan's International Airports Implement Gorilla Biometrics Technology to Improve Airport Operations and Security* (Dec. 23, 2016), <https://www.gorilla-technology.com/Press-Room/Taiwan's-International-Airports-Implement-Gorilla-Biometrics-Technology-to-Improve-Airport-Operations-and-Security>

¹⁷²⁵ AsiaOne, *Privacy not violated by facial recognition technology, says Taiwan police agency* (May 28, 2014), <https://www.asiaone.com/asia/privacy-not-violated-facial-recognition-technology-says-taiwan-police-agency>

¹⁷²⁶ Focus Taiwan, *TRA to cut facial recognition feature from surveillance system trial* (Nov. 6, 2019), <https://focustaiwan.tw/society/201911060011>

¹⁷²⁷ IAPP, *Taiwan Railways Administration excludes facial recognition from surveillance trial* (Nov. 7, 2019), <https://iapp.org/news/a/taiwan-railways-administration-excludes-facial-recognition-from-surveillance-trial/>

¹⁷²⁸ Liao Wei-min, *Legislation needed for advances in surveillance*, *Taipei Times* (Dec. 28, 2019), <http://www.taipeitimes.com/News/editorials/archives/2019/12/28/2003728301>

¹⁷²⁹ Laws and Regulations Database of the Republic of China, *Personal Data Protection Act*, <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=I0050021>

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regarding algorithmic transparency such as those found in the GDPR. No specific laws or regulations governing civil liability regarding AI.¹⁷³⁰

Use of AI for digital democracy

For the last few years, Taiwan has organized public debates via the citizen-run vTaiwan platform.¹⁷³¹ vTaiwan's (for Virtual Taiwan) algorithms highlight where there is consensus in a debate while minimizing the voices at the most extreme ends.¹⁷³² This system, is officially and routinely part of the law-making process of Taiwanese institutions, involving thousands of citizens in varying degrees.¹⁷³³

The vTaiwan process giving weight to the citizen voice and that has led to real regulatory innovations at four stages: (1) informing the public; (2) collecting the strategic approaches through [Pol.is](#),¹⁷³⁴ an open-source self-learning algorithm; (3) deliberating; and (4) observing decision-making.¹⁷³⁵

“When people started using Polis, we found that it became a consensus-generating mechanism,” Megill said to Wired.¹⁷³⁶ To bring the groups closer together, Polis has reengineered many of the features we take for granted on social media. No reply button – hence no trolling. No echo-chambers, replaced by an attitudes map showing you where you are in relation to everyone else. The platform does not highlight the most divisive statements, but gives more visibility to the most consensual ones. The ones that get attention are those that find support not only in one cluster, but across other groups, too.

The outcomes of vTaiwan have been put in front of Parliament, by government, to form the core of 11 pieces of laws and regulation, with eight more waiting to go on everything from revenge porn to fintech regulation.

¹⁷³⁰ Global Legal Insights, *AI, Machine Learning & Big Data 2020 | Taiwan*, <https://www.globallegalinsights.com/practice-areas/ai-machine-learning-and-big-data-laws-and-regulations/taiwan>

¹⁷³¹ vTaiwan, *About*, <https://info.vtaiwan.tw/>

¹⁷³² Walter Kerr, *Taiwan Is Beating Political Disinformation. The West Can Too*, Foreign Policy (Nov. 11, 2020), <https://foreignpolicy.com/2020/11/11/political-disinformation-taiwan-success/>

¹⁷³³ bluenove, *vTaiwan : making citizens the key to public debate* (May 28, 2018), <https://bluenove.com/en/blog/vtaiwan-making-citizens-the-key-to-public-debate/>

¹⁷³⁴ The Computational Democracy Project, *Designing Future Democracies*, [h <https://github.com/pol-is/polis-documentation/blob/master/README.md>](https://github.com/pol-is/polis-documentation/blob/master/README.md)

¹⁷³⁵ Bluenove, *vTaiwan : making citizens the key to public debate* (May 28, 2018), <https://bluenove.com/en/blog/vtaiwan-making-citizens-the-key-to-public-debate/>

¹⁷³⁶ Wired, *Taiwan is making democracy work again. It's time we paid attention* (Nov. 26, 2019), <https://www.wired.co.uk/article/taiwan-democracy-social-media>

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Data Protection

Personal data protection in Taiwan is essentially subject to the 2015 Personal Information Protection Act (PDPA) which applies to the public and the private sectors.¹⁷³⁷ It is supplemented by the 2016 Enforcement Rules of the Personal Data Protection Act.¹⁷³⁸ Local and national government authorities enforce these Act.

The Taiwan Government considers amending the PDPA to meet GDPR standards to obtain an adequacy status decision from the EU and held several public hearings in 2019 to solicit public comments. Among the various topics discussed during the public hearings, the government is contemplating the adoption of data breach notification obligations and cross-border data transfer restrictions similar to those under GDPR. The government is also planning to establish an independent data protection authority.¹⁷³⁹ In July 2020, Taiwan's digital minister said that she supported the idea of establishing a dedicated agency for personal data protection before the electronic identification cards (eID) are rolled out next year.¹⁷⁴⁰

OECD AI Principles

Although Taiwan is not an OECD member country many of its AI policies align with the OECD AI Principles. The Ministry of Science and Technology noted in the announcement of the AI R&D Guidelines that “many countries and organizations have established ethics standards for AI R&D, such as the EU's Ethics Guidelines for Trustworthy AI, OECD's Principles on Artificial Intelligence and IEEE's Ethically Aligned Design-Version II.”¹⁷⁴¹ In some respects, the AI R&D Guidelines of Taiwan go beyond the OECD Principles and reflect the broader goals of the Universal Guidelines for AI.

¹⁷³⁷ Taiwan, *Personal Data Protection Act* (Dec. 30, 2016), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=I0050021#:~:text=The%20Personal%20Data%20Protection%20Act,proper%20use%20of%20personal%20data.&text=%22data%20subject%22%20refers%20to%20an,is%20collected%2C%20processed%20or%20used>.

¹⁷³⁸ Taiwan, *Enforcement Rules of the Personal Data Protection Act* (March 2, 2016), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=I0050022>

¹⁷³⁹ OneTrust, *Taiwan - Data Protection Overview* (July 2020), <https://www.dataguidance.com/notes/taiwan-data-protection-overview>

¹⁷⁴⁰ Huang Tzu-ti, *Taiwan's digital minister says personal data protection agency needed for digital ID: Measure to introduce eID has been met with fierce opposition from academics, experts*, Taiwan News (July 30, 2020), <https://www.taiwannews.com.tw/en/news/3976854>

¹⁷⁴¹ Digitimes, *MOST announces AI R&D guidelines* (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>.

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Fundamental Rights

Taiwan is a signatory to many international human rights treaties and conventions and ranks high in the world for the protection of human rights and transparency.¹⁷⁴² Regarding transparency, Freedom House notes that “the 2005 Freedom of Government Information Law enables public access to information held by government agencies, including financial audit reports and documents about administrative guidance. Civil society groups are typically able to comment on and influence pending policies and legislation.”

Evaluation

Although Taiwan is not an OECD member country many of its AI policies align with the OECD AI Principles. There is also a robust public debate about the use of AI for facial recognition, medical data, and autonomous vehicles. But privacy concerns arise with the integration of government data sets while the government has not established an independent data protection agency that could oversee AI applications from a privacy perspective.

¹⁷⁴² *Freedom House Report: Taiwan* (2020), <https://freedomhouse.org/country/taiwan>

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Thailand

National AI Strategy

Thailand does not have a national AI strategy. Digitalization and AI objectives are covered under 20-year national strategy and various plans developed centrally by the National Council for Peace and Order (NCPO) government that took over the government with a military coup in 2014.

- **20-Year National Strategy (2017-2036):** provides a vision of “Thailand as a developed country with security, prosperity, and sustainability in accordance with the principles of the Sufficiency Economy Philosophy” Government commits that the targets and indicators will also have to abide by the internationally accepted 2030 Sustainable Development Goals.”¹⁷⁴³
- **Thailand Digital Economic and Society Development Plan (2017-2021):** The plan defines Digital Thailand as a “transformed Thailand that maximizes the use of digital technologies in all socio-economic activities in order to develop infrastructure, innovation, data, human capital, and other digital resources that will ultimately drive the country towards wealth, stability, and sustainability.”¹⁷⁴⁴ Plan highlights creating a knowledge-driven digital society by building participation, ensuring inclusive and equal usage; creating open government; building trust and confidence in the use of digital technology and updating laws and regulations as some of the strategies.
- **Thailand Digital Government Development (TDG) Plan (2017-2021):** Developed by Electronic Government Agency (EGA), objective is to strategically digitalize Thai government agencies, to deliver best citizen-centric services, with a high level of efficiency and transparency¹⁷⁴⁵. One of the goals of the plan is to enable people to access accurate public information conveniently, to enhance transparency, people’s confidence and trust in the government, and the successful participation of civil society.

¹⁷⁴³ Government of Thailand, *The Twelfth National Economic and Social Development Plan (2017-2021)*, https://www.nesdc.go.th/nesdb_en/ewt_dl_link.php?nid=4345

¹⁷⁴⁴ *Thailand Digital Economy and Society Development Plan (2016)*, [https://www.itu.int/en/ITU-](https://www.itu.int/en/ITU-D/RegionalPresence/AsiaPacific/Documents/Events/2016/Apr-Digital2016/S2_Present_Pansak_Siriruchatapong.pdf)

[D/RegionalPresence/AsiaPacific/Documents/Events/2016/Apr-Digital2016/S2_Present_Pansak_Siriruchatapong.pdf](https://www.itu.int/en/ITU-D/RegionalPresence/AsiaPacific/Documents/Events/2016/Apr-Digital2016/S2_Present_Pansak_Siriruchatapong.pdf)

¹⁷⁴⁵ *Thailand Digital Government Development Plan 2017-2021*,

<http://jfcct.bypronto.com/wp-content/uploads/sites/1871/2018/05/Digital-Government-Development-Plan-2017-2021-executive-version.pdf>

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- **12th National Economic and Social Development Plan (2017-2021):** focuses on using artificial intelligence (AI) and embedded technology to create a “just and quality society which leaves no one behind, based on the collaboration of all Thai stakeholders.”¹⁷⁴⁶
- **Thailand 4.0 (2016):** This policy aims to develop Thailand into a smart and technology-driven economy. Digitalization and AI adoption sit in the core as new engines of growth transform the society and industries.¹⁷⁴⁷ The policy includes Smart Cities and Digital Park Thailand, which is an economic digital innovation zone that serves as the hub of the ASEAN sub-region.

The national policy and plans are formulated with an emphasis on digital technologies empowering people to increase their ‘citizen well-being and quality of life.’ Increasing the transparency and accountability of public agencies is mentioned several times in these plans. However, it is not clear how the goals will be adopted by the agencies and how the actions will be coordinated across different levels of government.

There is no explicit mention of concepts such as fundamental rights, human rights, rule of law, fairness with respect to AI in the plans. 12th National Economic and Social Development Plan acknowledges that Thailand “has high inequality and a lack of fairness”¹⁷⁴⁸ across society. The only mention of any AI ethics guidelines is acknowledging the existence of EU Ethics Guidelines for Trustworthy AI, and the World Government Summit’s Ethical AI Systems Design through a reference within a TDG Plan summary document¹⁷⁴⁹. EGA, as the agency responsible to implement standards, models, measures, principles and approaches in the form of digital technology, only mentions openness, integrity and collaboration under its eight core values.¹⁷⁵⁰

In 2019, the Ministry of a Digital Economy and Society, academics and experts from Mahidol University and Microsoft Thailand joined together to draft Digital Thailand – Draft AI Ethics Guidelines, to serve as a manual and provide ethical codes for AI development in government

¹⁷⁴⁶ Government of Thailand,

https://www.nesdc.go.th/nesdb_en/ewt_dl_link.php?nid=4345

¹⁷⁴⁷ Royal Thai Embassy, *Thailand 4.0*, <https://thaiembdc.org/thailand-4-0->

¹⁷⁴⁸ *The Twelfth National Economic and Social Development Plan (2017-2021)*,

https://www.nesdc.go.th/nesdb_en/ewt_dl_link.php?nid=4345

¹⁷⁴⁹ Digital Government Development Agency, *How Government is Transforming with AI*.

https://www.dga.or.th/upload/download/file_310433b825a546dcfd59203b423ca175.pdf

¹⁷⁵⁰ Digital Government Development Agency, *DGA Core Value*,

<https://www.dga.or.th/en/profile/2110/>

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agencies, private firms, regulatory bodies, researchers, designers, developers, and users. The draft guidelines cover six aspects of development: competitiveness and sustainable development; legal regulations and international ethical standards; operational codes and duties; security and privacy; equality, diversity, and fairness; and credibility.¹⁷⁵¹ As of the time of writing of this report, the guidelines are still in draft format with no published date to launch.

The Office of National Higher Education Science Research and Innovation Policy Council (NXPO) established five technical working groups to explore ethical issues in genetic engineering and technology; artificial intelligence, robotics and big data; climate change and environment; research ethics; and communications and youth engagement in science and technology policy development.¹⁷⁵² One of the recent outcomes is Bangkok Statement on the Ethics of Science and Technology and Sustainable Development¹⁷⁵³, a statement calling for concerted effort of all stakeholders to take actions on ethics of science and technology so that new technologies can be progressed and fully developed to benefit mankind.

AI System for Surveillance

The AI System for Surveillance and Criminal Analysis in Public is piloted in east Bangkok. The pilot project links with security cameras at crime hotspots under Huai Kwang police jurisdiction. Its facial recognition compares faces against photos in a database of arrest warrants, while its behavior analysis aims to prevent petty crime.¹⁷⁵⁴ Thai government positions the pilot program as a public safety tool under its wider Thailand 4.0 and Smart Cities initiatives. The government also plans to build five Smart Cities within 3 years.

Anti-fake News Centre

In November 2019, Thailand launched its “Anti-fake News Centre.” Minister of Digital Economy and Society defines as “fake news” as any viral online content that misleads people or damages the country’s image. The Centre is staffed by around 30 officers at a time, who review online

¹⁷⁵¹ National News Bureau of Thailand, *Digital Ministry outlines AI ethics* (Oct. 24, 2019), <https://thainews.prd.go.th/en/news/detail/TCATG191024113200588>

¹⁷⁵² NXPO, *Sandbox Act and Guidelines* (2020), <https://www.nxpo.or.th/th/en/sandbox-act-and-guideline/>

¹⁷⁵³ *Bangkok Statement on the Ethics of Science and Technology and Sustainable Development*, <http://www.stethicsconference2019.net/bkk-statements>

¹⁷⁵⁴ The Nation Thailand, *Bangkok police to pilot AI surveillance system* (July 25, 2019), <https://www.nationthailand.com/news/30373672>

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content, gathered through “social listening” tools. Coupled with a law prohibiting criticism of the monarchy, the Centre allows the government to potentially censor or suppress any news it finds broadly affecting “peace and order, good morals, and national security”¹⁷⁵⁵ without the need for evidence.

Digital ID

Thailand is currently working on legislation that would replace physical ID cards with the Digi-ID which will be the backbone of the e-commerce transactions in the country. It is planned to use blockchain to securely exchange user’s data but also require and facial recognition verification in an effort towards a “self-sovereign” digital identity management system.¹⁷⁵⁶ It remains unclear how the government conducted the risk or impact assessment on the mandatory use of biometric data.

Public Participation

Under the Digital Government Plan (2017-21), “Creating Government Data that Easily Accessed and Improve Government Transparency and Public Participation” is defined as one of the four goals.¹⁷⁵⁷ Two of the indicators that plan commits to measure itself against are “Promoting Country’s Open Data Index to place in the World’s top 25” and “Creating e-Gov Act”. However, all the plans and majority of initiatives relating to AI have been developed by the central government rather than any meaningful public participation.

Fundamental Rights and OECD/G20 AI Principles

Thailand has experienced 19 constitutional changes in less than a century. The government acknowledges that Thailand is both a destination and transit country for human trafficking linked to illegal immigration, child labor and prostitution.¹⁷⁵⁸ However, most of the plans put the responsibility of respecting human rights on the citizens and not the government. The ongoing 2020 protests are citizen criticizing the government and requesting reform of monarchy. In response, the Thai government has extended

¹⁷⁵⁵ Reuters, *Thailand unveils 'anti-fake news' centre to police the internet* (Nov. 1, 2019), <https://fr.reuters.com/article/governmentFilingsNews/idUKL3N27G4KR>

¹⁷⁵⁶ Thailand, *Digital Identity for All*, <https://www.ndid.co.th/>

¹⁷⁵⁷ *Thailand Digital Government Development Plan 2017-2021*, <http://jfcet.bypronto.com/wp-content/uploads/sites/1871/2018/05/Digital-Government-Development-Plan-2017-2021-executive-version.pdf>

¹⁷⁵⁸ Office of the National Economic and Social Development Board Office of the Prime Minister, Thailand, *The Twelfth National Economic and Social Development Plan (2017-2021)*, https://www.nesdc.go.th/nesdb_en/ewt_dl_link.php?nid=4345

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emergency powers of the existing emergency decree. Under the 2017 Constitution, members of the NCPO are protected from prosecution for human rights violations committed during NCPO rule.¹⁷⁵⁹ This protection is concerning given the reports of torture, extrajudicial executions and enforced disappearances against, human rights defenders.

The recent Thailand Cybersecurity Act gives the government the authority to monitor and seize data and equipment without a court order in the name of cybersecurity risk and denies anyone targeted by the law in the cases of a crisis or critical threat the right to any appeal.¹⁷⁶⁰ Despite continuous promises of reform, Thai authorities continue to suppress and prosecute citizens criticizing the monarchy or the military. The combination of AI policing, Fake-News monitoring and Cybersecurity Act creates further concerns on fundamental rights. A group of international public and private experts and NGOs launched the study Thailand's Cybersecurity Act: Towards a Human-Centered Act Protecting Online Freedom and Privacy, While Tackling Cyber Threat to help build the discourse on the necessity of applying a human-rights based approach to cybersecurity legislation.¹⁷⁶¹

Freedom House gives Thailand low marks for political and civil liberties (32/100).¹⁷⁶² Freedom House noted that in 2019, "Thailand's status improved from Not Free to Partly Free due to a slight reduction in restrictions on assembly and tightly controlled elections that, despite significant flaws, ended a period of direct rule by military commanders." Thailand passed Gender Equality Act in 2015. However, the legislation still allows for exceptions to gender discrimination on grounds of religion and national security.¹⁷⁶³

Thailand has endorsed Universal Declaration of Human Rights in 1948. Thailand has not signed the OECD AI Principles, Universal Guidelines for AI. Thailand has endorsed the UNESCO Recommendation on AI Ethics. Thailand is also the only country from Southeast Asia to

¹⁷⁵⁹ Constitute, *Thailand's Constitution of 2017*,

https://www.constituteproject.org/constitution/Thailand_2017.pdf?lang=en

¹⁷⁶⁰ Voice of America, *Rights Groups Urge Thai Government to Curb Powers in New Cybersecurity Act* (Sept. 24, 2019), <https://www.voanews.com/east-asia-pacific/rights-groups-urge-thai-government-curb-powers-new-cybersecurity-act>

¹⁷⁶¹ Manushya Foundation, *Thailand' Cybersecurity Act: Toward a Human Centered Act Protecting Online Freedom and Privacy, While Tackling Cyber Treats* (Sept. 2019), <https://www.manushyafoundation.org/study-on-cybersecurity-act>

¹⁷⁶² Freedom House, *Global Freedom Scores: Thailand*.

<https://freedomhouse.org/country/thailand/freedom-world/2021>

¹⁷⁶³ United National, *Human Rights Treaties*,

https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CPR/C/THA/CO/2&Lang=En

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benefit from an OECD Country Programme which comprises 15 projects drawing from four key strategic pillars: good governance and transparency, business climate and competitiveness, “Thailand 4.0” and inclusive growth. It includes peer reviews, capacity-building activities, inclusion in the OECD’s statistical tools, participation in eight OECD Committees or their subsidiary bodies and adherence to nine OECD legal instruments.¹⁷⁶⁴

Data Protection

Thailand’s Personal Data Protection Act (PDPA) is the country’s first consolidated law on data protection, framing the collection, use, and disclosure of personal data, drawing key concepts and principles from the EU General Data Protection Regulation (GDPR), and establishing a Personal Data Protection Committee.¹⁷⁶⁵ The Act came into force in part on May 28, 2019 but two successive grace periods, the last one from July 2020, postponed full implementation to give time to a broad range of government agencies and businesses time to prepare for compliance.¹⁷⁶⁶

On July 17, 2020, the Thai government issued an interim Notification of Standards for Maintenance of Security of Personal Data to act as a stop-gap to ensure that personal data is protected until the deferred provisions of the PDPA become effective in 2021 and compliance with the PDPA becomes mandatory.¹⁷⁶⁷ Under the Notification, certain data controllers must immediately implement basic security controls and measures, including, among others, administrative, technical and physical safeguards for personal data security and staff training and awareness.

The Digital Government Act requires establishment of government data exchange platform to establish secure standards for transfer of data. Agencies are mandated to keep data open to the public. However, the actual availability of the open data through this platform across all agencies is not complete.

The Sandbox Act provides an experimental environment set by Ministry of Digital Economy and Society (MDES) to test technologies

¹⁷⁶⁴ OECD, *A Solid Partnership between Thailand and the OECD*, <http://www.oecd.org/southeast-asia/countries/thailand/>

¹⁷⁶⁵ Government Gazette, *Personal Data Protection Act B.E. 2562 (2019)* (May 27, 2019) (unofficial translation), <https://thainetizen.org/wp-content/uploads/2019/11/thailand-personal-data-protection-act-2019-en.pdf>

¹⁷⁶⁶ OneTrust Data Governance, *Thailand: Government approves Royal Decree postponing PDPA* (May 20, 2020), <https://www.dataguidance.com/news/thailand-government-approves-royal-decree-postponing-pdpa>

¹⁷⁶⁷ OneTrust, *Thailand-Data Protection Overview* (Nov. 2020), <https://www.huntonprivacyblog.com/2020/05/29/delayed-implementation-of-thailands-personal-data-protection-act/>

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under the strict supervision of the regulators to safeguard public safety and privacy, without being required to abide by full regulatory requirements.¹⁷⁶⁸

Lethal Autonomous Weapons

Thailand expressed concern at the “wide and understudied implications” of lethal autonomous weapons systems and affirmed “the importance of respecting and evolving international humanitarian law.” It has not commented on calls to ban such weapons and retain meaningful human control over the use of force. Thailand is not a Convention on Conventional Weapons (CCW) state party.¹⁷⁶⁹

Evaluation

Thailand has launched an ambitious plan for AI. The Bangkok Statement on Ethics is significant as is the work of the NXPO in the field of AI ethics. But the absence of protections for fundamental rights as the country seeks to expand national identification and systems for facial recognition is troubling. Legal safeguards should precede AI deployment to ensure trustworthy AI. Thailand should ensure that Personal Data Protection Act goes into effect with an independent data protection authority.

¹⁷⁶⁹ UN High Contracting Parties and Signatories CCW:

<https://www.un.org/disarmament/the-convention-on-certain-conventional-weapons/high-contracting-parties-and-signatories-ccw/>

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Turkey

National AI Strategy

In 2020, the Digital Transformation Office (DTO) of the Turkish government outlined a National Artificial Intelligence Strategy (NAIS).¹⁷⁷⁰ The goal is to “promote the effective use of big data and artificial intelligence in public sector, through a human-centered approach . . . in collaboration with universities, the private sector and NGOs. Further, the strategy is meant to address fundamental principles such as human-centered development, fairness, transparency, trustworthiness, accountability, and commitment to ethical values. An intended output of the Strategy is also to increase nationwide awareness on data sharing and privacy and AI applications. Finally, the Strategy will contribute to implementing the G20 AI Principles, especially on human-centered values and fairness.

In August 2021, the Turkish government published the National Artificial Intelligence Strategy 2021-2025.¹⁷⁷¹ The NAIS was prepared in line with the Digital Türkiye vision and the National Technology Initiative. The NAIS Strategy is based on six strategic priorities:

- 1) Training AI Experts and Increasing Employment in the Domain,
- 2) Supporting Research, Entrepreneurship and Innovation,
- 3) Facilitating Access to Quality Data and Technical Infrastructure,
- 4) Regulating to Accelerate Socioeconomic Adaptation,
- 5) Strengthening International Cooperation, and
- 6) Accelerating Structural and Labor Transformation.

Further, the National Strategy sets out the following values to guide implementation,

- Respect for Human Rights, Democracy and Rule of Law
- Flourishing the Environment and Biological Ecosystem
- Ensuring Diversity and Inclusiveness, as well as international human rights law, standards, and principles
- Living in Peaceful, Just and Interconnected Societies,

The Digital Transformation Office will pursue several key projects including, Federated Learning and Differential Privacy technologies “with the purpose of ensuring the privacy and security of data,” making Black Box algorithms explainable, and preventing misleading artificial intelligence algorithms.

¹⁷⁷⁰ Presidency of the Republic of Turkey, Digital Transformation Office, *Artificial Intelligence*, <https://cbddo.gov.tr/en/artificial-intelligence>

¹⁷⁷¹ Presidency of The Republic of Turkey, *National Artificial Intelligence Strategy 2021-2025* (Aug. 20, 2021). <https://cbddo.gov.tr/en/nais>

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The National AI Strategy follows a February 2020 workshop on AI, organized by the Ministry of Industry and Technology, and TÜBİTAK (The Scientific and Technological Research Council of Turkey).¹⁷⁷² At that meeting, Dr. Ali Taha Koç, the DTO Director, emphasized the need to “develop more reliable artificial intelligence systems.” He also said that “an artificial intelligence ecosystem that is not based on ethical principles will not be successful or sustainable.” He listed several principles that should govern the use of artificial intelligence to alleviate privacy concerns, including focused on people, fairness, aiming to make a positive contribution to social welfare, transparent, reliable, accountable, able to derive value from data, in line with national and ethical values.

In October 2020, at the Turkish-Hungarian Artificial Intelligence and High-Technology Conference, the Minister of Industry and Technology Mustafa Varank said that the National AI Strategy makes “special emphasis on the most important aspects of AI policies such as talent development, scientific research, ethics and inclusion and digital infrastructure.”¹⁷⁷³

Public Participation

In the development of the NAIS, interviews were conducted with public institutions, universities, private sector organizations, NGOs, and international organizations on physical and online platforms, and domain experts were asked to provide their evaluations. January 2020, to develop the AI Technology Roadmap, Turkey established a stakeholder Working Group, comprised of academia, private sector and major umbrella NGOs.¹⁷⁷⁴ The Working Group operates under the Science, Technology and Innovation Policy Council of the Turkish Presidency, via the technical contribution of TUBITAK. The Working Group will identify frontier scientific themes and priority sectoral applications of AI technologies. The working group will help ensure effective intergovernmental coordination.

¹⁷⁷² Presidency of the Republic of Turkey, *Digital Transformation Office, Workshops on National AI Strategy and AI Institute Organized* (Feb. 19, 2020), <https://cbddo.gov.tr/en/news/4701/ulusal-yapay-zeka-stratejisi-ve-yapay-zeka-enstitusu-calistaylari-duzenlendi>

¹⁷⁷³ Daily News, *Turkey to reveal artificial intelligence strategy* (Oct. 16, 2020), <https://www.hurriyetdailynews.com/turkey-to-reveal-artificial-intelligence-strategy-159189>

¹⁷⁷⁴ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

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In 2019, Turkey hosted the proceedings of the 2019 3rd International Conference on Advances in Artificial Intelligence¹⁷⁷⁵ and have since contributed to multiple AI related conferences.

Turkey's Industry and Technology Strategy 2023 includes sectoral and R&D competency mapping on AI technology and AI and machine learning, with a view to strengthening Turkey's capacity of scientific research and product development. In 2019 Turkey's Ministry of Industry and Technology published the 2023 Industry and Technology Strategy, taking a holistic approach to the fields of industry and technology, and aiming to ensure wide participation and to mobilize society.¹⁷⁷⁶ The Strategy consists of five main pillars: High Technology and Innovation, Digital Transformation and Industry Move, Entrepreneurship, Human Capital, and "Infrastructure.

Specific to AI, the Strategy will see preparation of an R&D competency map to analyze the present state of in AI technology (in particular AI and machine learning) in Turkey, notably the capacity of scientific research and product development. Majority of Turkey's international R&D collaborations are covered under EU Horizon 2020 and 2021-2027 Programs and Digital Europe Program which necessitates certain harmonization with EU legislation and requirements. The NAIS proposes the establishment of sectoral Co-Creation Laboratories" within the TÜBİTAK Artificial Intelligence Institute for multi-stakeholder development and testing of sectoral AI applications consisting of product-oriented targets in areas such as software, aviation and space.¹⁷⁷⁷ The Institute held a stakeholder workshop in February 2020.

Public participation is still being ensured after the entry into force of the Turkish NAIS. As per the Strategy, a Steering Committee was established to carry out the implementation process, which will be chaired by the Vice President. The governance mechanism embraces AI Ecosystem Advisory Group and working groups as well, where all relevant stakeholders will be represented. Action plans, in which the implementation details of the Turkish NAIS will be laid out, are being prepared by the relevant Ministries under the coordination of the Steering Committee.

¹⁷⁷⁵ ACM, *ICAAI 2019: Proceedings of the 2019 3rd International Conference on Advances in Artificial Intelligence* (2019), <https://dl.acm.org/doi/proceedings/10.1145/3369114>

¹⁷⁷⁶ Turkey's Ministry of Industry and Technology, *2023 Sanayi ve Teknoloji Stratejisi* (Sept. 18, 2019), <https://www.sanayi.gov.tr/strateji2023/sts-ktp.pdf>

¹⁷⁷⁷ Daily News, *Turkey to reveal artificial intelligence strategy* (Oct. 16, 2020), <https://www.hurriyetdailynews.com/turkey-to-reveal-artificial-intelligence-strategy-159189>

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The Turkish NAIS is accessible by the public through the official website of the Digital Transformation Office of the Presidency of Türkiye, both in English and Turkish.¹⁷⁷⁸

Open Data Project

Turkey's Open Data Project will establish an open data portal so citizens, researchers, public institutions and organizations, and state affiliates can "leverage data produced by public resources."¹⁷⁷⁹ As a platform for the datasets needed for developing AI technologies and applications, the initiative will contribute to fostering a digital ecosystem for AI.

The Open Data Project will be launched under the responsibility of Turkey's Presidency of Digital Transformation Office. The main focus is to establish an open data portal, but the project will also manage the regulatory and legislative steps for participation in the Open Government Partnership. Organisations seeking to take part in the Open Government Partnership will need to meet certain regulatory and legislative requirements. The initiative also aims to provide effective coordination in preparing the labor market for digital transformation. The project also proposes creation of National Data Dictionary and data sharing via Open Government Data Portal.¹⁷⁸⁰

Data Protection

The Law on the Protection of Personal Data was published in April 2016.¹⁷⁸¹ The law established the Turkish Data Protection Authority (KKVK), an independent regulatory authority. The Authority is composed of the Personal Data Protection Board and the Presidency. The mission of the Authority is to provide the protection of personal data and to develop public awareness in line with the fundamental rights related to privacy and freedom stated in the Constitution. Turkey ratified Convention 108 of the Council of Europe and its data protection law originates from European

¹⁷⁷⁸ *Text of the Turkish NAIS*, <https://cbddo.gov.tr/SharedFolderServer/Genel/File/TR-UlusalYZStratejisi2021-2025.pdf>; *English translation of the Turkish NAIS*, <https://cbddo.gov.tr/SharedFolderServer/Genel/File/TRNationalAIStrategy2021-2025.pdf>; Presidential Circular No. 2021/18, <https://www.resmigazete.gov.tr/eskiler/2021/08/20210820-22.pdf>

¹⁷⁷⁹ British Embassy Ankara, *Open Data in Turkey* (March 2020), http://www.novusens.com/s/2462/i/UK-Turkey_Open_Data_Writeup_ENG.pdf

¹⁷⁸⁰ Presidency of the Republic of Turkey, Digital Transformation Office, *Open Data: Generating Value from Data for Our Country*, <https://cbddo.gov.tr/en/opendata/about-the-project/>

¹⁷⁸¹ KVKK, *Data Protection in Turkey*, <https://www.kvkk.gov.tr/SharedFolderServer/CMSFiles/5c02cb3c-7cc0-4fb0-b0a7-85cb90899df8.pdf>

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Union Directive 95/46/EC. According to the KVKK, the Protection of Personal Data law ensures:

- That data is Processed lawfully and fairly; Accurate and where necessary, kept up to date; Processed for specified, explicit and legitimate purposes; Relevant, limited and proportionate to the purposes for which they are processed; and Retained for the period of time determined by the relevant legislation or the period deemed necessary for the purpose of the processing.
- That explicit consent is required by an individual for data collection and data transfer. Further, data transfer outside of Turkey is strictly regulated.
- That individuals have the right to access and complain regarding data collection.
- That data collectors know to what extent they need to protect data and regulations for responses to individual complaints.

The Personal Data Protection Board will implement and interpret the privacy law in line with GDPR. Currently, efforts are also underway to adopt a new privacy law, based on the GDPR.¹⁷⁸²

There are two other institutions that could provide independent oversight of AI practices. The Human Rights and Equality Institution of Türkiye, affiliated with the Ministry of Justice, was established by Law No. 6701 in 2016.¹⁷⁸³ The Human Rights Institution has public legal entity status and administrative and financial autonomy. The Human Rights Institution was established on the basis of the principle of human dignity and has authority for the protection and promotion of human rights; guaranteeing individuals' right to equal treatment, prevention of discrimination in the exercise of rights and freedoms; and opposing torture and ill-treatment.

The Ombudsman Institution of the Republic of Türkiye was established in 2012 with the Law on the Ombudsman Institution No. 6328 as a constitutional public entity affiliated with the Grand National Assembly of Turkey.¹⁷⁸⁴ The Ombudsman Institution has its own private budget and headquarters in Ankara and one office in Istanbul. According to the

¹⁷⁸² Turkish Ministry of Justice, *Action Plan on Human Rights: Free Individual, Strong Society; More Democratic TURKEY* (March 2021) (“6.7 The Law on Protection of Personal Data will be harmonized with the European Union standards.”), https://inhak.adalet.gov.tr/Resimler/SayfaDokuman/5320211949561614962441580_insan-haklari-EP-v2_eng.pdf.

¹⁷⁸³ The Human Rights and Equality Institution of Türkiye, <https://www.tihk.gov.tr/en>

¹⁷⁸⁴ Grand National Assembly of Turkey, *Ombudsman Institution*, <https://www.ombudsman.gov.tr/English/index>

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Ombudsman Law, the Institution shall be responsible for examining, investigating, and submitting recommendations to the Administration with regard to all sorts of acts and actions as well as attitudes and behaviors of the Administration upon complaint on the functioning of the Administration within the framework of an understanding of human rights-based justice and in the aspect of legality and conformity with principles of fairness. Among its functions, the Ombudsman Institution aims to increase the service quality of the administration, internalize principles of good administration, improve human rights standards, strengthen the culture of seeking legal remedies, and form a transparent and accountable administration.

OECD AI Principles

Turkey is signatory to the OECD AI Principles. According to the OECD, Turkey's AI Technology Roadmap is a multistakeholder effort that supports implementation of the G20 AI Principles on inclusive growth, robustness and accountability.¹⁷⁸⁵ The NAIS explicitly highlights human-centric AI principles adopted by the OECD, G20, EU and UNESCO.¹⁷⁸⁶ The NAIS also lists several priority AI Principles, including Proportionality, Safety and Security, Fairness, Privacy, Transparency and Explainability, Responsibility and Accountability, Data Sovereignty, and Multi-stakeholder governance. The NAIS also refers to several platforms order to operationalize these principles within public and private institutions, including the AI Maturity Model and the AI Project Management Guide. A Public AI Platform will facilitate the preparation process of AI systems. The Trustworthy AI Seal approach will encourage the use of reference models in application development and operation.

Universal Guidelines for AI

Turkey has actively participated in the Council of Europe Ad Hoc Committee on Artificial Intelligence (CAHAI) and served as a coordinator, as well as a lead drafter in a working group for "Red-Lines" under the Legal Frameworks working group. Turkey actively championed the restriction of certain uses of AI that would be against the spirit of fundamental rights during the discussions. This position reflected the Turkish NAIS which emphasized that, "The scope of lifestyle choices, beliefs, ideas, expressions, or personal experiences, including the discretionary use and design of AI systems, should in no way be restricted at any stage of the lifecycle of AI systems. The production, development and implementation of AI

¹⁷⁸⁵ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

¹⁷⁸⁶ Presidency of The Republic of Turkey (Aug. 20, 2021)

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technologies should not result in discrimination in any way, and datasets should be audited in this regard.”¹⁷⁸⁷

Human Rights

According to Freedom House, Turkey is “not free.”¹⁷⁸⁸ Turkey receives low scores for political rights and civil liberties (32/100). Regarding transparency, Freedom House reports, “Although Turkey has an access to information law on the books, in practice the government lacks transparency and arbitrarily withholds information on the activities of state officials and institutions.” In October 2020, a law entered into force requiring all domestic and foreign social network providers that serve more than one million users in Turkey to have local representation in Turkey. The law gives authority to Information and Communication Technologies Authority to order the provider the removal or blocking of content within 48 hours if related to violation of personality and privacy rights, related to listed crimes, threats to public order or security, or other pressing and immediate dangers.¹⁷⁸⁹

Algorithmic Transparency

The Turkish Constitution establishes rights for privacy and for data protection.¹⁷⁹⁰ Further, using personal data in algorithms is considered “processing of personal data.” Processing of personal data is defined under as “any operation which is performed on personal data, wholly or partially by automated means or non-automated means which provided that form part of a data filing system, such as collection, recording, storage, protection, alteration, adaptation, disclosure, transfer, retrieval, making available for collection, categorization, preventing the use thereof.”¹⁷⁹¹

Dr. Ali Taha Koç, president of DTO, also acknowledged the importance of transparency, security, and accountability for AI. He said, “To eliminate the concerns that may arise, this system must first be human-centered, it must be fair, it must increase social welfare, it must be transparent, reliable, accountable, value-based, and dependent on national and ethical values. In our AI strategy, which should focus on human and ethical values, we have obligations such as creating a sustainable and

¹⁷⁸⁷ NAIS at 65.

¹⁷⁸⁸ Freedom House, *Freedom in the World 2021 – Turkey* (2021), <https://freedomhouse.org/country/turkey/freedom-world/2021>

¹⁷⁸⁹ *Law No:5651 on the Regulation of Publications on the Internet and Combatting Crimes Committed by Means of Such Publications*, <https://perma.cc/T97C-AM9H>

¹⁷⁹⁰ Article 20.

¹⁷⁹¹ Law No. 6698, Article 3/1E.

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production-based environment in Turkey by building an AI ecosystem, paving the way for work on AI in our country by completing the framework of data access, sharing and increasing the efficiency of all businesses and business processes in the public sector by expanding the use and application of AI technologies, sustaining this AI ecosystem by bringing up and educating qualified manpower, increasing the human benefit of each AI system to be produced, and ensuring its well-being."¹⁷⁹² The National AI Strategy states that “legal regulations that directly concern individual rights and freedoms should be made in a way that sets an example to the universal legal system.” However same document also suggests AI for predictive policing would be permissible.

Lethal Autonomous Weapons

Turkey has participated in every Convention on Certain Conventional Weapons (CCW) meeting on lethal autonomous weapons systems between 2014 and 2019. Turkey expressed concern “at the increasing impact of such [lethal autonomous] weapons worldwide, especially through the perpetration of terrorist acts” and importance to the humanitarian aspect of the matter and supporting “need for human control and accountability for such weapon systems” nevertheless also stating “taking into consideration that yet such weapon systems do not exist and it is an issue which is still hypothetical, we hesitate on the accuracy of a general prohibition pre-emptively.”¹⁷⁹³ Most recently, a United Nations Security Council report suggests that the attack drone Kargu-2, made by a Turkish company, was used in Libya for autonomous attacks on human targets.¹⁷⁹⁴

The NAIS states that “legal regulations that directly concern individual rights and freedoms should be made in a way that sets an example to the universal legal system.”¹⁷⁹⁵ However same document also suggests in addition to real-time event support, law enforcement agencies are using AI

¹⁷⁹² Şule Guner, *Experts to map out Turkey's strategy on AI centered on ethics and data protection*, Daily Sabah (Mar. 4, 2020), <https://www.dailysabah.com/life/experts-to-map-out-turkeys-strategy-on-ai-centered-on-ethics-and-data-protection/news>

¹⁷⁹³ Human Rights Watch, *Stopping Killer Robots: Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control – Turkey* (Aug. 10, 2020), <https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and>

¹⁷⁹⁴ Maria Cramer, *A.I. Drone May Have Acted on Its Own in Attacking Fighters, U.N. Says: A United Nations report suggested that a drone, used against militia fighters in Libya's civil war, may have selected a target autonomously*, New York Times (June 4, 2021), <https://www.nytimes.com/2021/06/03/world/africa/libya-drone.html>

¹⁷⁹⁵ NAIS at 50.

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applications in order to predict future events and risks.¹⁷⁹⁶ In January 2022, the Ministry of Defense announced several R&D projects including those involving machine learning capabilities, noting that Turkey “has to establish its technological independence.”¹⁷⁹⁷

Evaluation

Turkey is an emerging market for AI, and a regional leader in AI. The National Assembly of Turkey has proposed the creation of roadmaps and R&D in different technology sectors, particularly AI. There have been multiple statements by Turkish officials regarding their 2020 AI Strategy and commitment to human-centered development. Overall, despite investment, participation in AI related conferences, and proposed plans and sector roadmaps, there has been little policy action and most directives, particularly the AI Strategy, are still in “planning” phases with no official publications to date. The only official policy related to AI to date is The Law on the Protection of Personal Data.

¹⁷⁹⁶ NAIS at 54.

¹⁷⁹⁷ Demiroren Haber Ajansi (Jan 27, 2022), *İsmail Demir: Teknolojik bağımsızlığımızı sağlamak mecburiyetindeyiz*. <https://www.dha.com.tr/gundem/ismail-demir-teknolojik-bagimsizligimizi-saglamak-mecburiyetindeyiz-2014833>

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United Arab Emirate

National AI Strategy

In 2017, the UAE became the first country to appoint a Minister of State for Artificial Intelligence.¹⁷⁹⁸ The responsibilities include enhancing the government performance levels by investing in the latest technologies of artificial intelligence and applying them in various sectors. The United Arab Emirates also created the UAE Council for Artificial Intelligence and Blockchain to facilitate the government’s implementation of AI policies.¹⁷⁹⁹

In October 2017, the UAE Government launched the UAE Strategy for Artificial Intelligence (AI).¹⁸⁰⁰ The strategy aligns with UAE Centennial 2071,¹⁸⁰¹ which has a truly ambitious goal to make the UAE the best country in the world by 2071. AI will play a significant role in education, economy, government development, and community happiness through various AI implementations in various sectors, including energy, tourism, and education to name a few. AI Strategy outlines eight strategic objectives, namely:

- 1) “Build a reputation as an AI destination.
- 2) Increase the UAE competitive assets in priority sectors through deployment of AI.
- 3) Develop a fertile ecosystem for AI.
- 4) Adopt AI across customer services to improve lives and government.
- 5) Attract and train talent for future jobs enabled by AI.
- 6) Bring world-leading research capability to work with target industries.
- 7) Provide the data and supporting infrastructure essential to become a test bed for AI.
- 8) Ensure strong governance and effective regulation.”¹⁸⁰²

¹⁷⁹⁸ UAE Artificial Intelligence Office, *Omar Sultan Al Olama has been appointed as Minister of State for Artificial Intelligence* (Oct. 20, 2017), <https://ai.gov.ae/about/>

¹⁷⁹⁹ UAE Artificial Intelligence Office, *UAE adopts formation of Council for Artificial Intelligence* (Mar. 5, 2018), https://ai.gov.ae/ai_council/

¹⁸⁰⁰ *UAE Strategy for Artificial Intelligence - The Official Portal Of the UAE Government* (Oct. 12, 2021), <https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/federal-governments-strategies-and-plans/uae-strategy-for-artificial-intelligence>

¹⁸⁰¹ *UAE Centennial 2071*, <https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/federal-governments-strategies-and-plans/uae-centennial-2071>

¹⁸⁰² Artificial Intelligence Office, *UAE National Strategy for AI 2031*, <https://ai.gov.ae/strategy/>

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The UAE was among the UNESCO member states adopted the first-ever global agreement on Artificial Intelligence Ethics.¹⁸⁰³ By addressing issues of transparency, accountability and privacy, the pact promotes human rights and contributes to the accomplishment of the Sustainable Development Goals, encompassing chapters on data governance, education, culture, employment, health, and the economy.

The UAE also has a multi-national strategy with India which was birthed by signing a Memorandum of Understanding (MoU) for India - UAE Artificial Intelligence Bridge in 2018. The UAE-India collaboration seeks to evaluate the dynamic nature of innovation and technology by convening a UAE-India AI Working Group (TWG) between the UAE Ministry for Artificial Intelligence, Invest India and Start-up India.¹⁸⁰⁴

OECD/G20 Principles

The Dubai AI Ethics Guidelines describe the key principles of a fair, transparent, accountable, and explainable AI system.¹⁸⁰⁵ Launched in January 2019, the AI Principles and Guidelines for the Emirate of Dubai demonstrate Dubai's broader approach to ethical AI. Accompanying the Principles and Guidelines is an Ethical AI Self-Assessment Tool built to enable AI developer or operator organisations to evaluate the ethics level of an AI system. The AI Ethics Guidelines provide an assessment (from proof of concept to production) of the ethical issues that may arise throughout the development process and how specific AI applications could be improved to ensure fairness, transparency, accountability and explainability. The tool also aims to ensure careful adoption of AI in which innovation potential is optimised and where economic and social value is captured. Below are the OECD AI principles outlined in these guidelines;

- “Inclusive growth, sustainable development and well-being
- Human-centred values and fairness
- Transparency and explainability
- Robustness, security and safety
- Accountability

¹⁸⁰³ UNESCO, *UNESCO Member States Adopt the First Ever Global Agreement On the Ethics Of Artificial Intelligence* (Nov. 25, 2021), <https://en.unesco.org/news/unesco-member-states-adopt-first-ever-global-agreement-ethics-artificial-intelligence>.

¹⁸⁰⁴ AI Ethicist, *National AI Strategies*, <https://www.aiethicist.org/national-strategies>

¹⁸⁰⁵ Digital Dubai, *AI Principles & Ethics*, <https://www.digitaldubai.ae/initiatives/ai-principles-ethics>

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- Providing an enabling policy environment for AI”¹⁸⁰⁶

However, the UAE is not a member of the OECD and has not formally endorsed the OECD AI Principles. Dubai established a governing AI ethics board, comprised of government policy, academic, legal and industry experts to oversee and guide the strategic development of the AI Ethics Guidelines. The Executive Council of Dubai has directed government entities to use the principles and guidelines when considering AI development, and entities including the Road and Transport Authority and the Dubai Police have formally acknowledged their adoption of the self-assessment tool when developing AI.¹⁸⁰⁷

The UAE Cabinet formed the UAE Council for Artificial Intelligence (AI) that will oversee AI integration in government departments and the education sector. The council is tasked with proposing policies to create an AI-friendly ecosystem, encourage advanced research in the sector and promote collaboration between the public and private sectors, including international institutions to accelerate the adoption of AI.¹⁸⁰⁸

Public Participation

The government has set up The UAE National Program for Artificial Intelligence¹⁸⁰⁹ which is a comprehensive and consolidated compilation of resources that highlight the advances in AI and Robotics. The UAE, through the Ministry of Intelligence, launched an initiative to develop legislation, policies and initiatives for a responsible and efficient adoption of artificial intelligence (AI) within the private sector. The initiative is called 'Think AI' which was established to facilitate a series of roundtables, workshops and panel discussions to enable the participation of more than 100 government officials, representatives from the private sector and experts from local and international organisations. The discussions aim to develop comprehensive dialogs and ideas that support the UAE's efforts towards accelerating the adoption of artificial intelligence in various key sectors such as infrastructure, governance and legal legislation, the development of

¹⁸⁰⁶ The OECD AI Policy Observatory, *AI Principles and Ethics for the Emirate of Dubai* (2019), <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26783>

¹⁸⁰⁷ Digital Dubai, AI Principles & Ethics, <https://www.digitaldubai.ae/initiatives/ai-principles-ethics>

¹⁸⁰⁸ UAE's Government portal, <https://u.ae/en/about-the-uae/digital-uae/artificial-intelligence-in-government-policies>

¹⁸⁰⁹ UAE, *Empowering the Next Generation of Coders*, <https://ai.gov.ae/>

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appropriate infrastructure, and the strengthening the countries position as a global hub for artificial intelligence.¹⁸¹⁰

Free courses are being run for UAE residents to raise awareness and understanding of AI technologies.¹⁸¹¹ Additionally, the government has endeavoured to upskill the student population and government employees by providing relevant trainings to them.¹⁸¹²

Further, the UAE has a digital participation policy to provide insight to participants on what can be posted on the public platform and to facilitate a healthy environment for sharing information and enabling meaningful discussion on topics concerning the services of the UAE Digital Government and life in the UAE in general.¹⁸¹³ Dubai has an AI principles and ethics URL available for public access. Dubai's Ethical AI Toolkit is particularly helpful for three main types of user: Government Entities, Private Sector Entities and Individuals.¹⁸¹⁴

Data Protection

In November 2021, the UAE adopted sweeping legislative reforms, including the Personal Data Protection Law, modelled after the GDPR. The Personal Data Protection Law constitutes an integrated framework to ensure the confidentiality of information and protect the privacy of community members by providing proper governance for optimal data management and protection, in addition to defining the rights and duties of all concerned parties.¹⁸¹⁵ The provisions of the law apply to the processing of personal data, whether all or part of it through electronic systems, inside or outside the country. The law prohibits the processing of personal data without the consent of its owner, with the exception of some cases in which the processing is necessary to protect the public interest, or that the processing is related to the personal data that has become available and known to all by an act of the data owner, or that the processing is necessary to carry out any of the legal procedures and rights. The law defines the controls for the processing of personal data and the general obligations of companies that have personal data and defines their obligations to secure personal data and maintain its confidentiality and privacy. It also defines the rights and cases

¹⁸¹⁰ 'UAE Government Launches "Think AI" Initiative' (*wam*),

<http://wam.ae/en/details/1395302745072>

¹⁸¹¹ 'UAE Artificial Intelligence Office, *AI Summer Camp 4.0*, <https://ai.gov.ae/camp/>

¹⁸¹² UAE Artificial Intelligence Office, *Learn AI* <https://ai.gov.ae/learn/>

¹⁸¹³ UAE, *Digital participation policy*, <https://u.ae/en/footer/digital-participation-policy>

¹⁸¹⁴ Digital Dubai, *AI Principles and Ethics*, <https://www.digitaldubai.ae/initiatives/ai-principles-ethics>

¹⁸¹⁵ Emirates News Agency, *UAE adopts largest legislative reform in its history* (Nov. 27, 2021), <https://www.wam.ae/en/details/1395302997239>

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in which the owner has the right to request correction of inaccurate personal data, restrict or stop the processing of personal data. The law sets out the requirements for the cross-border transfer and sharing of personal data for processing purposes.

However, the law does not apply to government data, government authorities that control or process personal data, or personal data processed by the security and judicial authorities.¹⁸¹⁶ The law also does not cover processing of health, banking, and credit data which is subject to sector-specific legislation and companies and institutions located in free zones which have specific data protection laws, such as the Dubai International Finance Centre (DIFC) and the Abu Dhabi Global Market (ADGM). Commentators have also noted significant divergences with the GDPR, including more limited legal basis, with a focus on consent as the primary legal basis, and less comprehensive transparency requirements.¹⁸¹⁷

Less onerous transparency requirements (only certain limited information will be required to be provided prior to processing) and no specific privacy notice requirement

The UAE has also established the UAE Data Office that aims at ensuring the full protection of personal data. The office, which will be affiliated with the Cabinet, is responsible for a wide range of tasks that include proposing and preparing policies and legislations related to data protection, proposing and approving the standards for monitoring the application of federal legislation regulating this field, preparing and approving systems for complaints and grievances, and issuing the necessary guidelines and instructions for the implementation of data protection legislations.

Others UAE laws that provide general rights to privacy include:

- 1) The UAE Constitution addresses privacy by providing that freedom of communication by post or other means of communication and the secrecy thereof is guaranteed in accordance with the law,¹⁸¹⁸

¹⁸¹⁶ Al Tamimi, *UAE's New Federal Data Protection Law* (Dec. 6, 2021),

<https://www.tamimi.com/news/uaes-new-federal-data-protection-law/>

¹⁸¹⁷ Latham and Watkins, *UAE Publishes First Data Protection Law* (Dec. 14, 2021),

<https://www.globalprivacyblog.com/legislative-regulatory-developments/uae-publishes-first-federal-data-protection-law/>

¹⁸¹⁸ 'United Arab Emirates 2004.Pdf',

https://www.constituteproject.org/constitution/United_Arab_Emirates_2004.pdf

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- 2) The UAE Penal Code prohibits those who have access to an individuals' personal data from disclosing or publicizing that information;¹⁸¹⁹ and
- 3) The Cyber Crimes Law (Federal Law No. 5 of 2012 relating to Combating Information Technology Crimes, as amended by Federal No. 12 of 2016 and Emiri Decree No. 2 of 2018) prohibits invading the privacy of another person via technological means, without their consent.¹⁸²⁰

Algorithmic Transparency

The UAE's Artificial Intelligence Guide touches upon the subject of transparency with respect to AI and its use in companies. The Guide recommends that companies evaluate corporate policy to ensure the right guidelines are in place for any AI implementation to be ethical, fair, accountable, transparent, and explainable. The intention of the recommendation is to ensure that the AI solution is not only innovative but also delivers human benefit and happiness.

This outlook on AI is supplemented by the Ethical AI Toolkit published by the Dubai Data Establishment, Smart Dubai Office in 2019 which defines guiding principles for ethical AI focusing on four domains: ethics, security, humanity, and inclusiveness. Within the purview of ethics, the AI systems are expected to be fair, transparent, accountable, and understandable. However, the recently adopted Personal Data Protection Law does not appear to establish a legal right to algorithmic transparency.

Human Rights

The UAE has signed the Universal Declaration of Human Rights (UDHR), however there have been cases of unexplained and arbitrary arrests, enforced disappearances for months to unknown locations, criminalisation of basic freedom of speech, torture and other ill-treatment of prisoners resulting in false confessions, unfair trials without legal representation and citizenship revocation and deportations without legitimate reasons.¹⁸²¹

The Freedom House has given the UAE quite a low score (17/100) with regards to political rights and civil liberties, and rated the country "Not

¹⁸¹⁹ 'Federal Law No. 3 of 1987: The Penal Code' (*DataGuidance*, 4 January 2018), <https://www.dataguidance.com/legal-research/federal-law-no-3-1987-penal-code>

¹⁸²⁰ UAE, *Cyber Laws*, <https://u.ae/en/resources/laws>

¹⁸²¹ ICFUAE, *Human Rights in the UAE*, http://icfuae.org.uk/sites/default/files/Human%20Rights%20Violations%20Briefing_13-09-2017.pdf

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Free.” Freedom house reports that in UAE, political parties are banned, and all executive, legislative, and judicial authority ultimately rests with the seven hereditary rulers. The civil liberties of both citizens and noncitizens, who make up an overwhelming majority of the population, are subject to significant restrictions.¹⁸²²

Facial Recognition

The UAE’s digital transformation has led to the adoption of an AI-powered facial recognition system. Digitisation will not only lead to growth but criminal activities will experience a significant increase too. Retail, finance, security, airport clearance, and public transport are some of the areas where facial recognition will be employed. In 2021, the UAE Government announced that it will employ biometric face recognition (Facial ID) to register customers in the "UAE Pass" application, as part of the plan to launch the first digital national ID for citizens and residents. Currently, the number of people registered on the UAE Pass app is over 1.38 million, including 628,000 individuals with verified accounts.¹⁸²³

Predictive Policing

In 2017 the Dubai Police released the 2018-31 strategic plan for artificial intelligence.¹⁸²⁴ Among other things, the plan works towards integrating AI techniques and into criminal investigation in the field of forensic work, and in police operations to predict crimes. AI techniques will be used for forecasting crime, for crowd management and to enhance traffic safety and road security. The AI techniques will also be utilised in crisis and disaster management.¹⁸²⁵ The UAE deploys some of the world’s most advanced surveillance technologies to pervasively monitor public spaces, internet activity, and even individuals’ phones and computers, in violation of their right to privacy, freedom of expression, association, and other rights. Using CCTV cameras, license plate detection, and facial recognition, UAE authorities aim to keep tabs on all residents. In 2018, Dubai Police announced an artificial intelligence surveillance program called Oyoon, which utilizes tens of thousands of cameras with facial recognition software

¹⁸²² Freedom House, *United Arab Emirates: Freedom in the World 2021 Country Report*, <https://freedomhouse.org/country/ united-arab-emirates/freedom-world/2021>

¹⁸²³ MoCA, UAE, *UAE Government to employ biometric face recognition to register customers under 'UAE Pass' app* (Apr. 7, 2021), <https://www.moca.gov.ae/en/media/news/uae-government-to-employ-biometric-face-recognition-to-register-customers-under-'uae-pass'-app>

¹⁸²⁴ OPENGOV, *Dubai Police Releases 2018-31 Strategic Plan for Artificial Intelligence*, (Dec. 21, 2017), <https://opengovasia.com/dubai-police-releases-2018-31-strategic-plan-for-artificial-intelligence/>

¹⁸²⁵ Government of Dubai,

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and microphones that feed back into one central command center and can be used to track and analyze movements in key areas, and even issue verbal warnings to those suspected of wrongdoing.¹⁸²⁶ Abu Dhabi has a system similar to Oyoon called Falcon Eye. The Falcon Eye system provides a comprehensive central monitoring system that receives live feeds of various surveillance systems installed throughout the city, provides smart alerts, and allows fast access to events and incidents.¹⁸²⁷

Autonomous Weapons

The UAE leads the Gulf region in AI developments. The UAE also wishes to advance in autonomous weapons. Given the knowledge Israel acquired in the field, particularly in the defense sector, there is a good chance that their AI collaboration will grow with the new diplomatic agreement between the UAE and Israel. For example, in 2018 the Emirati and Israeli state-owned weapons makers agreed to design unmanned vessels capable of anti-submarine warfare together.¹⁸²⁸

Evaluation

The UAE has a national AI strategy that is open and public participation is encouraged. Further the country has established a body to facilitate the government's implementation of AI policies overseen by the Minister of State for Artificial Intelligence. While UAE is not a member of the OECD and has therefore not formally endorsed the OECD AI Principles, its AI policies reflect elements found in the OECD framework. However, UAE also has a poor track record on human rights. There is no express support for the Universal Guidelines for AI, or a stand on Lethal Autonomous Weapons. Although UAE is one of the leading countries in the Gulf region with regards to AI and strives to be the world's most prepared country for Artificial Intelligence, there are still steps that should be taken such as towards strengthening human rights, creation of a data protection

¹⁸²⁶ Human Rights Watch, *UAE: Tolerance Narrative a Sham: Censorship; Surveillance; Prison or Barred Entry for Critics*, (Oct. 1, 2021),

<https://www.hrw.org/news/2021/10/01/uae-tolerance-narrative-sham-0>

¹⁸²⁷ Dubai Police General HQ, *Dubai Police launch "Oyoon" AI Surveillance Programme* (Jan. 28, 2018),

https://www.dubai.police.gov.ae/wps/portal/home/search!/ut/p/z/1/04_Sj9CPyKssy0xPLMnMz0vMAfIjo8zi_T29HQ2NvA18LQJNTQwCPUIN_Hy8QowMTIz0w8EKDHAARwP9KEL6o1CVuJt4OxkEuoZa-IX4-BsZGBhBFcCxIjg1T78gN8Igy8RREQC7VCIU/?1dmy&urile=wcm%3apath%3a/wps/wcm/connect/DubaiPolice_en/DubaiPolice/Media-Center/News/A70

¹⁸²⁸ Reuters, *UAE, Israel To Jointly Develop Unmanned Military, Commercial Vessels* (Nov. 18, 2021), <https://www.reuters.com/world/middle-east/uae-israel-jointly-design-unmanned-military-commercial-vessels-2021-11-18/>

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legislation and an oversight authority and rapid adoption of facial recognition without clear legal basis to support limits on lethal autonomous weapons.

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United Kingdom

National AI Strategy

In September 2021, the UK government launched its first National Artificial Intelligence Strategy.¹⁸²⁹ This comes on the back of a raft of related plans, strategies and roadmaps including the National Data Strategy (2020),¹⁸³⁰ a Plan for Digital Regulation (2021)¹⁸³¹ and the UK Innovation Strategy (2021).¹⁸³² The UK holds a strong position in AI and is currently ranked third in the world for private venture capital investment and is home to a third of Europe’s total AI companies.¹⁸³³ The AI Strategy sets out a ten-year plan with the vision, “to remain an AI and science superpower fit for the next decade.” The UK AI Strategy has three main pillars: (1) investing and planning for the long-term requirements of the UK’s AI ecosystem; (2) supporting the transition to an AI-enabled economy across all sectors and regions of the UK; and (3) ensuring that the UK gets the national and international governance of AI technologies right in order to encourage innovation, investment and protect the public and the country’s fundamental values.

The first of these pillars focuses on the need to invest in the skills and resources that lead to AI innovation with the aim of increasing the type, frequency and scale of AI discoveries which are developed and exploited in the UK. To achieve this, the UK will continue to invest in developing, attracting and training the best people; develop a new approach to research development and innovation; increase international collaboration and research; and improve access to data and compute.

The second pillar aims to ensure that the benefits of AI innovation are shared across all sectors and regions of the UK economy. Here, the UK

¹⁸²⁹ GOV.UK, *National AI Strategy* (Sept. 2021),

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1020402/National_AI_Strategy_-_PDF_version.pdf

¹⁸³⁰ GOV.UK, *National Data Strategy* (Dec. 2020),

<https://www.gov.uk/government/publications/uk-national-data-strategy/national-data-strategy>

¹⁸³¹ GOV.UK, *Digital Regulation: Driving Growth and Unlocking Potential* (July 2021)

<https://www.gov.uk/government/publications/digital-regulation-driving-growth-and-unlocking-innovation/digital-regulation-driving-growth-and-unlocking-innovation>

¹⁸³² GOV.UK, *Policy Paper: UK Innovation Strategy: leading the future by creating it*

(July 2021), <https://www.gov.uk/government/publications/uk-innovation-strategy-leading-the-future-by-creating-it>

¹⁸³³ GOV.UK, *Policy Paper: UK Innovation Strategy: leading the future by creating it*

(July 2021), <https://www.gov.uk/government/publications/uk-innovation-strategy-leading-the-future-by-creating-it>

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aims to support UK AI businesses; better understand the drivers for organizational adoption of AI; and leverage the public sector's capacity to create demand for AI and market for new services. This pillar follows on from earlier industrial and digital strategies.¹⁸³⁴

The third pillar centers on the government's aim to build the most trusted and pro-innovation system for AI governance in the world. This centers on the UK having a clear, proportionate and effective framework for regulating AI; UK regulators having the flexibility and capabilities to respond to the challenges of AI; and ensuring organizations can confidently innovate and adopt AI technologies with the right tools and infrastructure to address AI risks and harms.

Overall, the strategy covers a wide range of issues and additionally sets out a timeline summarizing key actions for the short, medium and long term. Common themes that emerge within these goals are the importance of the UK maintaining and building on its reputation for research, innovation and ethics; embracing digital and data developments; creating a pro-innovation regulatory environment; and adopting a global approach.

From a regulatory standpoint, the UK currently takes the view that, "blanket AI-specific regulation, at this stage, would be inappropriate...[and] that existing sector specific regulators are best placed to consider the impact on their sector of any subsequent regulation which may be needed."¹⁸³⁵ Instead, the UK regulates many aspects of the development and use of AI through 'cross-sector' legislation and different regulators. This includes coverage in data protection through the Information Commissioner's Office; competition through the Competition and Markets Authority; and in human rights and equality through the Equality and Human Rights Commission. Saying that, the Strategy does question whether this approach is adequate. Accordingly, there are plans for the Office for Artificial Intelligence to develop a national position on

¹⁸³⁴ GOV.UK, *Industrial Strategy: Artificial Intelligence Sector Deal* (2017)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/702810/180425_BEIS_AI_Sector_Deal_4_.pdf; GOV.UK, *AI Sector Deal* (May 2019), [https://www.gov.uk/government/publications/artificial-intelligence-sector-deal/ai-sector-deal#:~:text=This%20Sector%20Deal%20is%20the,to%20%C2%A3342%20million%20from](https://www.gov.uk/government/publications/artificial-intelligence-sector-deal/ai-sector-deal#:~:text=This%20Sector%20Deal%20is%20the,to%20%C2%A3342%20million%20from;); GOV.UK, *National AI Strategy* (Sept. 2021)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1020402/National_AI_Strategy_-_PDF_version.pdf

¹⁸³⁵ GOV.UK, *National AI Strategy* (Sept. 2021)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1020402/National_AI_Strategy_-_PDF_version.pdf.

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governing and regulating AI, which will be set out in a White Paper in early 2022.

In the UK, responsibility for overseeing implementation of the National AI Strategy sits with the Office for Artificial Intelligence, a joint Department for Business, Energy and Industrial Strategy and Department for Digital, Culture, Media and Sport unit. Other AI specific UK bodies and structures include the AI Council, the Alan Turing Institute, the Centre for Data Ethics and Innovation and most recently the newly announced UK AI Standards Hub.¹⁸³⁶

The UK is engaged internationally in the development of AI governance in line with the values of fairness, freedom and democracy. This engagement includes working with partners to shape AI governance under development including the EU AI Act and the potential Council of Europe legal framework. The UK has also proactively worked with the OECD, the Council of Europe and UNESCO and helped to found the Global Partnership on AI (GPAI). Additionally, UK defence has a strong record of collaborating with international partners and allies. This includes engagement with NATO supporting the AI Partnership for Defence. On the bi-lateral front, in September 2020 the UK and the U.S. signed a to establish a ~~bilateral~~ dialogue on their shared vision for driving technological breakthroughs in AI and to explore an AI R&D ecosystem that “promotes the mutual wellbeing, prosperity, and security of present and future generations.” The Declaration mentions, as one objective to protect “against efforts to adopt and apply these technologies in the service of authoritarianism and repression.”¹⁸³⁷

Public Participation

The guidance of the Information Commissioner’s Office, as well as all above-mentioned documents are publicly accessible. The ICO guidance sets space for online feedback that individuals and organizations may wish to provide on how the guidance can be implemented in practice.

¹⁸³⁶ GOV.UK, *Press Release: New UK initiative to shape global standards for artificial Intelligence* (Jan 2022) <https://www.gov.uk/government/news/new-uk-initiative-to-shape-global-standards-for-artificial-intelligence>

¹⁸³⁷ Gov.UK, OAI, *Declaration of the United States of America and the United Kingdom of Great Britain and Northern Ireland on Cooperation in AI Research and Development* (Sept. 25, 2020), <https://www.gov.uk/government/publications/declaration-of-the-united-states-of-america-and-the-united-kingdom-of-great-britain-and-northern-ireland-on-cooperation-in-ai-research-and-development/declaration-of-the-united-states-of-america-and-the-united-ki>

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Parliamentary hearings on AI are regularly held, and are accessible to watch online.

Facial Recognition

Human rights organizations have long criticized the UK government for the almost unparalleled deployment of CCTV. (Chongqing, China has now overtaken London as the most surveilled city in the world.¹⁸³⁸) Early in 2020, London's Metropolitan Police deployed live facial recognition. The Met says its use of the controversial technology will be targeted to "specific locations where intelligence suggests we are most likely to locate serious offenders."¹⁸³⁹ Silkie Carlo, the director of Big Brother Watch, called the move "an enormous expansion of the surveillance state and a serious threat to civil liberties in the UK." There is currently no law in the UK governing facial recognition. More worryingly, between 2016-2019, Met Police recognition technology was 93% inaccurate, with 3,000+ people wrongly identified by police facial recognition.¹⁸⁴⁰

AI Grading Controversy

A widely reported controversy over the use of AI in the UK public sector erupted in the Summer of 2020. The UK used an algorithm to estimate exam results. Nearly 40 percent of students saw their grades reduced after the government reevaluated exams, known as "A-levels."¹⁸⁴¹ The software model incorporated school's past results and student's earlier results on mock exams. The calculations favored elites.¹⁸⁴² As the BBC explained, the algorithm "locks in all the advantages and disadvantages - and means that the talented outlier, such as the bright child in the low-

¹⁸³⁸ Matthew Keegan, *Big Brother is watching: Chinese city with 2.6m cameras is world's most heavily surveilled*, The Guardian (Dec. 2, 2019)

<https://www.theguardian.com/cities/2019/dec/02/big-brother-is-watching-chinese-city-with-26m-cameras-is-worlds-most-heavily-surveilled>.

¹⁸³⁹ Vikram Dodd, *Met police to begin using live facial recognition cameras in London*, The Guardian (Jan. 24, 2020),

<https://www.theguardian.com/technology/2020/jan/24/met-police-begin-using-live-facial-recognition-cameras>

¹⁸⁴⁰ Big Brother Watch. <https://bigbrotherwatch.org.uk/campaigns/stop-facial-recognition/>

¹⁸⁴¹ Adam Satariano, *British Grading Debacle Shows Pitfalls of Automating Government*, New York Times (Aug. 20, 2020) ("The uproar over an algorithm that lowered the grades of 40 percent of students is a sign of battles to come regarding the use of technology in public services."), <https://www.nytimes.com/2020/08/20/world/europe/uk-england-grading-algorithm.html>

¹⁸⁴² Karla Adams, *The UK used an algorithm to estimate exam results. The calculations favored elites*, The Washington Post (Aug. 17, 2020), <https://www.washingtonpost.com>

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achieving school, or the school that is rapidly improving, could be delivered an injustice.”¹⁸⁴³

As the Open Data Institute pointed out, a student would have received a high grade in math only because historically someone from her school had received a high school although the same student was predicted at B or C.¹⁸⁴⁴ The new evaluation method was triggered by the corona virus since in-person exams had to be cancelled and the government sought to standardize college admissions. Wired UK reported that some researchers stated that “[r]ather than the algorithm getting it wrong, ... it was simply the wrong algorithm.”¹⁸⁴⁵ However, others thought that the application of Article 22 of the General Data Protection Regulation (prohibition of decisions solely made by automated decision making) was at stake, albeit disputed by the governmental agency that suggested the computer-generated score. Ultimately, protests in front of the British Parliament and a pending lawsuit led the government to withdraw the system.¹⁸⁴⁶

Karen Hao, a reporter with MIT Technology Review, wrote “The problem began when the exam regulator lost sight of the ultimate goal— and pushed for standardization above all else.”¹⁸⁴⁷

NGO Perspectives on AI in the UK

NGO perspectives on the use of AI in the UK have previously centered on the AI grading controversy but also with the automated process for settling the status of EU nationals post-Brexit. The application launched by the government to determine the status of EU nationals resident in the UK was based on automated face recognition and automated data matching across government departments. It displayed a number of errors including

¹⁸⁴³ Sean Coughlan, *Why did the A-level algorithm say no?*, BBC (Aug. 14, 2020), <https://www.bbc.com/news/education-53787203>

¹⁸⁴⁴ Open Data Institute, *What can we learn from the qualifications fiasco? – The ODI* (Aug. 24, 2020), <https://theodi.org/article/what-can-we-learn-from-the-qualifications-fiasco/>

¹⁸⁴⁵ Matt Burgess, *The lessons we all must learn from the A-levels algorithm debacle*, WiredUK (Aug. 20, 2020) (“Unless action is taken, similar systems will suffer from the same mistakes. And the consequences could be dire”) <https://www.wired.co.uk/article/gcse-results-alevels-algorithm-explained>

¹⁸⁴⁶ Daan Kolkman, *“F**k the algorithm”?: What the world can learn from the UK’s A-level grading fiasco*, London School of Economic Blog (Aug. 26, 2020), <https://blogs.lse.ac.uk/impactofsocialsciences/2020/08/26/fk-the-algorithm-what-the-world-can-learn-from-the-uks-a-level-grading-fiasco/>

¹⁸⁴⁷ Karen Hao, *The UK exam debacle reminds us that algorithms can’t fix broken systems*, MIT Technology Review (Aug. 20, 2020), <https://www.technologyreview.com/2020/08/20/1007502/uk-exam-algorithm-cant-fix-broken-system/>

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for example the denial of a settled status (granted after 5 years of residence) and thus the possibility to legally remain in the country of a French woman who had worked for 15 years in the UK and was married to a British national with two kids. Further, the data required by the app to determine the status of applicants did not include child benefits or child tax credits, and thus could be discriminatory towards women since 87% of child benefit recipients were female. Further, the algorithm used to determine visa applications known as 'the streaming tool' was found opaque and discriminatory toward applicants from certain nationalities and race groups. After a successful legal challenge, the government committed to a "redesign of the process and the way in which visa applications are allocated for decision-making."

Global Partnership on AI and OECD AI Principles

The UK is a member of the OECD and the G20 and therefore should adhere to the OECD/G20 AI Principles. Nonetheless, it is interesting to observe that the OECD/G20 AI Principles are not referred to in the National AI Strategy detailed above. The UK is one of the founding members of the GPAI.¹⁸⁴⁸ The UK recently announced a £1m investment in GPAI's data trust research.¹⁸⁴⁹

Data Protection

In July 2020, the UK's Information Commissioner's Office (ICO), an independent governmental agency set up to "uphold information rights in the public interest" published guidance to clarify how to assess the risks to rights and freedoms that AI can pose from a data protection perspective; and the appropriate measures that can be implemented to mitigate them.¹⁸⁵⁰ The ICO is in effect the data protection watchdog of the UK set in accordance with the EU's Data Protection Directive as implemented by the UK, and later replaced with the General Data Protection Regulation (GDPA). The updated AI Guidance of the ICO states that it "aims to mitigate the risks specifically arising from a data protection perspective . . . without losing sight of the **benefits** such projects can deliver." The

¹⁸⁴⁸ Gov.UK, *Joint statement from founding members of the Global Partnership on Artificial Intelligence* (June 15, 2020),

<https://www.gov.uk/government/publications/joint-statement-from-founding-members-of-the-global-partnership-on-artificial-intelligence>.

¹⁸⁴⁹ GOV.UK, *National AI Strategy* (Sept. 2021)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1020402/National_AI_Strategy_-_PDF_version.pdf

¹⁸⁵⁰ UK ICO, *Guidance on AI and Data Protection* (July 30, 2020),

<https://ico.org.uk/media/for-organisations/guide-to-data-protection/key-data-protection-themes/guidance-on-ai-and-data-protection-0-0.pdf>.

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emphasis is thus on ensuring the fairness, transparency and lawfulness of AI projects but also on data security and public awareness. Familiar governance structures taken up from the data protection and privacy domain (such as accountability and impact assessments but also the idea of privacy by design) are exported to the field of AI. The well-known challenge of AI to data minimization is mentioned by the ICO, albeit in a somewhat cursory fashion.

Algorithmic Transparency

The UK Data Protection Act 2018¹⁸⁵¹ includes specific provisions on the right for individuals to intervene in automated decision-making.¹⁸⁵² The concept of Algorithmic Transparency derived from the UK's data protection framework is addressed in some detail in the AI Guidance published by the Information Commissioner's Office.

In November 2020, the CDEI published the final report of its review into bias in algorithmic decision-making.¹⁸⁵³ The Center focused on the use of algorithms in significant decisions about individuals in four sectors (policing, local government, financial services and recruitment). Key recommendations include: 1) Government should place a mandatory transparency obligation on all public sector organisations using algorithms that have an impact on significant decisions affecting individuals; 2) Organisations should be actively using data to identify and mitigate bias. They should make sure that they understand the capabilities and limitations of algorithmic tools, and carefully consider how they will ensure fair treatment of individuals, and 3) Government should issue guidance that clarifies the application of the Equality Act to algorithmic decision-making. This should include guidance on the collection of data to measure bias, as well as the lawfulness of bias mitigation techniques (some of which risk introducing positive discrimination, which is illegal under the Equality Act).

More recently in May 2021, the Office for Artificial Intelligence published the Ethics, Transparency and Accountability Framework for Automated Decision-Making for public sector organizations on how to use

¹⁸⁵¹ Legislation.gov.uk, *Data Protection Act 2018*,

<https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>

¹⁸⁵² Legislation.gov.uk, *Data Protection Act 2018* (Sect. 95 – “Right to intervene in automated decision-making”),

<https://www.legislation.gov.uk/ukpga/2018/12/section/97/enacted>

¹⁸⁵³ Gov.UK, *CDEI publishes review into bias in algorithmic decision-making* (Nov. 27, 2020), <https://www.gov.uk/government/publications/cdei-publishes-review-into-bias-in-algorithmic-decision-making>

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automated or algorithmic decision-making systems in a safe, sustainable and ethical way.¹⁸⁵⁴ Transparency is also mentioned, albeit only in passing, also in the AI Ethics & Safety Framework, issued by the Office for Artificial Intelligence.¹⁸⁵⁵ As a part of the Office’s recommendation on integrating “responsible innovation” into AI projects, the organization OAI advises that AI developers should “prioritise the transparency of how [they] design and implement [their] model, and the justification and interpretability of its decisions and behaviours.”

Human Rights

All UK AI initiatives must comply with the UK Human Rights Act of 1998. Post-Brexit the UK remains a part of the European Convention on Human Rights and is subject to the jurisdiction of the European Court of Human Rights in Strasbourg. Therefore, even if the GDPR can no longer be enforced in the UK through judgments of the Court of Justice of the European Union in Luxembourg, the existence of structures like the UK’s Information Commissioner’s Office and generally, the remnants of EU’s *Acquis Communautaire* make it clear that the UK has in place a relatively robust system of human rights protection. According to Freedom House, UK receives high marks (93/100) for political rights and civil liberties¹⁸⁵⁶. The country is “is a stable democracy that regularly holds free elections and is home to a vibrant media sector.” Currently, the public debate is often about loss of jobs due to the growth of the robotics sector. Relatedly, in 2020 the Alan Turing Institute issued guidelines on AI and non-discrimination/human rights.

Evaluation

The UK has endorsed the OECD/G20 AI Principles, and has a good record on human rights. The UK has established several public bodies that have issued policies and guidance on AI, including the Office for Artificial Intelligence and the Centre for Data Ethics. Although the AI strategy is open and public participation is encouraged, the UK suffered a significant public backlash over the grading controversy in 2020. Laudable strategies such as

¹⁸⁵⁴ GOV.UK, *Ethics, Transparency and Accountability Framework for Automated Decision-Making* (May 2021) <https://www.gov.uk/government/publications/ethics-transparency-and-accountability-framework-for-automated-decision-making/ethics-transparency-and-accountability-framework-for-automated-decision-making>

¹⁸⁵⁵ GOV.UK, *Guidance: Understanding artificial intelligence ethics and safety* (Jun 2019) <https://www.gov.uk/guidance/understanding-artificial-intelligence-ethics-and-safety>

¹⁸⁵⁶ Freedom House, *Freedom in the World 2021 – United Kingdom*, <https://freedomhouse.org/country/united-kingdom/freedom-world/2021>

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the development of AI-related workforce and education sector initiatives, as well as the promise of data trusts need to be monitored closely. There is, at the moment, no express support for the Universal Guidelines for AI.

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United States

National AI Strategy

The United States promotes AI policies that seek to maintain American leadership and to build alliances with other democratic countries. Speaking to the United Nations General Assembly in September, 2021, President Biden reaffirmed the U.S.’s commitment to “work together with our democratic partners to ensure that new advances in areas from biotechnology, to quantum computing, 5G, artificial intelligence, and more are used to lift people up, to solve problems, and advance human freedom — not to suppress dissent or target minority communities.”¹⁸⁵⁷ President Biden’s UN statement echoed similar comments to the G7 leaders at the Munich Security Conference earlier in the year. At that meeting, President Biden called for “rules that will govern the advance of technology and the norms of behavior in cyberspace, artificial intelligence, and biotechnology,” that will “lift people up” and not pin them down. Biden also urged the G7 nations to stand up for “democratic values.”¹⁸⁵⁸

The current US position on AI is comprised of a 2020 Presidential Executive Order, a 2019 Executive Order, OMB Guidance for Regulation of AI Applications, the recommendations of a National Security Commission on AI, and various initiatives and programs established by the National AI Initiative Act (NAIIA).¹⁸⁵⁹ The 2019 Executive Order emphasized the need to maintain American leadership in Artificial Intelligence, and sets out a range of policies and practices, including funding, research, training, and collaboration.¹⁸⁶⁰ The Executive Order also describes the need protect “civil liberties, privacy, and American values.” The Agency Guidance also underscores the desire to maintain American leadership, and endorses such values as privacy, civil liberties, human

¹⁸⁵⁷ The White House, *Remarks by President Biden Before the 76th Session of the United Nations General Assembly* (Sep. 21, 2021), <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/09/21/remarks-by-president-biden-before-the-76th-session-of-the-united-nations-general-assembly/>.

¹⁸⁵⁸ The White House, *Remarks by President Biden at the 2021 Virtual Munich Security Conference* (Feb. 19, 2021), <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/02/19/remarks-by-president-biden-at-the-2021-virtual-munich-security-conference/>.

¹⁸⁵⁹ William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, Division E (“National Artificial Intelligence Initiative Act”), <https://www.congress.gov/116/plaws/publ283/PLAW-116publ283.pdf>

¹⁸⁶⁰ The White House, *Executive Order on Maintaining American Leadership in Artificial Intelligence* (Feb. 11, 2019), <https://www.whitehouse.gov/presidential-actions/executive-order-maintaining-american-leadership-artificial-intelligence/>

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rights, the rule of law, and respect for intellectual property.¹⁸⁶¹ The Agency Guidance outlines 10 principles, including Fairness and Non-Discrimination, Disclosure and Transparency, to promote innovation and growth for AI.

The 2020 Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government reflects earlier goals set in the 2019 Executive Order and established common guidance to encourage federal agencies to use AI, consistent with nine principles.¹⁸⁶² The 2020 Executive Order states that the “The ongoing adoption and acceptance of AI will depend significantly on public trust.” The 2020 Executive Order repeatedly emphasizes the need to ensure that “the use of AI remains consistent with all applicable laws, including those related to privacy, civil rights, and civil liberties.” The Office of Management and Budget is directed, by June 2021, to “post a roadmap for the policy guidance that OMB intends to create or revise to better support the use of AI, consistent with this order. This roadmap shall include, where appropriate, a schedule for engaging with the public and timelines for finalizing relevant policy guidance.”

Section 3 of the 2020 Executive Order describe Principles for Use of AI in government. “When designing, developing, acquiring, and using AI in the Federal Government, agencies shall adhere to the following Principles:”

- a) Lawful and respectful of our nation’s values
- b) Purposeful and performance-driven
- c) Accurate, reliable and effective
- d) Safe, secure, and resilient
- e) Understandable
- f) Responsible and traceable
- g) Regularly monitored
- h) Transparent
- i) Accountable

Members of the United States Congress have also proposed legislation for a US national AI strategy. Representatives Robin Kelly (R-Illinois) and Will Hurd (R-Texas) introduced a Congressional

¹⁸⁶¹ Office of Management and Budget, *Memorandum for the Heads of Executive Departments and Agencies* (draft), <https://www.whitehouse.gov/wp-content/uploads/2020/01/Draft-OMB-Memo-on-Regulation-of-AI-1-7-19.pdf>

¹⁸⁶² The White House, *Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government* (Dec. 3, 2020), <https://www.whitehouse.gov/presidential-actions/executive-order-maintaining-american-leadership-artificial-intelligence/>

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Resolution calling for the creation of a US National AI Strategy.¹⁸⁶³ The US AI National AI Resolution, which passed the House in December 2020, emphasizes global leadership, a prepared workforce, national security, research and development, and Ethics, reduced bias, fairness, and privacy. The Resolution would not establish any new agency to regulate AI nor does it make clear which new obligations would exist for those who deploy AI systems. But the Resolution does provide a detailed outline of a US national AI strategy. Among other points, the Resolution states “Developing and using artificial intelligence in ways that are ethical, reduce bias, promote fairness, and protect privacy is essential for fostering a positive effect on society consistent with core United States values.”¹⁸⁶⁴ The Resolution also acknowledges the OECD Principles on Artificial Intelligence. The Bipartisan Policy Center has endorsed the Resolution, declaring “we must embrace AI while protecting our civil liberties, modernizing our workforce and education programs, and investing more in R&D.”¹⁸⁶⁵

The National Artificial Intelligence Initiative Act marks one of the most significant developments in U.S. AI policy. It directed the President to establish the National Artificial Intelligence Initiative (NAII), with the aim to “lead the world in the development and use of trustworthy artificial intelligence systems in the public and private sectors.”¹⁸⁶⁶ The NAIIA also creates the National Artificial Intelligence Initiative Office, currently led by Dr. Lynne Parker, within the Office of Science and Technology Policy to coordinate and support the NAII. The Act includes provisions for funding interdisciplinary AI education and workforce training, establishing AI research institutes, and cooperating with allies on trustworthy AI development.

The AI in Government Act of 2020, also passed in December 2020, establishes an “AI Center of Excellence” to facilitate cohesive and competent adoption of AI by the government “for the purposes of benefitting the public and enhancing the productivity and efficiency of Federal Government operations.”¹⁸⁶⁷ Similar to the 2020 Executive Order,

¹⁸⁶³ Congresswoman Robin Kelly, *ICYMI: Kelly, Hurd Call for Creation of National AI Strategy* (Sept. 18, 2020), <https://robinkelly.house.gov/media-center/press-releases/icymi-hurd-kelly-call-for-creation-of-national-ai-strategy>

¹⁸⁶⁴

https://hurd.house.gov/sites/hurd.house.gov/files/Resolution%20Text%20HURDTX_030.xml.pdf

¹⁸⁶⁵ Bipartisan Policy Center, *BPC: National AI Strategy Resolution A Critical Step* (Sept. 16, 2020), <https://bipartisanpolicy.org/press-release/bpc-national-ai-strategy-resolution-a-critical-step/>

¹⁸⁶⁶ NDAA FY 2021, Division E, Title LI, Sec. 5101.

¹⁸⁶⁷ AI in Government Act, Sec. 103(a).

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the AI in Government Act requires the OMB to “issue a memorandum” to federal agencies regarding the government use of AI in ways that protect “civil liberties, civil rights, and economic and national security,” along with “best practices” for identifying and mitigating bias and discriminatory impact in the use of AI.¹⁸⁶⁸ As of early 2022, the OMB has not complied with either the 2020 Executive Order or the AI in Government Act.¹⁸⁶⁹

Finally, the White House and Congress have also paid close attention to the draft AI Act in the European Union as a model for future U.S. AI regulation. Jake Sullivan, the White House National Security Advisor, has stated that “United States welcomes the EU’s new initiatives on artificial intelligence” and that the U.S. will “work with our friends and allies to foster trustworthy AI.”¹⁸⁷⁰ Lynne Parker, Director of the National AI Initiative Office and the OSTP’s Assistant Director of AI, has described the EU AI Act as a “very good comprehensive approach that the U.S. should consider.”¹⁸⁷¹

OMB AI Guidance for Agencies

In November 2020, the US Office of Management and Budget issued *Guidance for Regulation of Artificial Intelligence Applications*.¹⁸⁷² The Guidance follows from the Executive on American Leadership in AI and states that “when considering regulations or policies related to AI applications, agencies should continue to promote advancements in technology and innovation, while protecting American technology, economic and national security, privacy, civil liberties and other American values, including the principles of freedom, human rights, the rule of law, and respect for intellectual property.” The Memorandum is explicitly addressed to AI applications “developed and deployed outside of the federal government.

¹⁸⁶⁸ *Id.* at Sec. 104(a).

¹⁸⁶⁹ CAIDP Statement to OMB (Oct. 10, 2021), <https://www.caidp.org/app/download/8350420263/CAIDP-OMB-Statement-19102021.pdf>

¹⁸⁷⁰ Jake Sullivan [@JakeSullivan46], “The United States welcomes the EU’s new initiatives on artificial intelligence. We will work with our friends and allies to foster trustworthy AI that reflects our shared values and commitment to protecting the rights and dignity of all our citizens.” Twitter (Apr. 21, 2021), <https://twitter.com/jakesullivan46/status/1384970668341669891>.

¹⁸⁷¹ Dan Reilly, *White House A.I. director says U.S. should model Europe’s approach to regulation*, *Fortune* (Nov. 10, 2021), <https://fortune.com/2021/11/10/white-house-a-i-director-regulation/>.

¹⁸⁷² OMB, *Guidance for Regulation of Artificial Intelligence Applications* (Nov. 17, 2020), <https://www.whitehouse.gov/wp-content/uploads/2020/11/M-21-06.pdf>

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The *OMB Guidelines on AI* restate key goals for the Stewardship of AI applications:

- Public Trust in AI
- Public Participation
- Scientific Integrity and Information Quality
- Risk Assessment and Management
- Benefits and Costs
- Flexibility
- Fairness and Non-discrimination
- Disclosure and Transparency
- Safety and Security
- Interagency Cooperation

The OMB Guidelines encourage communications to the public, describing both the benefits and risks “in a manner that promotes public trust and understanding of AI.” The Guidelines continue, “agencies should communicate this information transparently by describing the underlying assumptions and uncertainties regarding expected outcomes, both positive and negative.”

There are provisions in the *OMB AI Guidelines* that are controversial. The OMB recommends that agencies “promote public access to government data and models where appropriate but fails to note whether such government data is personal data or may be subject to protections under federal law.

EU-U.S. Trade and Technology Council (TTC)

In June 2021, the U.S. and the European Union established the EU-U.S. Trade and Technology Council (TTC) to “strengthen global cooperation on technology, digital issues, and supply chains” and “with the aim of promoting a democratic model of digital governance.”¹⁸⁷³ At the TTC’s inaugural meeting, the U.S. and EU acknowledged that “AI technologies yield powerful advances but can also threaten our shared values and fundamental freedoms” and committed to “develop and implement AI systems that are innovative and trustworthy and that respect universal human rights and shared democratic values.”

The U.S. and EU also expressed “significant concerns” with the use of “social scoring systems with an aim to implement social control at scale.” Noting that such uses of AI “pose threats to fundamental freedoms and the

¹⁸⁷³ The White House, *U.S.-EU Trade and Technology Council Inaugural Joint Statement* (Sept. 29, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/15/u-s-eu-summit-statement/>

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rule of law,” the TTC stated its opposition to the use of AI for social scoring or other “rights-violating systems.” Finally, the TTC outlined areas of U.S.-EU cooperation, including “responsible stewardship of trustworthy AI” through the OECD AI Recommendations, “measurement and evaluation tools” to assess accuracy and bias, and the development of “AI technologies designed to enhance privacy protections.”

The U.S. has made progress in support of the TTC’s goals. In December 2021, the Biden Administration announced an initiative to encourage development of “Democracy-Affirming Technologies,” that support democratic values and governance.¹⁸⁷⁴ Relatedly, the U.S. and UK announced plans to promote Privacy Enhancing Technologies (PETs), including low-data AI, the deletion of unnecessary data, and techniques for robust anonymity.¹⁸⁷⁵

Also in December 2021, the EU-U.S. Joint Technology Competition Policy Dialogue was launched by the Federal Trade Commission, the Department of Justice’s Antitrust Division, and the European Commission. The Joint Dialogue is intended to align with the E.U.-US Trade and Technology Council (TTC)’s goals through coordination “as much as possible on policy and enforcement,” “especially in technology sectors,” and by promoting “greater alignment” between the U.S. and EU.¹⁸⁷⁶

Facial Recognition

There are wide-ranging protests in the United States against the deployment of facial recognition technology. In May 2019, San Francisco became the first city in the U.S. to ban the use of facial recognition technology by city agencies.¹⁸⁷⁷ The city supervisor said, “It’s psychologically unhealthy when people know they’re being watched in

¹⁸⁷⁴ The White House, *Fact Sheet: Announcing the Presidential Initiative for Democratic Renewal* (Dec. 9, 2021) <https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/09/fact-sheet-announcing-the-presidential-initiative-for-democratic-renewal/>

¹⁸⁷⁵ The White House, *US and UK to Partner on Prize Challenges to Advance Privacy-Enhancing Technologies* (Dec. 8, 2021) <https://www.whitehouse.gov/ostp/news-updates/2021/12/08/us-and-uk-to-partner-on-a-prize-challenges-to-advance-privacy-enhancing-technologies/>

¹⁸⁷⁶ the United States Department of Justice Antitrust Division and the United States Federal Trade Commission. *EU-U.S. Joint Technology Competition Policy Dialogue Inaugural Joint Statement between the European Commission* (Dec. 7, 2021) https://www.ftc.gov/system/files/documents/public_statements/1598739/eu-us_joint_dialogue_statement_12721.pdf

¹⁸⁷⁷ Kate Conger, Richard Fausset and Serge F. Kovalski, *San Francisco Bans Facial Recognition Technology* (May 14, 2019), <https://www.nytimes.com/2019/05/14/us/facial-recognition-ban-san-francisco.html>

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every aspect of the public realm, on the streets, in parks.” Other cities, including Cambridge, Oakland, and Portland followed. In October 2019, California enacted a moratorium on the use of facial recognition technology in police body cameras.¹⁸⁷⁸ The bill prohibits the use of biometric surveillance technology, which includes facial-recognition software, in police body cameras. It also prohibits police from taking body-camera footage and running it through facial-recognition software at a later time. It does not prevent state and local police from using facial-recognition technology in other ways, such as in stationary cameras, and it does not apply to federal agencies such as the FBI.¹⁸⁷⁹

In November 2021, Facebook announced it would shut down its facial recognition system and delete the face scans of more than one billion users it had gathered.¹⁸⁸⁰ The announcement followed multiple lawsuits alleging that the company had violated state and federal privacy laws as well as repeated recommendations to the FTC that the company’s business practices, including the collection and use of facial images, violated a 2011 settlement with the Commission.

In February 2022, and after months of criticism by advocacy groups, the Internal Revenue Service announced that it would halt its program with identity verification company ID.me to use facial recognition technology to verify taxpayers’ identities.¹⁸⁸¹ The program would have required taxpayers to take video selfies to verify themselves, raising concerns that citizens will be “coerced into handing over their sensitive biometric information to the government in order to access essential services.”

A bill introduced in the United States Congress would ban the use of facial recognition by law enforcement agencies.¹⁸⁸² The would make it illegal for any federal agency or official to “acquire, possess, access, or use” biometric surveillance technology in the US. It would also require state and

¹⁸⁷⁸ California Legislative Information, *AB-1215 Law enforcement: facial recognition and other biometric surveillance* (Oct. 9, 2019),

¹⁸⁷⁹ Rachel Metz, California lawmakers ban facial-recognition software from police body cams (Sept. 13, 2019), <https://www.cnn.com/2019/09/12/tech/california-body-cam-facial-recognition-ban/index.html>

¹⁸⁸⁰ Kashmir Hill and Ryan Mac, *Facebook, Citing Societal Concerns, Plans to Shut Down Facial Recognition System*, New York Times (Nov. 2, 2021),

<https://www.nytimes.com/2021/11/02/technology/facebook-facial-recognition.html>

¹⁸⁸¹ Alan Rappoport and Kashmir Hill, *I.R.S. to End Use of Facial Recognition for Identity Verification: After a bipartisan backlash, the agency will transition away from using a service from ID.me*, New York Times (Feb. 7, 2022),

<https://www.nytimes.com/2022/02/07/us/politics/irs-idme-facial-recognition.html>

¹⁸⁸² Congress.gov, *S.4084 - Facial Recognition and Biometric Technology Moratorium Act of 2020* (June 25, 2020), <https://www.congress.gov/bill/116th-congress/senate-bill/4084>

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local law enforcement to bring in similar bans in order to receive federal funding.¹⁸⁸³ The bill was introduced by Senators Ed Markey Jeff Merkley, and Representatives Pramila Jayapal and Ayanna Pressley.

In February 2022, the same members of Congress urged federal agencies to end the use of Clearview AI Facial Recognition Technology.¹⁸⁸⁴ In letters to the Department of Homeland Security (DHS), Department of Justice (DOJ), Department of Defense (DOD), Department of Interior (DOI), and Department of Health and Human Services (HHS), they wrote, “Facial recognition tools pose a serious threat to the public’s civil liberties and privacy rights, and Clearview AI’s product is particularly dangerous. We urge you to immediately stop the Department’s use of facial recognition technology, including Clearview AI’s tools.”

National Security Commission on AI

The US Congress established the National Security on AI in 2018.¹⁸⁸⁵ The Commission has issued several reports and made recommendations to Congress. The National AI Commission issued an interim report in November 2019, which was criticized for its lack of attention to democratic values.¹⁸⁸⁶ In a more recent report *Key Considerations for Responsible Development and Fielding of Artificial Intelligence*, the Commission recommends “Employ[ing] technologies and operational policies that align with privacy preservation, fairness, inclusion, human rights, and [the] law of armed conflict.”¹⁸⁸⁷

In March 2021, the National Security Commission on AI released the Final Report for an integrated U.S. strategy for “the coming era of AI-accelerated competition and conflict.”¹⁸⁸⁸ The Final Report included numerous recommendations for the U.S. government to use AI to protect

¹⁸⁸³ MIT Technology Review, *A new US bill would ban the police use of facial recognition* (June 26, 2020), <https://www.technologyreview.com/2020/06/26/1004500/a-new-us-bill-would-ban-the-police-use-of-facial-recognition/>

¹⁸⁸⁴ Ed Markey, *Senators Markey and Merkley and Reps. Jayapal & Pressley Urge Federal Agencies to End Use of Clearview AI Facial Recognition Technology* (Feb. 9, 2022), https://www.markey.senate.gov/news/press-releases/senators-markey-and-merkley-and-reps-jayapal_pressley-urge-federal-agencies-to-end-use-of-clearview-ai-facial-recognition-technology

¹⁸⁸⁵ National Security Commission on AI, *Home*, <https://www.nscail.gov/home>

¹⁸⁸⁶ National Security Commission on AI, *Interim Report* (Nov, 2019), <https://www.epic.org/foia/epic-v-ai-commission/AI-Commission-Interim-Report-Nov-2019.pdf>

¹⁸⁸⁷ National Security Commission on AI, *Key Considerations and Responsible Development and Fielding of Artificial Intelligence* (July 22, 2020), https://drive.google.com/file/d/1_zkNkT3Trz3rtFc8KVrEBNlg2R9MaUpi/view

¹⁸⁸⁸ NSCAI Final Report, at 8.

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U.S. interests and to support AI innovation. The Final Report included recommendations that the U.S. government improve public transparency in its use of AI (including through AI risk and impact assessments), develop and test “technical approaches to preserving privacy, civil liberties, and civil rights,” and strengthen redress and due process mechanisms for victims of AI-related harms. The report also called on the White House and State Department to establish an “Emerging Technology Coalition (ETC) of countries respectful of democratic values” to promote emerging technologies “according to democratic norms and values,” including by “building on” the OECD AI Principles and the work of the Global Partnership on AI (GPAI).¹⁸⁸⁹ Finally, the Final Report called on the U.S. and ETC partners to create an “International Digital Democracy Initiative” that would rely, in part, on the OECD AI Principles to develop AI guidelines.¹⁸⁹⁰

While the Final Report called for “baseline standards and safeguards regarding facial recognition,” the Commission failed to address several problems previously identified by CAIDP.¹⁸⁹¹ Beyond the lack of opportunities for formal comment or input from the general public during its drafting, the report failed to assess U.S. compliance with the OECD AI Principles or G20 guidelines, support prohibitions on lethal autonomous weapons or facial recognition technology, despite growing public concern and widespread support in Congress.

NIST Risk Management Framework

The National Institute of Standards and Technology (NIST) within the Department of Commerce announced the development of a voluntary AI risk management framework (RMF) in July 2021. The framework aims to “address risks in the design, development, use, and evaluation of AI products, services, and systems.”¹⁸⁹² As a part of the broader National AI Initiative, NIST hopes to produce a framework that can “develop along with the technology,” “help[ing to] create and safeguard trust” in AI while “permit[ting] the flexibility for innovation.”

¹⁸⁸⁹ *Id.* at 519-20.

¹⁸⁹⁰ *Id.* at 524.

¹⁸⁹¹ CAIDP Statement on draft final report of US National Security Commission on AI, (Feb. 26, 2021), <https://www.caidp.org/app/download/8297285563/CAIDP-NSCAI-02262021.pdf>

¹⁸⁹² NIST, *AI Risk Management Framework*, <https://www.nist.gov/itl/ai-risk-management-framework>; NIST, *AI Risk Management Framework Concept Paper* (Dec. 13, 2021), https://www.nist.gov/system/files/documents/2021/12/14/AI%20RMF%20Concept%20Paper_13Dec2021_posted.pdf

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Throughout 2021, NIST worked with and solicited input from the public to develop the framework, identifying “characteristics of trustworthiness” for AI systems: “accuracy, explainability and interpretability, reliability, privacy, robustness, safety, security (resilience), and mitigation of unintended and/or harmful bias, as well as of harmful uses.” NIST anticipates producing a completed version 1.0 of the AI RMF by early 2023.

JAIC

The Joint Artificial Intelligence Center (JAIC) is a research center within the Department of Defense. The mission of the JAIC is to “transform the DoD by accelerating the delivery and adoption of AI to achieve mission impact at scale.”¹⁸⁹³ The JAIC has recently undertaken an ambitious agenda to “accelerate the adoption of AI across every aspect of the military’s warfighting and business operations.”¹⁸⁹⁴ The new mission set is in contrast to the JAIC’s introductory goal, which was to jumpstart AI in DoD through pathfinder projects.

Algorithmic Transparency

The United States does not have an overarching privacy law, such as the GDPR, nor is there a privacy agency, and there is no general law that establishes a right of algorithmic transparency.

In April 2021, the FTC outlined a series of recommendations to encourage transparency in the development and use of AI.¹⁸⁹⁵ Pointing to the agency’s authority under the FTC Act, the Fair Credit Reporting Act, and the Equal Credit Opportunity Act, along with its January 2021 settlement requiring the photo app firm Everalbum to “delete models and algorithms it developed by using the photos and videos uploaded by its

¹⁸⁹³ U.S. Department of Defense, Chief Information Officer, *Vision: Transform the DoD Through Artificial Intelligence*. <https://dodcio.defense.gov/About-DoD-CIO/Organization/JAIC/>

¹⁸⁹⁴ Scott Maucine, *JAIC entering new phase of life, will create teams to help DoD adopt AI* (Nov. 26, 2020), <https://federalnewsnetwork.com/defense-main/2020/11/jaic-entering-new-phase-of-life-will-create-teams-to-help-dod-adopt-ai/>

¹⁸⁹⁵ Federal Trade Commission, *Aiming for truth, fairness, and equity in your company’s use of AI* (Apr. 19, 2021), <https://www.ftc.gov/news-events/blogs/business-blog/2021/04/aiming-truth-fairness-equity-your-companys-use-ai>

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users,”¹⁸⁹⁶ the FTC warned businesses using AI to “Hold yourself accountable – or be ready for the FTC to do it for you.”¹⁸⁹⁷

At the state level, the California Consumer Privacy Rights Act (CPRA) updates the states privacy law and establishes a right to limit algorithmic profiling. Businesses responding to requests for access are required to include meaningful information around the logic behind the decision-making processes and the likely outcome of the process with respect to the consumer.”¹⁸⁹⁸ A former U.S. federal official said the CPRA would impose “new requirements for businesses to protect personal information, including by ‘reasonably’ minimizing data collection, limiting data retention, and protecting data security. It also strengthens accountability measures by requiring companies to conduct privacy risk assessments and cybersecurity audits, and regularly submit them to regulators. In addition, it supplements the individual rights in the CCPA with new notification requirements, clarifies that individuals have the right to opt out of both the ‘sale’ and ‘sharing’ of personal information, and adds protections for a new category of ‘sensitive data.’”¹⁸⁹⁹

A separate California ballot initiative concerning AI-based profiling for criminal justice was defeated. Proposition 25 would have removed the right of people accused of a non-violent crime to secure their release by posting bail or by order of a judge with an automated system of computer-generated predictive modelling. Civil rights groups favored Proposition 24 and opposed Proposition 25.¹⁹⁰⁰ Alice Huffman, President of California NAACP stated, that “Prop. 25 will be even more-discriminatory against African Americans, Latinos and other minorities. Computer models may be good for recommending songs and movies, but using these profiling methods to decide who gets released from jail or who gets a loan has been proven to hurt communities of color.” Regarding the California Privacy

¹⁸⁹⁶ *US FTC Requires Deletion of AI Models Developed from Data Unfairly Obtained*, CAIDP Update 2.03, <https://dukakis.org/center-for-ai-and-digital-policy/caidp-update-us-ftc-requires-deletion-of-ai-models-developed-from-data-unfairly-obtained/>

¹⁸⁹⁷ Federal Trade Commission, *Aiming for truth, fairness, and equity in your company’s use of AI* (Apr. 19, 2021), <https://www.ftc.gov/news-events/blogs/business-blog/2021/04/aiming-truth-fairness-equity-your-companys-use-ai>

¹⁸⁹⁸ Briana Falcon, Devika Kornbacher, *Prop 24 Gets A Yes: California Privacy Rights Act To Become Law*, J.D. Supra (Nov. 5, 2020), <https://www.jdsupra.com/legalnews/prop-24-gets-a-yes-california-privacy-21838/>

¹⁸⁹⁹ Cameron F. Kerry and Caitlin Chin, *By passing Proposition 24, California voters up the ante on federal privacy law*, Brookings (Nov. 17, 2020), <https://www.brookings.edu/blog/techtank/2020/11/17/by-passing-proposition-24-california-voters-up-the-ante-on-federal-privacy-law/>

¹⁹⁰⁰ Official Voter Information Guide, <https://vig.cdn.sos.ca.gov/2020/general/pdf/complete-vig.pdf>

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Rights Act, Huffman stated, “Prop. 24 allows consumers to stop companies from using online racial profiling to discriminate against them.”

The Algorithmic Accountability Act, introduced in February 2022, would require large entities that deploy “automated decision systems” to conduct impact assessments for “augmented critical decision processes,” submit impact assessment summaries to the FTC, and mitigate the “material negative impacts” of automated decision systems.¹⁹⁰¹

OECD AI Principles

The United States fully supported the OECD AI policy process, endorsed the OECD AI Principles, and is a founding member of the Global Partnership on AI. The OECD notes that the United States has taken several steps to implement the AI Principles.

Since endorsing the OECD AI Principles in 2019,¹⁹⁰² the U.S. has continued to voice its support. The U.S. and EU, in the joint statement on the launched of the Trade and Technology Council, affirmed “their commitment to . . . shared democratic values and respects universal human rights, which they have already demonstrated by endorsing the OECD Recommendation on AI,” which they “intend to continue to uphold and implement.”¹⁹⁰³ At a keynote address to the OECD in October 2021, Secretary of State Antony Blinken stated that the “OECD’s Principles on AI back in 2019—the first set of intergovernmental principles on the topic—and the launch of the Global Partnership on AI in 2020, laid a foundation for the world to build on.”¹⁹⁰⁴

Public Participation and Access to Documents

The United States government provides access to all final policy proposals concerning AI. Federal agencies have undertaken public rulemakings and requested public comment. However, the National Security Commission attempted to keep secret its deliberations. A federal court later determined that the AI Commission had violated US open

¹⁹⁰¹ Algorithmic Accountability Act, Sec. 3(b)(1)

¹⁹⁰² US Mission to the OECD, *White House OSTP’s Michael Kratsios Keynote on AI Next Steps* (May 21, 2019), <https://usoecd.usmission.gov/white-house-ostps-michael-kratsios-keynote-on-ai-next-steps/>

¹⁹⁰³ The White House, *U.S.-EU Trade and Technology Council Inaugural Joint Statement* (Sept. 29, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/29/u-s-eu-trade-and-technology-council-inaugural-joint-statement/>

¹⁹⁰⁴ U.S. Department of State, *Secretary Antony J. Blinken at OECD Opening and Keynote Address* (Oct. 5, 2021), <https://www.state.gov/secretary-antony-j-blinken-at-oecd-opening-and-keynote-address/>; see CAIDP Update 2.38, <https://www.caidp.org/app/download/8352772763/CAIDP-Update-2.38.pdf>

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government laws and was required to make both its records and its meetings open to the public.¹⁹⁰⁵ Oddly, the AI Commission initially made agency documents available on a proprietary platform rather than an agency website.¹⁹⁰⁶

In 2021, the United States began several new initiatives to promote public participation in AI policy. In June, the White House launched the National Artificial Intelligence Research Resource Task Force to “develop a roadmap to democratize access to research tools that will promote AI innovation and fuel economic prosperity.”¹⁹⁰⁷ In July, the White House Office of Science and Technology Policy (OSTP) and the National Science Foundation (NSF) sought input on the implementation plan for a National Artificial Intelligence Research Resource (NAIRR).¹⁹⁰⁸ The Office of Science and Technology Policy began a series of public meetings and requests for information regarding AI policy. The AI Initiative Office continues to regularly post and update AI policy publications, including requests for information, concept papers and reports, ethical principles, and agency budgets, in its Publications Library on ai.gov.¹⁹⁰⁹

Human Rights

The United States endorsed the Universal Declaration for Human Rights, published a detailed annual report on human rights, and has historically ranked high for the protection of human rights. But in 2021 Freedom House reported “in recent years its democratic institutions have suffered erosion, as reflected in partisan pressure on the electoral process, bias and dysfunction in the criminal justice system, harmful policies on immigration and asylum seekers, and growing disparities in wealth, economic opportunity, and political influence.” Freedom House scored the United States at 83/100 in 2021, down from 86/100 in 2020.¹⁹¹⁰ On

¹⁹⁰⁵ *EPIC v. AI Commission, Seeking Public Access to the records and meetings of the NSCAI*, <https://www.epic.org/foia/epic-v-ai-commission/>

¹⁹⁰⁶ National Security Commission on AI, *Interim Report and Third Quarter Recommendation* (Oct. 2020) (federal agency report stored on a Google drive server), https://drive.google.com/file/d/1jg9YlNagGI_0rid-HXY-fvJOAejlFliy/view

¹⁹⁰⁷ The White House, *The Biden Administration Launches the National Artificial Intelligence Research Resource Task Force* (June 10, 2021), <https://www.whitehouse.gov/ostp/news-updates/2021/06/10/the-biden-administration-launches-the-national-artificial-intelligence-research-resource-task-force/>

¹⁹⁰⁸ Federal Register, Request for Information (RFI) on an Implementation Plan for a National Artificial Intelligence Research Resource (July 23, 2021),

¹⁹⁰⁹ National Artificial Intelligence Initiative Office, *Publications Library*, <https://www.ai.gov/publications/>

¹⁹¹⁰ Freedom House, *Freedom in the World 2021 – United States* (2021), <https://freedomhouse.org/country/united-states/freedom-world/2021>

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transparency, Freedom House noted that the Trump administration operated with “greater opacity than its immediate predecessors, for example by making policy and other decisions without meaningful input from relevant agencies and their career civil servants.”

The United States is not a member of the Council of Europe but did sign and ratify the COE Convention on Cybercrime,¹⁹¹¹ as COE conventions are open for ratification by non-members states. The US could ratify the COE Modernized Privacy Convention as well as any future COE Convention on AI.

In October 2021, the Office of Science and Technology Policy announced its intention to develop an AI “bill of rights” to “codify” the idea that “[p]owerful technologies should be required to respect our democratic values and abide by the central tenet that everyone should be treated fairly.”¹⁹¹² The OSTP also issued a request for information on current or planned uses of AI-enabled biometric technologies,¹⁹¹³ along with six public events on “the Bill of Rights for an Automated Society” in order “to promote public education and engagement” on AI issues.¹⁹¹⁴ CAIDP board members suggested at the time that the process of formulating an AI Bill of Rights 1) aim for a small number of clear, powerful principles, 2) build on prior initiatives, 3) proceed on a bipartisan basis, and 4) proceed without delay.¹⁹¹⁵ Although the OSTP issued an update on its “continuing work” on

¹⁹¹¹ Council of Europe, *Chart of signatures and ratifications of Treaty 185, Convention on Cybercrime* (Status as of Nov. 11, 2020),

<https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/185/signatures>

¹⁹¹² Eric Lander and Alondra Nelson, *Americans Need a Bill of Rights for an AI-Powered World: The White House Office of Science and Technology Policy is developing principles to guard against powerful technologies—with input from the public* (Oct. 8, 2021), <https://www.wired.com/story/opinion-bill-of-rights-artificial-intelligence/>

¹⁹¹³ Office of Science and Technology Policy, *Notice of Request for Information (RFI) on Public and Private Sector Uses of Biometric Technologies* (Oct. 8, 2021), <https://www.federalregister.gov/documents/2021/10/08/2021-21975/notice-of-request-for-information-rfi-on-public-and-private-sector-uses-of-biometric-technologies>

¹⁹¹⁴ The White House, *Join the Effort to Create A Bill of Rights for an Automated Society: OSTP Announces Public Events in November to Engage the American Public in National Policymaking about AI and Equity* (Nov. 10, 2021), <https://www.whitehouse.gov/ostp/news-updates/2021/11/10/join-the-effort-to-create-a-bill-of-rights-for-an-automated-society/>

¹⁹¹⁵ Dr. Lorraine Kisselburgh and Marc Rotenberg, *Next Steps on U.S. AI Bill of Rights*, *The Washington Spectator* (Nov. 2, 2021), <https://washingtonspectator.org/ai-bill-of-rights/>

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AI that “aligns with our democratic values” in February 2022,¹⁹¹⁶ progress on the AI Bill of Rights and its impact remain unclear.

Evaluation

The US lacks a unified national policy on AI but President Biden, and his top advisors, has expressed support for AI aligned with democratic values. The United States has endorsed the OECD/G20 AI Principles. The White House has issued two Executive Orders on AI that reflect democratic values, a federal directive encourages agencies to adopt safeguards for AI, The most recent Executive Order also establishes a process for public participation in the development of federal regulations on AI though the rulemaking has yet to occur. The overall US policy-making process remains opaque and the Federal Trade Commission has failed to act on several pending complaints concerning the deployment of AI techniques in the commercial sector. But the administration has launched new initiatives and encouraged the OSTP, NIST, and other agencies to gather public input. There is widespread objection to the use of facial recognition, and both Facebook and the IRS have cancelled facial recognition systems, following widespread protests. But concerns remain about the use of facial surveillance technology across the federal agencies by such US companies as Clearview AI. The absence of a legal framework to implement AI safeguards and a federal agency to safeguard privacy also raises concerns about the ability of the US to monitor AI practices.

¹⁹¹⁶ The White House, *OSTP’s Continuing Work on AI Technology and Uses that Can Benefit Us All* (Feb. 3, 2022), <https://www.whitehouse.gov/ostp/news-updates/2022/02/03/ostps-continuing-work-on-ai-technology-and-uses-that-can-benefit-us-all/>

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Uruguay

National AI Strategy

Strictly speaking, Uruguay does not have a general national AI development strategy, but rather has an AI development strategy for the digital government, officially called Artificial Strategy for Digital Government (ASDG) 2020.¹⁹¹⁷ The preparation of the ASDG was led by the Agency for Development of Electronic Government and Information Society (AGESIC).¹⁹¹⁸ The ASDG is a part of the Digital Government Agenda¹⁹¹⁹ and only focuses on digital government.

So far Uruguay has published four digital government agendas, namely: Uruguay Digital Agenda 2008-2010, Uruguay Digital Agenda 2011-2015, Uruguay Digital Agenda 2020 and Uruguay Digital Agenda 2021-2025.¹⁹²⁰ It should be kept in mind, however, that the issues associated with AI are considered in the 2020 Digital Government Plan,¹⁹²¹ and were included in Uruguay Digital Agenda 2020¹⁹²² and Uruguay Digital Agenda 2021-2025.¹⁹²³

Uruguay's digital government strategies aim, endorsing the Declaration of Principles of the World Summit on the Information Society, to advance implementation of the commitment “to build a people-centered, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United

¹⁹¹⁷ Uruguay Government, *AGESIC*, <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/comunicacion/publicaciones/estrategia-inteligencia-artificial-para-gobierno-digital/estrategia>

¹⁹¹⁸ Id.

¹⁹¹⁹ Presidency of Uruguay, AGESIC, *Estrategia de Inteligencia Artificial para el Gobierno Digital*, version 2.0, 2020, p.3.

¹⁹²⁰ Uruguay Government, *Agency for the Development of Electronic Government and the Information Society*, <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/politicas-y-gestion/programas/agenda-digital-del-uruguay>

¹⁹²¹ Uruguay Government, *Agency for the Development of Electronic Government and the Information Society*, <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/politicas-y-gestion/plan-gobierno-digital-2020>

¹⁹²² Uruguay Government, *Agency for the Development of Electronic Government and the Information Society*, <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/politicas-y-gestion/programas/agenda-digital-del-uruguay>

¹⁹²³ Id.

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Nations and respecting fully and upholding the Universal Declaration of Human Rights."¹⁹²⁴

After a public-consultation process, Uruguay finally adopted its Artificial Intelligence Strategy for the Digital Government (ASDG) in January 2020.¹⁹²⁵ The general objective of the ASDG is to promote and strengthen the responsible use of AI in Public Administration. ASDG comprises (I) nine general principles and (II) four pillars, each one with specific objectives and areas of action.

The general principles are:

- 1) Purpose: AI must enhance the capabilities of human beings, complementing them as much as possible, aiming to improve the quality of people's life, facilitating processes and adding value to human activity;
- 2) General interest: AI-based solutions promoted by the State should be oriented toward protecting the general interest, guaranteeing inclusion and equity;
- 3) Respect for human rights: Any technological solution that uses AI must respect human rights, individual freedoms and diversity;
- 4) Transparency: AI solutions used in the public sphere must be transparent and comply with the regulations in force;
- 5) Responsibility: Technological solutions based on AI must have a clearly identifiable person responsible for the actions derived from the AI solution;
- 6) Ethics: When the application and/or development of AI-based solutions present ethical dilemmas, they must be addressed and resolved by human beings;
- 7) Added value: AI-based solutions should only be used when adding value to a process;
- 8) Privacy by design: AI solutions should consider people's privacy from their design stage. Personal data-protection principles in force in Uruguay are considered strategic components; and

¹⁹²⁴ See Uruguay Digital Agenda 2008-2016 and World Summit on the Information Society, *Declaration of Principles: Building the Information Society: a global challenge in the new Millennium*, Geneva 2003- Tunis 2005,

<https://www.itu.int/net/wsis/docs/geneva/official/dop.html>

¹⁹²⁵ Uruguay Government, Agency for the Development of Electronic Government and the Information Society, <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/comunicacion/publicaciones/estrategia-inteligencia-artificial-para-gobierno-digital/estrategia>

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- 9) Security: AI developments must comply, from their design, with the basic principles of information security. The guidelines and regulations related to cybersecurity in force in Uruguay that apply to the development of AI are considered components of this strategy.

The four pillars of the Artificial Intelligence Strategy for the Digital Government are:

- 1) AI governance in public administration: Ensure that the principles and comply with the recommendations outlined in the strategy;
- 2) Capacity development for AI: Should focus on training civil servants in different capacities related to AI;
- 3) Use and application of AI: Implies generating technical guides for the good use of AI in public administration, promoting algorithm transparency and designing specific action plans in strategic sectors; and
- 4) Digital citizenship and AI: Prepare citizens to take advantage of opportunities and face the challenges that AI poses, as well as to generate the necessary confidence in people to develop and use new technologies.

Global Partnership on AI

Uruguay is not a member of the Global Partnership on AI, however it is a member of Digital Nations,¹⁹²⁶ the Open Government Partnership,¹⁹²⁷ Electronic Government Network of Latin America and the Caribbean.¹⁹²⁸ Uruguay also has endorsed the Digital Agenda for Latin America and the Caribbean eLAC2022¹⁹²⁹ in the context of Seventh Ministerial Conference on the Information Society in Latin America and the Caribbean.¹⁹³⁰

Global Privacy Assembly

Uruguay has been an accredited member of the Global Privacy Assembly since 2009, and is represented by its national authorities called

¹⁹²⁶ <https://www.leadingdigitalgovs.org/about>

¹⁹²⁷ <https://www.opengovpartnership.org/our-members/>

¹⁹²⁸ REDGEALC, <https://www.redgealc.org/>

¹⁹²⁹ Presidency of Uruguay, <https://www.gub.uy/uruguay-digital/politicas-y-gestion/agenda-uruguay-digital-2025-agenda-digital-para-america-latina-caribe-2022>

¹⁹³⁰ Seventh Ministerial Conference on the Information Society in Latin America and the Caribbean, <https://conferenciaelac.cepal.org/7/en/documents/digital-agenda-elac2022>

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Personal Data Regulatory and Control Unit. The 34th International Conference was hosted in Canelones, Uruguay in 2012.¹⁹³¹

Public Participation

The Artificial Intelligence Strategy for Digital Government was submitted to a public-consultation process based on a draft prepared by Agency for the Development of Electronic Government and Information Society, (AGESIC).¹⁹³² Likewise, AGESIC has published surveys on the implementation of AI in the public sector on its website.¹⁹³³

Data protection

The legal framework for personal data in Uruguay is built around the following regulations:

- The Universal Declaration of Human Rights;
- The American Convention on Human Rights or Pact of San José de Costa Rica;
- The Constitution of the Oriental Republic of Uruguay, especially its article 72;
- Convention 108 For the protection of individuals with regards to the Processing of Personal Data;
- Act N° 18.331 on Personal-Data Protection and Habeas Data Action (LPDP) of August 11, 2008;
- Decrees N° 664/008 of December 22, 2008 and N° 414/2009 of August 31, 2009;
- Articles 152 to 156 of Act N° 18.719 of December 27, 2010, which introduce modifications to Act N° 18.331;
- Article 158 literal B) and C) of Act N° 18.719 of December 27, 2010; and
- Budget Act N° 19.670 (articles 37 to 40) dated October 25, 2019 and its regulatory Decree N° 64/020 dated February 21, 2020.

¹⁹³¹ Global Privacy Assembly, *History of the Assembly*,

<https://globalprivacyassembly.org/the-assembly-and-executive-committee/history-of-the-assembly/>

¹⁹³² AGESIC, *Inició la Etapa IV: Al finalizar esta etapa, conocerás el documento final de la Estrategia de Inteligencia Artificial para el Gobierno Digital*,

<https://www.gub.uy/participacionciudadana/consultapublica>

¹⁹³³ AGESIC, *Iniciativas o experiencias en Inteligencia Artificial en la Administración Pública* (Sept. 21, 2021), <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/comunicacion/publicaciones/iniciativas-experiencias-inteligencia-artificial-administracion-publica>

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Substantively and essentially, data protection in Uruguay is regulated by Act 18.331¹⁹³⁴ and its regulatory Decree N° 414/009, Regulating Law 18.331. Uruguay has a data-protection system that follows EU data-protection rules, and has regulations that adapt its data-protection system to the General Data Protection Regulation (Regulation (EU) 2016/679) (GDPR). On August 21, 2012, the European Commission formally approved Uruguay's status as a country providing "adequate protection" for personal data within the meaning of the European Data Protection Directive (Article 25(6) of Directive 95/46/EC)¹⁹³⁵.

Continuing with the process of full GDPR adaptation, Uruguay passed Act N° 19.670. This Act includes provisions relating to data protection that address, among others, the proactive responsibility principle (which supposes the implementation of appropriate technical and organizational measures such as privacy by design and privacy by default); the obligation to designate a data-protection officer, and data-breach notification rules. These provisions were further developed under the regulatory Decree 64/020¹⁹³⁶, which basically regulates the implementation and enforcement of the provisions.

Data Protection Authority

Article 31 of the Act 18.331 on Personal-Data Protection and Habeas Data establishes the Personal Data Regulatory and Control Unit (URCDP)¹⁹³⁷ as the country's supervisory data-protection authority. The URCDP is an autonomous entity of the *Agency for the Development of Electronic Government and Information Society*.¹⁹³⁸

Facial recognition

In November 2020, Uruguay began developing a facial-identification database for public-safety purposes under the Ministry of the

¹⁹³⁴ See in the officially Uruguay Acts Register, <https://www.impo.com.uy/bases/leyes/18331-2008>

¹⁹³⁵ 2012/484/EU: Commission Implementing Decision of 21 August 2012 pursuant to Directive 95/46/EC of the European Parliament and of the Council on the adequate protection of personal data by the Eastern Republic of Uruguay with regard to automated processing of personal data (notified under document C(2012) 5704), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012D0484>.

¹⁹³⁶ See in the officially Uruguay Acts Register, <https://www.impo.com.uy/bases/decretos/64-2020>

¹⁹³⁷ Unidad Reguladora y de Control de Datos Personales, <https://www.gub.uy/unidad-reguladora-control-datos-personales/>

¹⁹³⁸ <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/>

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Interior. According to some civil-society organizations¹⁹³⁹ “this system was approved using the National Budget Act as an ‘omnibus law,’ thus preventing proper discussion about the issue due to the tight deadlines for approval of this type of law. Development of this database will be under the responsibility of the Ministry of the Interior, using the database currently under the control of the National Directorate of Civil Identification, the organization in charge of issuing identification cards. The database will include facial images of adults, first and last names, sex, date of birth, nationality, and identification card number, as well as issue and expiration date. The Ministry of the Interior has already purchased automated facial recognition software and currently has a system of 8,433 cameras distributed in the country in the 19 country’s departments, in addition to private surveillance systems. The national government has admitted that the intended use of this facial-identification database is automated surveillance using facial-recognition algorithms.”¹⁹⁴⁰

Human Rights

Uruguay is among the countries with a very high level of formal adherence to the international human rights protection system, as it has ratified practically all existing international instruments on the matter. However, according to some reports, Uruguay has serious shortcomings when it comes to effective compliance with such standards.¹⁹⁴¹ Likewise, a 2013 report by the Office of the United Nations High Commissioner for Human Rights mentions the debts that the country maintains related to certain human-rights categories contained in the treaties ratified by Uruguay.¹⁹⁴² Impunity for crimes against humanity committed during the

¹⁹³⁹ DATYSOC, *Organizaciones de la sociedad civil y académicas expresan su preocupación por reconocimiento facial en el Proyecto de Ley de Presupuesto de Uruguay* (Nov. 17, 2020), <https://datysoc.org/2020/11/17/organizaciones-de-la-sociedad-civil-y-academicas-expresan-su-preocupacion-por-reconocimiento-facial-en-el-proyecto-de-ley-de-presupuesto-de-uruguay/>

¹⁹⁴⁰ <https://www.comprasestatales.gub.uy/consultas/detalle/id/744940>; *Uruguay: hacia una población bajo vigilancia con reconocimiento facial*, <https://indela.fund/uruguay-hacia-una-poblacion-bajo-vigilancia-con-reconocimiento-facial/> and <https://datysoc.org/2020/11/17/organizaciones-de-la-sociedad-civil-y-academicas-expresan-su-preocupacion-por-reconocimiento-facial-en-el-proyecto-de-ley-de-presupuesto-de-uruguay/>

¹⁹⁴¹ Institute of Legal and Social Studies of Uruguay (IELSUR) y United Nations Development Program in Uruguay (PNUD), *Estudio sobre armonización Legislativa conforme a los tratados de derechos humanos ratificados por Uruguay u otras normas legales con fuerza vinculante* 35 (2006).

¹⁹⁴² United Nations, General Assembly, Human Rights Council, *National report submitted in accordance with paragraph 5 of the annex to Human Rights Council resolution 16/21, Uruguay*, A/HRC/WG.6/18/URY/2: [chrome-](#)

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military dictatorship (1973-1985) persists and is still an open issue. In 2020, Uruguayan NGO Peace and Justice Service (SERPAJ) reported that “35 years after the democratic transition, the scenario of denial of justice for the victims of crimes against humanity of the dictatorship of Uruguay shows how the country is still far from developing and implementing satisfactory and successful public policies regarding the search for justice for serious human rights violations.”¹⁹⁴³

Algorithmic Transparency

Uruguay has not developed specific regulations on algorithmic transparency but is a signatory of the Convention 108+ (Convention for protecting individuals with to the Processing of Personal Data), which includes a broad provision regarding algorithm transparency (art. 9.1.c).¹⁹⁴⁴ In addition, the government, through the Agency for the Development of Electronic Government and the Information Society and Knowledge, recently has promoted some studies on the impact of algorithms on decision making.¹⁹⁴⁵

OECD/G20 AI Principles

Uruguay has not endorsed the OECD/G20 AI principles.

Evaluation

Uruguay has focused its policies on digital government — and it has done well. Proof of this is that according to the Digital Government of the United Nations (UN) 2020 global-index report, Uruguay is the Latin American regional leader and occupies the 26th place globally.¹⁹⁴⁶ Consistent with the above, it chose to design an AI development strategy for digital government (2020), which constitutes a positive first step toward creating a more comprehensive AI regulatory framework. Even though

[extension://efaidnbmnnnibpcajpcgclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fwww.upr-info.org%2Fsites%2Fdefault%2Ffiles%2Fdocument%2Furuguay%2Fsession_18_-_january_2014%2Fa_hrc_wg.6_18_ury_1_e.pdf](https://efaidnbmnnnibpcajpcgclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fwww.upr-info.org%2Fsites%2Fdefault%2Ffiles%2Fdocument%2Furuguay%2Fsession_18_-_january_2014%2Fa_hrc_wg.6_18_ury_1_e.pdf)

¹⁹⁴³ SERPAJ, *Derechos Humanos en el Uruguay, Informe 2020*, p. 22, available in:

<http://www.serpaj.org.uy/destacados/presentacion-del-informe-anual-2020-de-serpaj-derechos-humanos-en-el-uruguay-2020/>

¹⁹⁴⁴ <https://www.coe.int/es/web/data-protection/-/uruguay-ratifies-convention-108->

¹⁹⁴⁵ Uruguay Government, Agency for the Development of Electronic Government and the Information Society, <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/comunicacion/publicaciones/guia-para-estudio-impacto-algoritmico>

¹⁹⁴⁶ UN, <https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/185-Uruguay>

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Uruguay's AI regulations are in the beginning stages, its legal data protection system, which is adapted to the GPRD, presents an optimistic view of the future for the country's AI regulations. However, it is concerning that the government is promoting a facial-recognition policy without having express regulations on the matter, especially when the OECD/G20 AI principles are not yet signed.

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COUNTRY EVALUATIONS

Evaluation Grid

Country	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Score
Argentina	Y	P	Y	Y	P	P	Y	P	P	P	Y	Y	9.0
Australia	Y	P	Y	Y	Y	Y	Y	P	P	P	Y	N	9.0
Austria	Y	P	Y	Y	Y	Y	Y	Y	Y	P	Y	N	10.0
Bangladesh	N	N	Y	P	P	P	N	P	P	N	Y	N	4.5
Belgium	Y	P	Y	Y	P	P	Y	P	Y	P	Y	P	9.0
Brazil	Y	P	Y	Y	N	P	P	P	P	N	Y	N	6.5
Canada	Y	Y	Y	Y	Y	Y	Y	Y	P	P	Y	Y	11.0
China	Y	P	Y	N	P	P	N	Y	P	N	Y	N	6.0
Colombia	Y	P	Y	P	Y	P	Y	Y	N	P	Y	P	8.5
Denmark	Y	P	Y	Y	Y	Y	N	Y	P	P	Y	Y	9.5
Dominican Republic	N	P	Y	P	Y	Y	P	N	N	N	Y	N	5.5
Egypt	Y	P	Y	N	N	Y	N	P	N	N	Y	N	5.0
Estonia	Y	P	Y	Y	Y	Y	P	N	Y	P	Y	N	8.5
Finland	Y	P	Y	Y	P	Y	N	P	Y	N	Y	N	7.5
France	Y	Y	Y	Y	P	P	Y	Y	Y	P	Y	P	10.0
Germany	Y	P	Y	Y	Y	Y	Y	Y	Y	P	Y	Y	11.0
Hong Kong	Y	P	Y	P	P	P	N	Y	P	P	Y	Y	8.5
India	Y	P	Y	P	Y	Y	N	P	N	N	Y	N	6.5
Indonesia	Y	P	Y	P	Y	Y	N	P	N	N	Y	N	6.5
Iran	N	N	Y	N	N	P	N	P	N	N	Y	N	3.0
Ireland	Y	P	Y	Y	Y	Y	P	P	Y	N	Y	P	9.0
Israel	Y	P	Y	Y	P	P	P	P	P	N	N	N	6.0
Italy	Y	P	Y	Y	Y	Y	Y	Y	Y	P	Y	Y	11.0
Japan	Y	Y	Y	Y	Y	Y	Y	Y	P	P	Y	N	10.0
Kazakhstan	N	N	Y	N	N	N	P	N	P	N	Y	N	3.0
Kenya	N	P	Y	P	P	Y	P	N	N	N	Y	N	5.0

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Korea	Y	Y	Y	Y	Y	Y	Y	Y	Y	P	Y	P	11.0
Malaysia	N	N	Y	P	N	P	P	Y	N	N	Y	N	4.5
Mexico	Y	P	Y	P	N	N	P	P	N	N	Y	Y	6.0
Netherlands	Y	P	Y	Y	N	Y	P	Y	Y	P	Y	N	8.5
Nigeria	N	P	Y	P	N	N	P	N	N	P	Y	N	4.0
Norway	Y	P	Y	Y	Y	P	Y	Y	Y	Y	Y	N	10.0
Philippines	N	P	Y	P	P	P	Y	P	P	P	Y	Y	7.5
Poland	Y	P	Y	Y	P	P	P	N	Y	N	Y	Y	8.0
Russia	Y	P	Y	N	N	Y	P	Y	P	N	Y	N	6.5
Rwanda	N	P	Y	N	P	N	P	N	N	N	Y	N	3.5
Saudi Arabia	Y	P	P	N	P	Y	P	P	N	N	Y	N	5.5
Singapore	N	P	Y	P	Y	Y	P	P	Y	N	Y	N	7.0
Slovenia	Y	P	Y	Y	Y	Y	N	P	N	N	Y	N	7.0
South Africa	N	P	Y	Y	Y	P	Y	N	Y	P	Y	N	7.5
Spain	Y	P	Y	Y	Y	Y	Y	Y	Y	P	Y	N	10.0
Sweden	Y	P	Y	Y	P	Y	Y	P	Y	N	Y	N	8.5
Switzerland	Y	P	Y	Y	Y	Y	P	Y	Y	N	Y	P	9.5
Taiwan	N	P	Y	Y	P	P	P	Y	N	N	N	N	5.0
Thailand	N	P	Y	N	N	P	P	P	N	N	Y	N	4.0
Turkey	Y	P	Y	N	Y	Y	Y	Y	P	N	Y	N	8.0
UAE	N	P	Y	N	Y	Y	P	Y	P	P	Y	N	7.0
U.K.	Y	P	Y	Y	N	Y	Y	Y	Y	N	Y	Y	9.5
U.S.	Y	P	Y	Y	P	Y	P	Y	P	P	N	N	7.5
Uruguay	N	P	Y	Y	P	P	Y	P	P	P	Y	N	7.0

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Country Rankings (2021)

Tier I

Germany (11.0)

Korea (11.0)

Canada (11.0)

Italy (11.0)

Tier II

Austria (10.0)

France (10.0)

Norway (10.0)

Japan (10.0)

Spain (10.0)

Denmark (9.5)

Switzerland (9.5)

UK (9.5)

Argentina (9.0)

Belgium (9.0)

Ireland (9.0)

Australia (9.0)

Tier III

Estonia (8.5)

Columbia (8.5)

Hong Kong (8.5)

Netherlands (8.5)

Sweden (8.5)

Poland (8.0)

Turkey (8.0)

Philippines (7.5)

US (7.5)

Finland (7.5)

South Africa (7.5)

Singapore (7.0)

Slovenia (7.0)

UAE (7.0)

Uruguay (7.0)

Brazil (6.5)

India (6.5)

Indonesia (6.5)

Russia (6.5)

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Tier IV

China (6.0)
Israel (6.0)
Mexico (6.0)
Dominican Republic (5.5)
Indonesia (5.5)
Saudi Arabia (5.5)
Taiwan (5.0)
Egypt (5.0)
Kenya (5.0)

Tier V

Bangladesh (4.5)
Malaysia (4.5)
Nigeria (4.5)
Thailand (4.0)
Rwanda (3.5)
Iran (3.0)
Kazakhstan 3.0)

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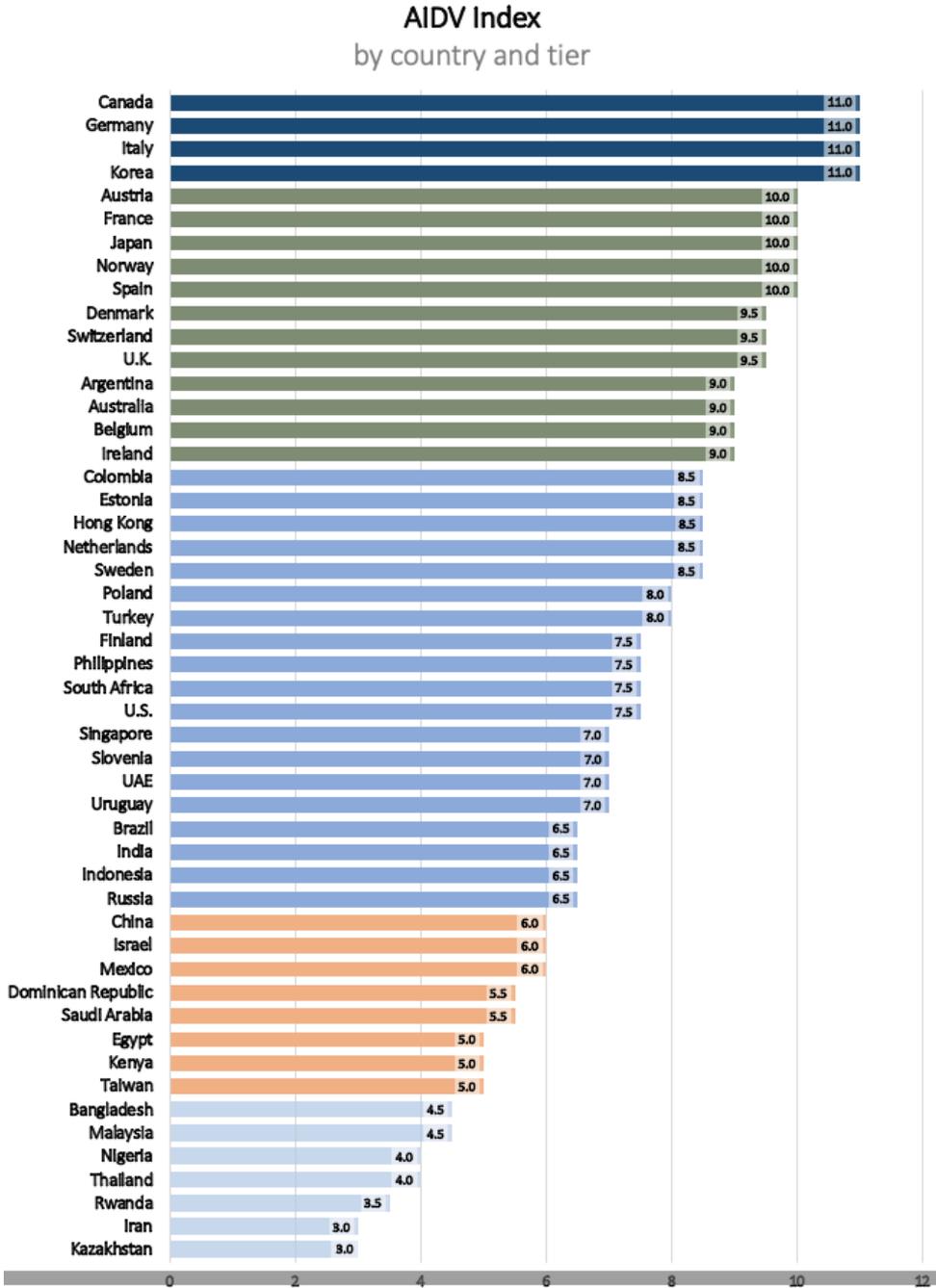
Country Distribution by Tier

TIER I (High)	TIER 2	TIER 3 (Middle)	TIER 4	TIER 5 (Low)
Canada Germany Italy Korea	Argentina Australia Austria Belgium Denmark France Ireland Japan Norway Spain Switzerland UK	Brazil Columbia Estonia Finland Hong Kong India Indonesia Netherlands Philippines Poland Russia South Africa Singapore Slovenia Sweden Turkey UAE United States Uruguay	China Mexico Dominican Republic Egypt Indonesia Israel Kenya Saudi Arabia Taiwan	Bangladesh Iran Kazakhstan Malaysia Nigeria Rwanda Thailand

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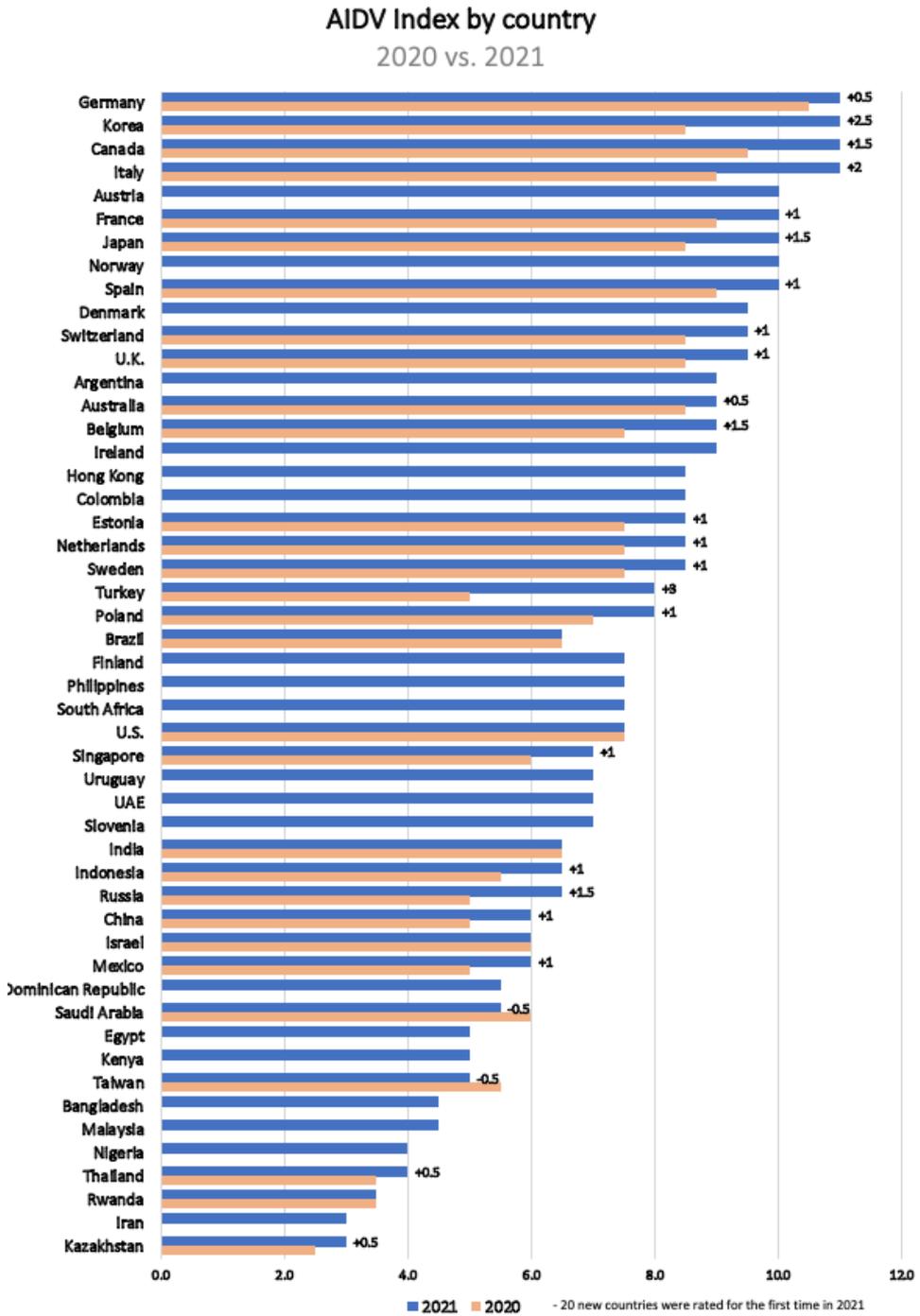
Chart: AIDV Index by Country and Tier



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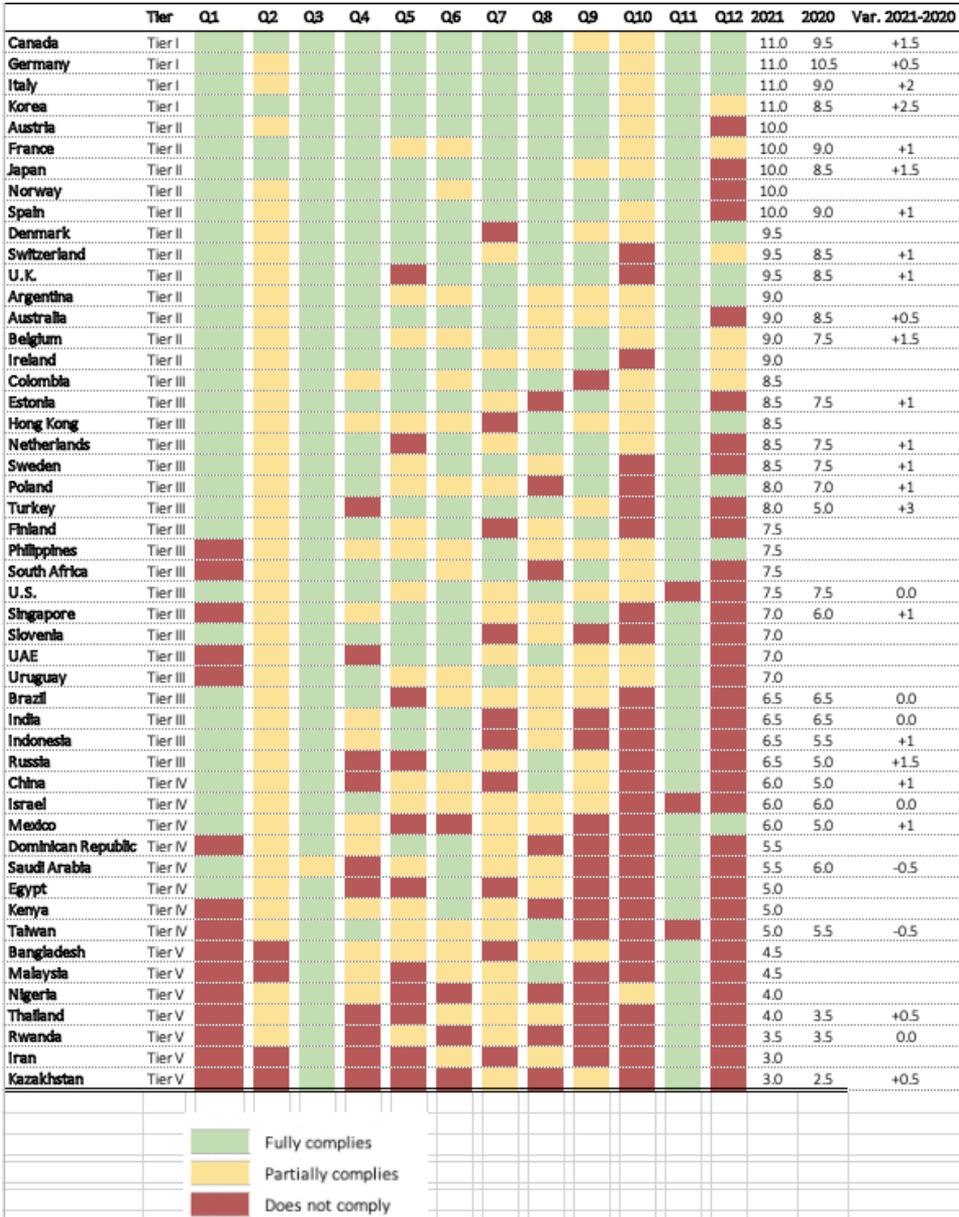
Chart: AIDV Index by Country, 2020 vs. 2021



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Chart: AIDV Country Scores by Individual Metrics



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Metrics

- Q1. Has the country endorsed the OECD AI Principles?
- Q2. Is the country implementing the OECD AI Principles?
- Q3. Has the country endorsed the Universal Declaration of Human Rights?
- Q4. Is the country implementing the Universal Declaration for Human Rights?
- Q5. Has the country established a process for meaningful public participation in the development of a national AI Policy?
- Q6. Are materials about the country's AI policies and practices readily available to the public?
- Q7. Does the country have an independent (agency/mechanism) for AI oversight?
- Q8. Do the following goals appear in the national AI policy: "Fairness," "Accountability," "Transparency," ("Rule of Law,") ("Fundamental Rights")? [implementation? = legal force? = enforcement?]
- Q9. Has the country by law established a right to Algorithmic Transparency? [GDPR? / COE+?]
- Q10. Has the country supported the Universal Guidelines for AI?
- Q11. Has the country endorsed the UNESCO Recommendation on AI Ethics?
- Q12: Has the country's Data Protection Agency sponsored the 2018 GPA Resolution on AI and Ethics and the 2020 GPA Resolution on AI and Accountability?

Response Codes

- "Y" – Yes
- "N" – No
- "P" – Partly

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METHODOLOGY

Scope

We assessed the AI policies and practices of the top 40 countries by GDP. We also looked at 10 other countries we considered “high-impact.” Our aim in this first survey was to examine those countries likely to have the greatest policy impact in the AI field. We considered also influential intergovernmental organizations, such as the institutions of the European Union, the OECD and G20, but we did not attempt to evaluate their AI policies.

Time Period

The research for the 2020 edition of the report was undertaken in late 2020 for publication in mid-December 2020. For the current edition of the report, published in mid-February 2022, we continued to gather information throughout 2021 and into early 2022.

Factors

We identified 12 factors to assess national AI policies and practices. The factors reflect well known frameworks for AI policy (the OECD/G20 AI Principles), human rights (the Universal Declaration for Human Rights), and democratic decision-making (transparency, public participation, and access to policy documents). We highlighted key themes for AI policy, including algorithmic transparency and accountability. We also included aspirational goals set out in the Universal Guidelines for AI as well as support for the UNESCO Recommendation on AI Ethics, adopted in 2021.

On certain factors, we deferred to well established legal frameworks and well-known international organizations. For example, countries within the European Union are subject to the General Data Protection Regulation which provides certain rights to those who are subject to automated decision-making, including access to the underlying logic of an algorithm. The Council of Europe Modernized Convention 108 provides similar legal rights regarding AI. On general human rights assessments, we deferred to the reports of Freedom House, Human Rights Watch, and Amnesty International. We also recognized those countries that endorsed the resolution on AI and Accountability, adopted by the Global Privacy Assembly, the global association of leading privacy experts and officials.

On the issue of implementation, we recognize that it is difficult to assess empirically progress toward AI policy goals, particularly when the

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underlying objective is not measured in quantitative terms, such as would be the case for research investment, papers published, or patents obtained. Nonetheless we believe this must be a key component of the evaluation. We turned first to the OECD, which has begun a process to track implementation of the OECD AI Principles. The OECD published substantial reports in 2020 and 2021 on implementation of the OECD AI Principles.¹⁹⁴⁷ The OECD has also encouraged member states to provide overviews on national AI strategies to the OECD AI Group of Experts, though at present these reports are not generally available to the public.

We looked next at national developments, both favorable and controversial, concerning the implementation of AI policy. We consulted official sources but also reviewed independent sources, such as news sources, agencies, and think tanks not directly aligned with national governments, for these assessments.

Finally, because AI policy is in the early days, there is far more information about what governments intend to do than what they have done. We encourage governments to establish independent agencies with annual public reporting requirements to provide information about progress toward national goals and compliances with international policy frameworks. Such reports could provide the basis for future comparative evaluations.

The Metrics

Q1. Has the country endorsed the OECD/G20 AI Principles?

The OECD/G20 AI Principles are the first global framework for AI policy. Endorsement of these principles provides a baseline to determine a country's compliance with international AI policy norms. Countries that have endorsed the OECD/G20 AI Principles fall into three categories: (1) OECD Member Countries, (2) Non-member OECD Countries that endorsed the OECD AI Principles, and (3) G-20 Member countries that subsequently endorsed the G20 AI Principles which follow closely the original OECD AI Principles.¹⁹⁴⁸

Determinations in this category are essentially binary: a country has either endorsed the OECD/G20 AI Principles or it has not.

¹⁹⁴⁷ OECD, *State of Implementation of the OECD AI Principles* (June 18, 2021), <https://www.oecd.org/digital/state-of-implementation-of-the-oecd-ai-principles-1cd40c44-en.htm>

¹⁹⁴⁸ The G20 AI Principles directly restate the value-based principles in Part I of the OECD AI Principles

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Q2. Is the country implementing the OECD AI Principles?

Endorsement alone of the AI Principles is not sufficient to determine a country's AI practices. The OECD itself has begun a process to track implementation of the AI Principles, but the reporting to date is mostly anecdotal and inconclusive. We begin our analysis of implementation with the OECD reporting and then look to other sources, including government documents, news articles and NGO reports, to assess implementation.

Determinations in this category are more nuanced: some countries have called attention to their efforts to implement the OECD/G20 AI principles. Others have done so in practice without explicit references to the AI Principles. We have made reasonable efforts to identify national projects that implement the OECD/G20 AI Principles, based on reporting from the OECD, but information is often difficult to find. In some instances, we were able to acknowledge partial implementation (P). In 2020, we concluded that no country has fully implemented the OECD/G20 AI Principles and therefore no country received a Y determination. In 2021, we have chosen to recognize the leading role of four countries in the development and implementation of the OECD AI Principles – Canada, France, Korea, and Japan.

Q3. Has the country endorsed the Universal Declaration of Human Rights?

In the human rights field, the Universal Declaration of Human Rights is the most well-known and widely adopted legal framework for the protection of fundamental rights. Although the UDHR preceded the rise of Artificial Intelligence, we anticipated that many of the significant policy debates ahead will be grounded in principles set out in the Universal Declaration. For this reason, we propose endorsement of the UDHR as a second baseline to assess country AI policies and practices.

Determinations in this category are essentially binary: a country has either endorsed the UDHR or it has not. The one notable exception is Saudi Arabia which did not endorse the UDHR but is a member of the United Nations and has recognized, according to human rights organizations, certain human rights obligations.

Q4. Is the country implementing the Universal Declaration for Human Rights?

Like the question regarding implementation of the OECD AI Principles, measuring implementation of the UDHR is not a simple task. Several well-established international organizations, such as Freedom House and Human Rights Watch, have developed formal metrics to evaluate compliance with human rights norms. We defer to these organizations for the evaluation of general human rights practices, while

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also noting that several of these factors may be useful in future evaluation of AI practices.

Determinations in this category typically fell into two categories: Y, a country widely recognized for its defense of human rights as generally understood by reference to the UDHR, and P, a country in partial compliance with human rights obligations. In 2021, we made this determination more precise. Countries that Freedom House designated as “Free” received Y. A country designated “Partly Free” was designated “P” and countries designated “Not Free” were designated “N.”

Q5. Has the country established a process for meaningful public participation in the development of a national AI Policy?

Almost every country in our report has set out a national AI strategy or action plan. We have attempted to fairly summarize and present these initiatives. But we are also interested in the development of these policies. Was there an opportunity for public participation? Was there a formal consultation process? Do the national AI policies reflect the views of those who may be impacted by the deployment of AI techniques? And is there an ongoing mechanism for public participation as national AI policies evolve?

Determinations in this category were based on our ability to identify opportunities for meaningful public participation. The distinction between a Y and P in this category reflected the quality of the opportunity for public participation.

Q6. Are materials about the country’s AI policies and practices readily available to the public?

Effective public participation requires public access to relevant documents. Has the national government taken steps to ensure that documents concerning AI policy are readily available, complete, and accurate? Are the materials available on the website of a public agency or are they maintained by a private company? Are there opportunities for future comment?

The determinations in this category often aligned with the determinations about public participation. We respect the practice of countries to publish reports, and to seek public reports, in the national language. We note however that the absence of an English translation may make independent evaluation of a country’s AI policies and practices more difficult. We discuss the issue of Language in more detail below.

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Q7. Does the country have an independent (agency/mechanism) for AI oversight?

All governments understandably seek to advance national AI priorities. And most governments have directed a science or industry ministry to lead national efforts. But the deployment of AI techniques also raises concerns about accountability, privacy and data protection, fairness, transparency, and equity. For these reasons, we look to determine whether countries have independent agencies, such as a data protection agency, a human rights commission, or an AI ethics commission, to protect fundamental rights.

Determinations in this category were based on the actual establishment of mechanisms to oversee or guide AI practices. Again, the difference between a Y and a P determination reflected the quality and breadth of the oversight mechanisms.

Q8. Do the following goals appear in the national AI policy: "Fairness," "Accountability," "Transparency," "Rule of Law," "Fundamental Rights"?

There are many themes in the AI policy realm. We identified these five goals as the most significant. They appear frequently in AI policy frameworks and they are grounded in law. We recognize that countries that have endorsed the OECD/G20 AI Principles have, by implication, endorsed these goals. But this question asks whether countries have explicitly endorsed these goals in their national AI strategies.

Determinations in this category attempt to evaluate the extent to which a country has prioritized these AI policy goals. Full endorsement received a Y, partial endorsement a P.

Q9. Has the country by law established a right to Algorithmic Transparency?

One of the most significant AI policy issues today is Algorithmic Transparency. We take the position that individuals should have the right to access the logic, the factors, and the data that contributed to a decision concerning them. This right is currently established in two legal frameworks: The General Data Protection Regulation of the European Union (Article 22) and the Council of Europe Convention 108+, the modernized Privacy Convention (Article 9). Countries that are within the EU and/or signatories to COE 108+ have therefore established this right. We have also considered whether countries, by national law, have established the right to algorithmic transparency.

For determinations in this category, we assigned a Y to those countries that are subject to the GDPR and/or the Council of Europe Convention. In a subsequent review, we will investigate whether countries

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have *implemented* a right to algorithmic transparency. This will provide a more detailed assessment of this key metric.

Q10. Has the country supported the Universal Guidelines for AI?

In 2018, more than 60 organizations, including leading scientific societies, and 300 experts from over 40 countries endorsed the Universal Guidelines for AI. The Universal Guidelines go beyond the OECD/G20 AI Principles and establish “red lines” for certain AI practices, such as the scoring of citizens, criminal sentencing, and facial recognition for mass surveillance. Although there is no formal mechanism for countries to endorse the UGAI, we are interested in whether countries have adopted principles, and recognized red lines for AI, that go beyond the OECD/G20 AI Principles. Efforts to prohibit face surveillance or social scoring, for example, reflect the spirit of the UGAI.

For determinations in this category, we could not assign a Y to any country, but we did assign a P for countries that have specifically limited certain AI applications. Countries that have done little to develop AI policies likely received a N determination.

Q11. Has the country endorsed the UNESCO Recommendation on AI Ethics?

In November 2021, UNESCO member states adopted the first ever global agreement on the Ethics of Artificial Intelligence. We consider this a watershed moment in the development of AI policies and have incorporated country support for the UNESCO framework as a positive indicator for national AI policies and practices. Determinations in this category are similar to those regarding endorsement of the OECD AI Principles and the UN Declaration of Human Rights, and not an indication of implementation of the framework. We note that that Hong Kong, Israel, Taiwan, and the United States were not among the signatories for reasons unrelated to their views on AI policies and practices.

[Note on Methodology: in AIDV-2020 we asked in Q11 whether countries supported the Social Contract for AI, which we described as “aspirational goals for the Age of AI that go beyond the OECD/G20 AI Principles.” In our assessment, country support for the UNESCO Recommendation on AI Ethics constitutes a similar metric that is also more easily determined, at least with regard to initial support. Nonetheless, this constitutes a change in the methodology originally established, which we fully acknowledge.]

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Q12: Has the country's Data Protection Agency endorsed the 2018 GPA Resolution on AI and Ethics and the 2020 GPA Resolution on AI and Accountability?

In the fall of 2018, the Global Privacy Assembly (then known as the International Conference of Data Protection and Privacy Commissioners), adopted a foundational Declaration on Ethics and Data Protection in Artificial Intelligence.¹⁹⁴⁹ The 2018 Declaration emphasized fairness, vigilance, transparency and intelligibility, and measures to reduce unlawful bias and discrimination. In 2020, the GPA adopted a resolution on AI and Accountability.¹⁹⁵⁰ That resolution sets out a dozen steps for AI accountability, including the preparation of human rights impact assessments.

We believe that support for these resolutions is an important indicator of a country's commitment to AI and data protection and effective implementation of AI policy goals. We checked to see which countries explicitly sponsored the resolutions. We will also consider other notable initiatives in future global surveys of AI policies and practices.

For determinations in this category, we assigned a Y to countries that sponsored both resolutions, an N to countries that sponsored neither (or are not represented at the GPA), and P to the countries that sponsored only resolution

As an aside to the Global Privacy Assembly, we would recommend new mechanisms that would allow members to endorse resolutions concerning AI in subsequent years. We will update country ratings accordingly.

Hong Kong

Hong Kong constitutes a special case in our review of national AI policies and practices. Although Hong Kong, an Administrative Region of the People's Republic of China (HKSAR) is not a country, it ranks number 37 in the world for GDP, placing it within the top 40 countries we reviewed for the 2021 index. Hong Kong also has an active data protection agency that has contributed to the formulation of the AI policies endorsed by the Global Privacy Assembly. As Hong Kong is not a country it could not enter

¹⁹⁴⁹ ICPDPC, *Declaration on Ethics and Data Protection in Artificial Intelligence* (including list of authors and co-sponsors) (Oct. 23, 2018), http://globalprivacyassembly.org/wp-content/uploads/2018/10/20180922_ICDPPC-40th_AI-Declaration_ADOPTED.pdf

¹⁹⁵⁰ Global Privacy Assembly, *Adopted Resolution on Accountability in the Development and Use of Artificial Intelligence* (including list of main sponsors and co-sponsors) (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/11/GPA-Resolution-on-Accountability-in-the-Development-and-Use-of-AI-EN.pdf>

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into international agreements, such as the OECD AI Principles. So, we treated commitments made by China to these polices as if they were made by Hong Kong. At the same time, we recognized variances in AI practices in the Region as well as the different ratings for compliance with the human rights norms, as determined by Freedom House.

Exemplars

In developing the methodology, we also created a list of exemplar countries for several metrics. For example, on Question 5, concerning meaningful public participation, we were struck by the high level of public engagement in Switzerland. On Question 6, concerning the availability of a countries AI policies and practices, Germany’s *Plattform Lernende Systeme* offers a map that shows, by region, AI developments across the country. And the multiple agencies in France, the CNIL and the Defender of Rights, provide a very good example of independent oversight for AI, highlighted by Question 7.

Scoring

We assigned a numeric value of 1.0 to each “Y” answer, 0.5 to each “P” answer, and 0.0 to each “N” or “U” answer. (We may revise scores upward for U answers upon receipt of evidence regarding progress toward the specific metric). We then tallied the numbers, weighing each metric equally, and produced a total score. A top score would be 12, a bottom score is 0. On the basis of total scores, we grouped countries by color gradation and then into tiers. The groupings reflect a normalized distribution with Yellow or Tier III as the median.

Search Strategy

To locate relevant policy materials, we conducted extensive online searches. Key search terms, often used in combination with “AI” or “Artificial Intelligence,” included: “Accountability,” “Algorithmic Transparency,” “Data Protection,” “Digital,” “Ethical,” “Ethics,” “Fairness,” “Governance,” “Law,” “Legislation,” “Policy,” “Poll,” “Privacy,” “Regulation,” “Strategy,” and “Technology.”

Descriptive Summary

Each country report includes a descriptive summary labelled “Evaluation.” The evaluation does not precisely track the metrics. It is

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intended to highlight the key findings in the country report and provide a general overview for the reader.

Language

Our research team has language expertise in English, French, German, Italian, Japanese, Korean, Mandarin, Russian, Spanish, Turkish, Uyghur, and Vietnamese. However, we preferred English publications, as they would be considered authoritative original sources or authoritative translations for the international community from the original sources. In some instances, we translated text from non-English to English with a Machine Translation (“[MT]”) tool, such as DeepL Translate (“[DT]”) or Google Translate (“[GT]”). We noted such instances in the citations.

Citation Format

We adopted a simplified citation format for the *AI Social Index 2020*. Each citation includes the author and title of the publication. Where there are multiple authors, we provided the name of the institution if available but not the names of the authors. We include also a date where there was a final publication date. By way of contrast, cites to websites do not include dates. And we included URLs, which we made transparent so that the reader could quickly assess the source. In a paragraph where there may be multiple references to the same source, we cited to the source in the first instance, but not in subsequent instances unless there was an intervening reference to a different source.

Gender Balance and Diversity

In the development of the *AI and Democratic Values Index*, the selection of team members and reviewers, we strived to maintain gender balance. We have also tried to promote diversity and regional representation.

Bias

We did not explicitly examine the issue of bias in AI, although this is a widely discussed topic and the focus of extensive research, including the bias of data sets. Our view is that the most effective policy response to the problem of bias is the *explicit recognition of Fairness, Accuracy, and Transparency* in AI policy and the implementation of these principles in AI practices. Several questions in the *AI and Democratic Values Index* (Q1,

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Q2, Q7, Q9, Q10, Q11, Q12) make these factors key metrics for the evaluation of a nation's AI policies.

We also recognize the inherent bias in the construction of all surveys, including in the survey focus, the framing of questions, and the research methodology.¹⁹⁵¹

Private Sector Practices

We did not attempt to review or evaluate the practices of private firms or organizations. The *AI and Democratic Values Index* attempts only to evaluate the policies and practices of national governments. We do believe that private firms must act in compliance with law and through democratic institutions, and that the evaluation of government policies must ultimately be the measure of private sector practices.¹⁹⁵²

¹⁹⁵¹ Max Weber, *Objectivity of Social Science and Science Policy* (1904).

¹⁹⁵² Further discussion of the methodology underlying the *AI Index* is presented in Marc Rotenberg, *Time to Assess National AI Policies*, Blog@CACM (Nov. 24, 2020), <https://cacm.acm.org/blogs/blog-cacm/248921-time-to-assess-national-ai-policies/fulltext>

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GLOSSARY

ACM Association for Computing Machinery
AEPD Agencia Española de Protección de Datos (ESP)

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AI	Artificial Intelligence
AIHLEG	AI High Level Expert Group (EU)
AIDP	Artificial Intelligence Development Plan (CHN)
AIIA	Artificial Intelligence Industry Alliance (CHN)
AIIS	Artificial Intelligence and Intelligent Systems Laboratory (ITA)
AIRA	African Internet Rights Alliance
AIRC	AI Research Center (CHN)
AJL	Algorithmic Justice League
ANPD	Autoridade Nacional de Proteção de Dados (BRA)
AISCI	AI Social Contract Index
AIWS	AI World Society
APPI	Act on the Protection of Personal Information (JAP)
BAAI	Beijing Academy of Artificial Intelligence (CHN)
BEUC	European Consumer Organization
BGF	Boston Global Forum
BRI	Belt and Road Initiative (CHN)
C4AI	Artificial Intelligence Center (BRA)
CAHAI	Ad Hoc Committee on Artificial Intelligence (COE)
CAIDP	Center for AI and Digital Policy
CAS	Criminaliteits Anticipatie Systeem (NLD)
CCNE	National Consultative Committee on Bioethics (FRA)
CDEI	Center for Data Ethics and Innovation (GBR)
CEPEJ	European Commission for the Efficiency of Justice (COE)
CIFAR	Canadian Institute for Advanced Research (CAN)
CINI	Consortium for Informatics (ITA)
CJEU	Court of Justice of the European Union (EU)
CLAIRE	Confederation of Artificial Intelligence Laboratories in Europe
CNAM	Council of the Caisse nationale d'assurance maladie (FRA)
CNIL	Commission Nationale de l'Informatique et des Libertés (FRA)
CNJ	Conselho Nacional de Justiça (BRA)
COE	Council of Europe
COMEST	Commission on the Ethics of Scientific Knowledge and Technology
CPSR	Computer Professionals for Social Responsibility
CSIRO	National Science Agency (AUS)
DFFT	Data Free Flows with Trust
DIGG	Agency for Data Administration (SWE)
DPIA	Data Protection Impact Assessments
DPA	Data Protection Agency
DT	DeepL Translate

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DTO	Digital Transformation Office (TUR)
EAD	Ethically Aligned Designed
EDPS	European Data Protection Supervisor (EU)
EDRi	European Digital Rights Initiative
FDPIC	Federal Data Protection and Information Commissioner (CHE)
FRA	Fundamental Rights Agency (COE / EU)
FREMP	Working Party on Fundamental Rights, Citizens Rights and Free Movement of Persons (EU)
GDPR	General Data Protection Regulation (EU)
GGE	Group of Government Experts (GGE)
GPA	Global Privacy Assembly
GPAI	Global Partnership on Artificial Intelligence
HDH	Health Data Hub (FRA)
HLEG	High Level Expert Group
IACI	Innovation Center for AI (NLD)
ICCPR	International Convention on Civil and Political Rights
IEEE	Institute of Electrical and Electronics Engineers
IJOP	Integrated Joint Operations Platform (CHN)
IMDA	Infocomm Media Development Authority (SGP)
ICO	Information Commission Office (GBR)
ITU	International Telecommunications Union
JSC	Jakarta Smart City
KIC	Kigali Innovation City (RWA)
KKVK	Data Protection Authority (TUR)
LAWS	Lethal Autonomous Weapon Systems
LIBE	European Parliament Committee on Civil Liberties, Justice and Home Affairs
LGPD	Lei Geral de Proteção de Dados Pessoais (BRA)
MCTIC	Ministry of Science, Technology, Innovations and Communications (BRA)
MDES	Ministry of Digital Economy and Society (THA)
MDI	Michael Dukakis Institute for Leadership and Innovation
MEITY	Ministry of Electronics and Information Technology (IND)
MOST	Ministry of Science and Technology (TWN)
NCAI	National Center for AI (KSA)
NCPO	National Council for Peace and Order (THA)
NDMO	National Data Management Office (KSA)
NHRI	National Human Rights Institute
NIC	National Information Center (KSA)
NIDA	National Identification Agency (RWA)
NIN	National Identity Number (RWA)

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NPCDE	National Pilot Committee for Digital Ethics (FRA)
NSCAI	National Security Commission on AI (USA)
NXPO	Office of National Higher Education Science Research and Innovation Policy Council (THA)
OAI	Office of Artificial Intelligence (GBR)
OGP	Open Government Partnership
OHCHR	Office of the High Commissioner for Human Rights
PAI	Policies for AI (OECD)
PDPA	Personal Data Protection Act
PDPC	Personal Data Protection Commission
PIPC	Personal Information Protection Commission (KOR)
PIPEDA	Personal Information Protection and Electronic Documents Act (CAN)
PLA	People's Liberation Army (CHN)
PPC	Personal Information Protection Commission (JAP)
RIPD	Red Iberoamericana de Protección de Datos
SCAAI	Social Contract for the Age of AI
SDAIA	Saudi Data and Artificial Intelligence Authority (KSA)
SDG	Sustainable Development Goals (UN)
SFLC	Software Freedom Law Center (IND)
UDHR	Universal Declaration of Human Rights
UGAI	Universal Guidelines for AI
UNICRI	United Nations Interregional Crime and Justice Research Institute
USRC	Unmanned Systems Research Center (CHN)

REFERENCE DOCUMENTS

OECD AI Principles

**Recommendation of the Council on Artificial Intelligence
Adopted May 21, 2019**

THE COUNCIL,
HAVING REGARD to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14 December 1960;
HAVING REGARD to the OECD Guidelines for Multinational Enterprises [[OECD/LEGAL/0144](#)]; Recommendation of the Council concerning Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data [[OECD/LEGAL/0188](#)]; Recommendation of the Council concerning Guidelines for Cryptography Policy [[OECD/LEGAL/0289](#)]; Recommendation of the Council for Enhanced Access and More Effective Use of Public Sector Information [[OECD/LEGAL/0362](#)]; Recommendation of the Council on Digital Security Risk Management for Economic and Social Prosperity [[OECD/LEGAL/0415](#)]; Recommendation of the Council on Consumer Protection in E-commerce [[OECD/LEGAL/0422](#)]; Declaration on the Digital Economy: Innovation, Growth and Social Prosperity (Cancún Declaration) [[OECD/LEGAL/0426](#)]; Declaration on Strengthening SMEs and Entrepreneurship for Productivity and Inclusive Growth [[OECD/LEGAL/0439](#)]; as well as the 2016 Ministerial Statement on Building more Resilient and Inclusive Labour Markets, adopted at the OECD Labour and Employment Ministerial Meeting;
HAVING REGARD to the Sustainable Development Goals set out in the 2030 Agenda for Sustainable Development adopted by the United Nations General Assembly (A/RES/70/1) as well as the 1948 Universal Declaration of Human Rights;
HAVING REGARD to the important work being carried out on artificial intelligence (hereafter, “AI”) in other international governmental and non-governmental fora;
RECOGNISING that AI has pervasive, far-reaching and global implications that are transforming societies, economic sectors and the world of work, and are likely to increasingly do so in the future;
RECOGNISING that AI has the potential to improve the welfare and well-being of people, to contribute to positive sustainable global economic activity, to increase innovation and productivity, and to help respond to key global challenges;

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RECOGNISING that, at the same time, these transformations may have disparate effects within, and between societies and economies, notably regarding economic shifts, competition, transitions in the labour market, inequalities, and implications for democracy and human rights, privacy and data protection, and digital security;

RECOGNISING that trust is a key enabler of digital transformation; that, although the nature of future AI applications and their implications may be hard to foresee, the trustworthiness of AI systems is a key factor for the diffusion and adoption of AI; and that a well-informed whole-of-society public debate is necessary for capturing the beneficial potential of the technology, while limiting the risks associated with it;

UNDERLINING that certain existing national and international legal, regulatory and policy frameworks already have relevance to AI, including those related to human rights, consumer and personal data protection, intellectual property rights, responsible business conduct, and competition, while noting that the appropriateness of some frameworks may need to be assessed and new approaches developed;

RECOGNISING that given the rapid development and implementation of AI, there is a need for a stable policy environment that promotes a human-centric approach to trustworthy AI, that fosters research, preserves economic incentives to innovate, and that applies to all stakeholders according to their role and the context;

CONSIDERING that embracing the opportunities offered, and addressing the challenges raised, by AI applications, and empowering stakeholders to engage is essential to fostering adoption of trustworthy AI in society, and to turning AI trustworthiness into a competitive parameter in the global marketplace;

On the proposal of the Committee on Digital Economy Policy:

I. AGREES that for the purpose of this Recommendation the following terms should be understood as follows:

–*AI system*: An AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. AI systems are designed to operate with varying levels of autonomy.

–*AI system lifecycle*: AI system lifecycle phases involve: *i*) ‘design, data and models’; which is a context-dependent sequence encompassing planning and design, data collection and processing, as well as model building; *ii*) ‘verification and validation’; *iii*) ‘deployment’; and *iv*) ‘operation and monitoring’. These phases often take place in an iterative manner and are not necessarily sequential. The decision to retire

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an AI system from operation may occur at any point during the operation and monitoring phase.

–*AI knowledge*: AI knowledge refers to the skills and resources, such as data, code, algorithms, models, research, know-how, training programmes, governance, processes and best practices, required to understand and participate in the AI system lifecycle.

–*AI actors*: AI actors are those who play an active role in the AI system lifecycle, including organisations and individuals that deploy or operate AI.

–*Stakeholders*: Stakeholders encompass all organisations and individuals involved in, or affected by, AI systems, directly or indirectly. AI actors are a subset of stakeholders.

Section 1:

Principles for responsible stewardship of trustworthy AI

II. RECOMMENDS that Members and non-Members adhering to this Recommendation (hereafter the “Adherents”) promote and implement the following principles for responsible stewardship of trustworthy AI, which are relevant to all stakeholders.

III. CALLS ON all AI actors to promote and implement, according to their respective roles, the following Principles for responsible stewardship of trustworthy AI.

IV. UNDERLINES that the following principles are complementary and should be considered as a whole.

1.1. Inclusive growth, sustainable development and well-being

Stakeholders should proactively engage in responsible stewardship of trustworthy AI in pursuit of beneficial outcomes for people and the planet, such as augmenting human capabilities and enhancing creativity, advancing inclusion of underrepresented populations, reducing economic, social, gender and other inequalities, and protecting natural environments, thus invigorating inclusive growth, sustainable development and well-being.

1.2. Human-centred values and fairness

a) AI actors should respect the rule of law, human rights and democratic values, throughout the AI system lifecycle. These include freedom, dignity and autonomy, privacy and data protection, non-discrimination and equality, diversity, fairness, social justice, and internationally recognised labour rights.

b) To this end, AI actors should implement mechanisms and safeguards, such as capacity for human determination, that are appropriate to the context and consistent with the state of art.

1.3. Transparency and explainability

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AI Actors should commit to transparency and responsible disclosure regarding AI systems. To this end, they should provide meaningful information, appropriate to the context, and consistent with the state of art:

- i. to foster a general understanding of AI systems,
- ii. to make stakeholders aware of their interactions with AI systems, including in the workplace,
- iii. to enable those affected by an AI system to understand the outcome, and,
- iv. to enable those adversely affected by an AI system to challenge its outcome based on plain and easy-to-understand information on the factors, and the logic that served as the basis for the prediction, recommendation or decision.

1.4. Robustness, security and safety

- a) AI systems should be robust, secure and safe throughout their entire lifecycle so that, in conditions of normal use, foreseeable use or misuse, or other adverse conditions, they function appropriately and do not pose unreasonable safety risk.
- b) To this end, AI actors should ensure traceability, including in relation to datasets, processes and decisions made during the AI system lifecycle, to enable analysis of the AI system's outcomes and responses to inquiry, appropriate to the context and consistent with the state of art.
- c) AI actors should, based on their roles, the context, and their ability to act, apply a systematic risk management approach to each phase of the AI system lifecycle on a continuous basis to address risks related to AI systems, including privacy, digital security, safety and bias.

1.5. Accountability

AI actors should be accountable for the proper functioning of AI systems and for the respect of the above principles, based on their roles, the context, and consistent with the state of art.

Section 2:

National policies and international co-operation for trustworthy AI

V.RECOMMENDS that Adherents implement the following recommendations, consistent with the principles in section 1, in their national policies and international co-operation, with special attention to small and medium-sized enterprises (SMEs).

2.1. Investing in AI research and development

- a) Governments should consider long-term public investment, and encourage private investment, in research and development,

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including interdisciplinary efforts, to spur innovation in trustworthy AI that focus on challenging technical issues and on AI-related social, legal and ethical implications and policy issues.

b) Governments should also consider public investment and encourage private investment in open datasets that are representative and respect privacy and data protection to support an environment for AI research and development that is free of inappropriate bias and to improve interoperability and use of standards.

2.2. Fostering a digital ecosystem for AI

Governments should foster the development of, and access to, a digital ecosystem for trustworthy AI. Such an ecosystem includes in particular digital technologies and infrastructure, and mechanisms for sharing AI knowledge, as appropriate. In this regard, governments should consider promoting mechanisms, such as data trusts, to support the safe, fair, legal and ethical sharing of data.

2.3. Shaping an enabling policy environment for AI

a) Governments should promote a policy environment that supports an agile transition from the research and development stage to the deployment and operation stage for trustworthy AI systems. To this effect, they should consider using experimentation to provide a controlled environment in which AI systems can be tested, and scaled-up, as appropriate.

b) Governments should review and adapt, as appropriate, their policy and regulatory frameworks and assessment mechanisms as they apply to AI systems to encourage innovation and competition for trustworthy AI.

2.4. Building human capacity and preparing for labour market transformation

a) Governments should work closely with stakeholders to prepare for the transformation of the world of work and of society. They should empower people to effectively use and interact with AI systems across the breadth of applications, including by equipping them with the necessary skills.

b) Governments should take steps, including through social dialogue, to ensure a fair transition for workers as AI is deployed, such as through training programmes along the working life, support for those affected by displacement, and access to new opportunities in the labour market.

c) Governments should also work closely with stakeholders to promote the responsible use of AI at work, to enhance the safety of workers and the quality of jobs, to foster entrepreneurship and

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productivity, and aim to ensure that the benefits from AI are broadly and fairly shared.

2.5. International co-operation for trustworthy AI

- a) Governments, including developing countries and with stakeholders, should actively co-operate to advance these principles and to progress on responsible stewardship of trustworthy AI.
- b) Governments should work together in the OECD and other global and regional fora to foster the sharing of AI knowledge, as appropriate. They should encourage international, cross-sectoral and open multi-stakeholder initiatives to garner long-term expertise on AI.
- c) Governments should promote the development of multi-stakeholder, consensus-driven global technical standards for interoperable and trustworthy AI.
- d) Governments should also encourage the development, and their own use, of internationally comparable metrics to measure AI research, development and deployment, and gather the evidence base to assess progress in the implementation of these principles.

VI. INVITES the Secretary-General and Adherents to disseminate this Recommendation.

VII. INVITES non-Adherents to take due account of, and adhere to, this Recommendation.

VIII. INSTRUMENTS the Committee on Digital Economy Policy:

- a) to continue its important work on artificial intelligence building on this Recommendation and taking into account work in other international fora, and to further develop the measurement framework for evidence-based AI policies;
- b) to develop and iterate further practical guidance on the implementation of this Recommendation, and to report to the Council on progress made no later than end December 2019;
- c) to provide a forum for exchanging information on AI policy and activities including experience with the implementation of this Recommendation, and to foster multi-stakeholder and interdisciplinary dialogue to promote trust in and adoption of AI; and
- d) to monitor, in consultation with other relevant Committees, the implementation of this Recommendation and report thereon to the Council no later than five years following its adoption and regularly thereafter.

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OECD AI Policy Adherents

The following countries have endorsed the OECD AI Principles

OECD Member Countries

Australia
Austria
Belgium
Canada
Chile
Colombia
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Japan
Korea
Latvia
Lithuania
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Slovenia
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

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OECD Non-Member Countries

Argentina
Brazil
Costa Rica
Malta
Peru
Romania
Ukraine

G-20 Countries

China
India
Indonesia
Russia
Saudi Arabia
South Africa

As of December 1, 2020, 51 countries have endorsed the OECD/G20 AI Principles.

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Universal Guidelines for AI

Universal Guidelines for Artificial Intelligence
23 October 2018
Brussels, Belgium

New developments in Artificial Intelligence are transforming the world, from science and industry to government administration and finance. The rise of AI decision-making also implicates fundamental rights of fairness, accountability, and transparency. Modern data analysis produces significant outcomes that have real life consequences for people in employment, housing, credit, commerce, and criminal sentencing. Many of these techniques are entirely opaque, leaving individuals unaware whether the decisions were accurate, fair, or even about them.

We propose these Universal Guidelines to inform and improve the design and use of AI. The Guidelines are intended to maximize the benefits of AI, to minimize the risk, and to ensure the protection of human rights. These Guidelines should be incorporated into ethical standards, adopted in national law and international agreements, and built into the design of systems. We state clearly that the primary responsibility for AI systems must reside with those institutions that fund, develop, and deploy these systems.

1. **Right to Transparency.** All individuals have the right to know the basis of an AI decision that concerns them. This includes access to the factors, the logic, and techniques that produced the outcome.
2. **Right to Human Determination.** All individuals have the right to a final determination made by a person.
3. **Identification Obligation.** The institution responsible for an AI system must be made known to the public.
4. **Fairness Obligation.** Institutions must ensure that AI systems do not reflect unfair bias or make impermissible discriminatory decisions.
5. **Assessment and Accountability Obligation.** An AI system should be deployed only after an adequate evaluation of its purpose and objectives, its benefits, as well as its risks. Institutions must be responsible for decisions made by an AI system.
6. **Accuracy, Reliability, and Validity Obligations.** Institutions must ensure the accuracy, reliability, and validity of decisions.
7. **Data Quality Obligation.** Institutions must establish data provenance, and assure quality and relevance for the data input into algorithms.

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8. **Public Safety Obligation.** Institutions must assess the public safety risks that arise from the deployment of AI systems that direct or control physical devices, and implement safety controls.
9. **Cybersecurity Obligation.** Institutions must secure AI systems against cybersecurity threats.
10. **Prohibition on Secret Profiling.** No institution shall establish or maintain a secret profiling system.
11. **Prohibition on Unitary Scoring.** No national government shall establish or maintain a general-purpose score on its citizens or residents.
12. **Termination Obligation.** An institution that has established an AI system has an affirmative obligation to terminate the system if human control of the system is no longer possible.

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UGAI Explanatory Memorandum

Context

The Universal Guidelines on Artificial Intelligence (UGAI) call attention to the growing challenges of intelligent computational systems and proposes concrete recommendations that can improve and inform their design. At its core, the purpose of the UGAI is to promote transparency and accountability for these systems and to ensure that people retain control over the systems they create. Not all systems fall within the scope of these Guidelines. Our concern is with those systems that impact the rights of people. Above all else, these systems should do no harm.

The declaration is timely. Governments around the world are developing policy proposals and institutions, both public and private, are supporting research and development of “AI.” Invariably, there will be an enormous impact on the public, regardless of their participation in the design and development of these systems. And so, the UGAI reflects a public perspective on these challenges.

The UGAI were announced at the 2018 International Data Protection and Privacy Commissioners Conference, among the most significant meetings of technology leaders and data protection experts in history.

The UGAI builds on prior work by scientific societies, think tanks, NGOs, and international organizations. The UGAI incorporates elements of human rights doctrine, data protection law, and ethical guidelines. The Guidelines include several well-established principles for AI governance, and put forward new principles not previously found in similar policy frameworks.

Terminology

The term “Artificial Intelligence” is both broad and imprecise. It includes aspects of machine learning, rule-based decision-making, and other computational techniques. There are also disputes regarding whether Artificial Intelligence is possible. The UGAI simply acknowledges that this term, in common use, covers a wide range of related issues and adopts the term to engage the current debate. There is no attempt here to define its boundaries, other than to assume that AI requires some degree of automated decision-making. The term “Guidelines” follows the practice of policy frameworks that speak primarily to governments and private companies.

The UGAI speaks to the obligations of “institutions” and the rights of “individuals.” This follows from the articulation of fair information practices in the data protection field. The UGAI takes the protection of the

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individual as a fundamental goal. Institutions, public and private, are understood to be those entities that develop and deploy AI systems. The term “institution” was chosen rather than the more familiar “organization” to underscore the permanent, ongoing nature of the obligations set out in the Guidelines. There is one principle that is addressed to “national governments.” The reason for this is discussed below.

Application

These Guidelines should be incorporated into ethical standards, adopted in national law and international agreements, and built into the design of systems.

The Principles

The elements of the **Transparency Principle** can be found in several modern privacy laws, including the US Privacy Act, the EU Data Protection Directive, the GDPR, and the Council of Europe Convention 108. The aim of this principle is to enable independent accountability for automated decisions, with a primary emphasis on the right of the individual to know the basis of an adverse determination. In practical terms, it may not be possible for an individual to interpret the basis of a particular decision, but this does not obviate the need to ensure that such an explanation is possible.

The **Right to a Human Determination** reaffirms that individuals and not machines are responsible for automated decision-making. In many instances, such as the operation of an autonomous vehicle, it would not be possible or practical to insert a human decision prior to an automated decision. But the aim remains to ensure accountability. Thus where an automated system fails, this principle should be understood as a requirement that a human assessment of the outcome be made.

Identification Obligation. This principle seeks to address the identification asymmetry that arises in the interaction between individuals and AI systems. An AI system typically knows a great deal about an individual; the individual may not even know the operator of the AI system. The Identification Obligation establishes the foundation of AI accountability which is to make clear the identity of an AI system and the institution responsible.

The **Fairness Obligation** recognizes that all automated systems make decisions that reflect bias and discrimination, but such decisions should not be normatively unfair. There is no simple answer to the question as to what is unfair or impermissible. The evaluation often depends on context. But the Fairness Obligation makes clear that an assessment of objective outcomes alone is not sufficient to evaluate an AI system.

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Normative consequences must be assessed, including those that preexist or may be amplified by an AI system.

The **Assessment and Accountability Obligation** speaks to the obligation to assess an AI system prior to and during deployment. Regarding assessment, it should be understood that a central purpose of this obligation is to determine whether an AI system should be established. If an assessment reveals substantial risks, such as those suggested by principles concerning Public Safety and Cybersecurity, then the project should not move forward.

The **Accuracy, Reliability, and Validity Obligations** set out key responsibilities associated with the outcome of automated decisions. The terms are intended to be interpreted both independently and jointly.

The **Data Quality Principle** follows from the preceding obligation.

The **Public Safety Obligation** recognizes that AI systems control devices in the physical world. For this reason, institutions must both assess risks and take precautionary measures as appropriate.

The **Cybersecurity Obligation** follows from the Public Safety Obligation and underscores the risk that even well-designed systems may be the target of hostile actors. Those who develop and deploy AI systems must take these risks into account.

The **Prohibition on Secret Profiling** follows from the earlier Identification Obligation. The aim is to avoid the information asymmetry that arises increasingly with AI systems and to ensure the possibility of independent accountability.

The **Prohibition on Unitary Scoring** speaks directly to the risk of a single, multi-purpose number assigned by a government to an individual. In data protection law, universal identifiers that enable the profiling of individuals across are disfavored. These identifiers are often regulated and in some instances prohibited. The concern with universal scoring, described here as “unitary scoring,” is even greater. A unitary score reflects not only a unitary profile but also a predetermined outcome across multiple domains of human activity. There is some risk that unitary scores will also emerge in the private sector. Conceivably, such systems could be subject to market competition and government regulations. But there is not even the possibility of counterbalance with unitary scores assigned by government, and therefore they should be prohibited.

The **Termination Obligation** is the ultimate statement of accountability for an AI system. The obligation presumes that systems must remain within human control. If that is no longer possible, the system should be terminated.

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Universal Declaration of Human Rights

Preamble

Whereas recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world,

Whereas disregard and contempt for human rights have resulted in barbarous acts which have outraged the conscience of mankind, and the advent of a world in which human beings shall enjoy freedom of speech and belief and freedom from fear and want has been proclaimed as the highest aspiration of the common people,

Whereas it is essential, if man is not to be compelled to have recourse, as a last resort, to rebellion against tyranny and oppression, that human rights should be protected by the rule of law,

Whereas it is essential to promote the development of friendly relations between nations,

Whereas the peoples of the United Nations have in the Charter reaffirmed their faith in fundamental human rights, in the dignity and worth of the human person and in the equal rights of men and women and have determined to promote social progress and better standards of life in larger freedom,

Whereas Member States have pledged themselves to achieve, in co-operation with the United Nations, the promotion of universal respect for and observance of human rights and fundamental freedoms,

Whereas a common understanding of these rights and freedoms is of the greatest importance for the full realization of this pledge,

Now, Therefore THE GENERAL ASSEMBLY proclaims THIS UNIVERSAL DECLARATION OF HUMAN RIGHTS as a common standard of achievement for all peoples and all nations, to the end that every individual and every organ of society, keeping this Declaration constantly in mind, shall strive by teaching and education to promote respect for these rights and freedoms and by progressive measures, national and international, to secure their universal and effective recognition and observance, both among the peoples of Member States themselves and among the peoples of territories under their jurisdiction.

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Article 1

All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.

Article 2

Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.

Article 3

Everyone has the right to life, liberty and security of person.

Article 4

No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.

Article 5

No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment.

Article 6

Everyone has the right to recognition everywhere as a person before the law.

Article 7

All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination.

Article 8

Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.

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Article 9

No one shall be subjected to arbitrary arrest, detention or exile.

Article 10

Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.

Article 11

(1) Everyone charged with a penal offence has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.
(2) No one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time when it was committed. Nor shall a heavier penalty be imposed than the one that was applicable at the time the penal offence was committed.

Article 12

No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.

Article 13

(1) Everyone has the right to freedom of movement and residence within the borders of each state.

(2) Everyone has the right to leave any country, including his own, and to return to his country.

Article 14

(1) Everyone has the right to seek and to enjoy in other countries asylum from persecution.

(2) This right may not be invoked in the case of prosecutions genuinely arising from non-political crimes or from acts contrary to the purposes and principles of the United Nations.

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Article 15

- (1) Everyone has the right to a nationality.
- (2) No one shall be arbitrarily deprived of his nationality nor denied the right to change his nationality.

Article 16

- (1) Men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to found a family. They are entitled to equal rights as to marriage, during marriage and at its dissolution.
- (2) Marriage shall be entered into only with the free and full consent of the intending spouses.
- (3) The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.

Article 17

- (1) Everyone has the right to own property alone as well as in association with others.
- (2) No one shall be arbitrarily deprived of his property.

Article 18

Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.

Article 19

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

Article 20

- (1) Everyone has the right to freedom of peaceful assembly and association.
- (2) No one may be compelled to belong to an association.

Article 21

- (1) Everyone has the right to take part in the government of his country, directly or through freely chosen representatives.

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(2) Everyone has the right of equal access to public service in his country.

(3) The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.

Article 22

Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.

Article 23

(1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment.

(2) Everyone, without any discrimination, has the right to equal pay for equal work.

(3) Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection.

(4) Everyone has the right to form and to join trade unions for the protection of his interests.

Article 24

Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay.

Article 25

(1) Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

(2) Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

Article 26

(1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis

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- of merit.
- (2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.
- (3) Parents have a prior right to choose the kind of education that shall be given to their children.

Article 27

- (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.
- (2) Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

Article 28

Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized.

Article 29

- (1) Everyone has duties to the community in which alone the free and full development of his personality is possible.
- (2) In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society.
- (3) These rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations.

Article 30

Nothing in this Declaration may be interpreted as implying for any State, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.

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GPA Declaration on Ethics and Data Protection in AI

DECLARATION ON ETHICS AND DATA PROTECTION IN
ARTIFICIAL INTELLIGENCE

40th International Conference of Data Protection and Privacy
Commissioners
23rd October 2018, Brussels

*[Note: The International Conference of Data Protection and Privacy
Commissioners was later renamed the Global Privacy Assembly]*

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**The 40th International Conference of Data Protection and Privacy
Commissioners:**

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Considering the initial discussion at the 38th International Conference of Data Protection and Privacy Commissioners in Marrakesh on Artificial intelligence, Robotics, Privacy and Data Protection;

Recognizing that artificial intelligence systems may bring significant benefits for users and society, including by: increasing the rapidity of processes and supporting decision-making; creating new ways to participate in democratic processes; improving efficiency in public sector and industry; achieving more equitable distribution of resources and opportunities; offering new methods and solutions in various fields such as public health, medical care, security, sustainable development, agriculture and transport; bringing new opportunities in scientific research and education and; providing individuals with more personalized services;

Taking into account the significant progress in certain areas of artificial intelligence, in particular regarding the processing of large amounts of information, the analysis and prediction of human behavior and characteristics, and in related fields such as robotics, computer vision and autonomous systems, likely to make significant progress in the near future;

Highlighting the rapid advancement of big data and artificial intelligence, notably machine learning, in particular with the development of deep learning technologies, allowing algorithms to solve complex operations leading to potential decisions, making however such processes more opaque;

Affirming that the respect of the rights to privacy and data protection are increasingly challenged by the development of artificial intelligence and that this development should be complemented by ethical and human rights considerations;

Considering that machine learning technologies in particular, and artificial intelligence systems in general, may rely on the processing of large sets of personal data for their development, potentially impacting data protection and privacy; also taking into account the potential risks induced by the current trend of market concentration in the field of artificial intelligence;

Recognizing the link between collections, uses and disclosures of personal information – the traditional sphere of privacy and data protection – on the one hand, and the direct impacts on human rights more broadly, most notably regarding discrimination and freedom of expression and information, and thus acknowledging the need for data protection and

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privacy authorities to think about human rights more broadly, and for data protection and privacy authorities to work with other authorities addressing human rights;

Pointing out that some data sets used to train machine learning-based and artificial intelligence systems have been found to contain inherent bias resulting in decisions which can unfairly discriminate against certain individuals or groups, potentially restricting the availability of certain services or content, and thus interfering with individuals' rights such as freedom of expression and information or resulting in the exclusion of people from certain aspects of personal, social, professional life;

Stressing that artificial intelligence powered systems whose decisions cannot be explained raise fundamental questions of accountability not only for privacy and data protection law but also liability in the event of errors and harm;

Noting that many stakeholders in the field of artificial intelligence have expressed their concerns about the risks of malicious use of artificial intelligence, as well as the risks related to privacy, data protection and human dignity, pointing out for example that the development of artificial intelligence in combination with mass surveillance raises concerns about their possible use to curtail fundamental rights and freedoms;

Highlighting that those risks and challenges may affect individuals and society, and that the extent and nature of potential consequences are currently uncertain;

Emphasising the importance of trust, since strong data protection and privacy safeguards help to build individuals' trust in how their data is processed, which encourages data sharing and thereby promotes innovation;

Taking the view that the current challenges triggered by the development of artificial intelligence and machine learning systems reinforce the need for the adoption of an international approach and standards, in order to ensure the promotion and protection of human rights in all digital developments at international level;

Reaffirming the commitment of data protection authorities and the Conference of Data Protection and Privacy Commissioners to uphold data protection and privacy principles in adapting to this evolving environment,

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notably by engaging resources and developing new skills in order to be prepared for future changes.

The **40th International Conference of Data Protection and Privacy Commissioners** considers that any creation, development and use of artificial intelligence systems shall fully respect human rights, particularly the rights to the protection of personal data and to privacy, as well as human dignity, non-discrimination and fundamental values, and shall provide solutions to allow individuals to maintain control and understanding of artificial intelligence systems.

The Conference therefore endorses the following guiding principles, as its core values to preserve human rights in the development of artificial intelligence:

1. Artificial intelligence and machine learning technologies should be designed, developed and used in respect of fundamental human rights and in accordance with the **fairness principle**, in particular by:

- a. Considering individuals' reasonable expectations by ensuring that the use of artificial intelligence systems remains consistent with their original purposes, and that the data are used in a way that is not incompatible with the original purpose of their collection,
- b. taking into consideration not only the impact that the use of artificial intelligence may have on the individual, but also the collective impact on groups and on society at large,
- c. ensuring that artificial intelligence systems are developed in a way that facilitates human development and does not obstruct or endanger it, thus recognizing the need for delineation and boundaries on certain uses,

2. **Continued attention and vigilance**, as well as accountability, for the potential effects and consequences of, artificial intelligence systems should be ensured, in particular by:

- a. promoting accountability of all relevant stakeholders to individuals, supervisory authorities and other third parties as appropriate, including through the realization of audit, continuous monitoring and impact assessment of artificial intelligence systems, and periodic review of oversight mechanisms;
- b. fostering collective and joint responsibility, involving the whole chain of actors and stakeholders, for example with the development of collaborative standards and the sharing of best practices,

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- c. investing in awareness raising, education, research and training in order to ensure a good level of information on and understanding of artificial intelligence and its potential effects in society, and
- d. establishing demonstrable governance processes for all relevant actors, such as relying on trusted third parties or the setting up of independent ethics committees,

3. Artificial intelligence **systems transparency and intelligibility** should be improved, with the objective of effective implementation, in particular by:

- a. investing in public and private scientific research on explainable artificial intelligence,
- b. promoting transparency, intelligibility and reachability, for instance through the development of innovative ways of communication, taking into account the different levels of transparency and information required for each relevant audience,
- c. making organizations' practices more transparent, notably by promoting algorithmic transparency and the auditability of systems, while ensuring meaningfulness of the information provided, and
- d. guaranteeing the right to informational self-determination, notably by ensuring that individuals are always informed appropriately when they are interacting directly with an artificial intelligence system or when they provide personal data to be processed by such systems,
- e. providing adequate information on the purpose and effects of artificial intelligence systems in order to verify continuous alignment with expectation of individuals and to enable overall human control on such systems.

4. As part of an overall “ethics by design” approach, artificial intelligence systems should be **designed and developed responsibly**, by applying the principles of **privacy by default and privacy by design**, in particular by:

- a. implementing technical and organizational measures and procedures – proportional to the type of system that is developed – to ensure that data subjects' privacy and personal data are respected, both when determining the means of the processing and at the moment of data processing,
- b. assessing and documenting the expected impacts on individuals and society at the beginning of an artificial intelligence project and for relevant developments during its entire life cycle, and

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- c. identifying specific requirements for ethical and fair use of the systems and for respecting human rights as part of the development and operations of any artificial intelligence system,

5. **Empowerment of every individual** should be promoted, and the exercise of individuals' rights should be encouraged, as well as the creation of opportunities for public engagement, in particular by:

- a. respecting data protection and privacy rights, including where applicable the right to information, the right to access, the right to object to processing and the right to erasure, and promoting those rights through education and awareness campaigns,
- b. respecting related rights including freedom of expression and information, as well as non-discrimination,
- c. recognizing that the right to object or appeal applies to technologies that influence personal development or opinions and guaranteeing, where applicable, individuals' right not to be subject to a decision based solely on automated processing if it significantly affects them and, where not applicable, guaranteeing individuals' right to challenge such decision,
- d. using the capabilities of artificial intelligence systems to foster an equal empowerment and enhance public engagement, for example through adaptable interfaces and accessible tools.

6. Unlawful **biases or discriminations** that may result from the use of data in artificial intelligence should be reduced and mitigated, including by:

- a. ensuring the respect of international legal instruments on human rights and non-discrimination,
- b. investing in research into technical ways to identify, address and mitigate biases,
- c. taking reasonable steps to ensure the personal data and information used in automated decision making is accurate, up-to-date and as complete as possible, and
- d. elaborating specific guidance and principles in addressing biases and discrimination, and promoting individuals' and stakeholders' awareness.

Taking into consideration the principles above, the 40th International Conference of Data Protection and Privacy Commissioners calls for **common governance principles on artificial intelligence** to be established, fostering concerted international efforts in this field, in order to ensure that its development and use take place in accordance with ethics

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and human values, and respect human dignity. These common governance principles must be able to tackle the challenges raised by the rapid evolutions of artificial intelligence technologies, on the basis of a multi-stakeholder approach in order to address all cross-sectoral issues at stake. They must take place at an international level since the development of artificial intelligence is a trans- border phenomenon and may affect all humanity. The Conference should be involved in this international effort, working with and supporting general and sectoral authorities in other fields such as competition, market and consumer regulation.

The 40th International Conference of Data Protection and Privacy Commissioners therefore establishes, as a contribution to a future common governance at the international level, and in order to further elaborate guidance to accompany the principles on Ethics and Data Protection in Artificial Intelligence, a **permanent working group** addressing the challenges of artificial intelligence development. This **working group on Ethics and Data Protection in Artificial Intelligence** will be in charge of promoting understanding of and respect for the principles of the present resolution, by all relevant parties involved in the development of artificial intelligence systems, including governments and public authorities, standardization bodies, artificial intelligence systems designers, providers and researchers, companies, citizens and end users of artificial intelligence systems. The working group on Ethics and Data Protection in Artificial Intelligence shall take into account the work carried out by other working groups of the Conference and shall report regularly on its activities to the Conference. The Conference thus endeavors to proactively support an active public debate on digital ethics aiming at the creation of a strong ethical culture and personal awareness in this field.

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GPA Resolution on AI and Accountability

**RESOLUTION ON ACCOUNTABILITY
IN THE DEVELOPMENT AND USE OF ARTIFICIAL
INTELLIGENCE**
Global Privacy Assembly
October 2020

Sponsors

Privacy Commissioner for Personal Data, Hong Kong, China
Superintendence of Industry and Commerce, Colombia
Federal Commissioner for Data Protection and Freedom of
Information, Germany
Information Commissioner's Office, United Kingdom

Co-Sponsors

Agencia de Acceso a la Información Pública, Argentina
Office of the Privacy Commissioner of Canada
Information Access Commission, Quebec, Canada
European Data Protection Supervisor, European Union
Data Protection Commission, Italy
National Institute for Transparency, Access to Information and
Personal Data Protection, Mexico
Office of the Privacy Commissioner, New Zealand
National Privacy Commission, Philippines
Personal Data Protection Office, Poland
National Data Protection Commission, Portugal
Data Protection Authority, Republic of San Marino
National Commission for Informatics and Liberties, Burkina Faso
Office of the Information and Privacy Commissioner, Ontario, Canada

The 2020 GLOBAL PRIVACY ASSEMBLY:

Recalling the Declaration on Ethics and Data Protection in Artificial Intelligence made by the 40th International Conference of the Data Protection and Privacy Commissioners on 23 October 2018, which endorsed *inter alia* the principle of accountability of all relevant stakeholders to individuals, supervisory authorities and other third parties, and which established a permanent Working Group (AI WG) to address the challenges of development of artificial intelligence (AI), and promote understanding of and respect for the principles of the Declaration,

Highlighting that the Work Programme of the AI WG includes an action to prepare a statement on the essential need for accountability and liability of human actors for AI systems,

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Taking into account the results of a survey conducted by the AI WG in May and June 2020, to gather the views of the members of the Global Privacy Assembly on accountability for AI systems, as detailed in the Explanatory Note,

Noting that international organisations (including the United Nations, the Organisation for Economic Co-operation and Development, the Council of Europe and the European Commission), governments, civil society bodies, and technology companies have produced and continue to produce guidelines and recommendation on the legal and ethical development of AI, and that the need for accountability and a human-centric approach are common themes within these guidelines,

Noting that accountability is to be understood as the compliance and demonstration of compliance with personal data protection and privacy regulations, in particular through the adoption and implementation of appropriate, practicable, systematic and effective measures,

Affirming that the responsibility for the operation and effects of AI systems remains with human actors,

Taking the view that in order to be effective, accountability obligations should be assessed against clearly defined principles and frameworks, and extend to both organisations that develop AI systems and organisations that use them,

Emphasising that the principle of accountability encompasses accountability to the people affected by the decisions made by or with AI systems, as well as to supervisory authorities and, where appropriate, to other third parties, and that beyond the compliance element, accountability should also be demonstrated in order to build trust with the stakeholders,

Recognising that AI systems may affect human rights in different ways, the application of specific obligations should take into account the risks for human rights as well as the importance of the principle of human accountability,

Asserting that in order to support the trustworthiness of organisations developing and using AI systems, these organisations should work closely with policy-makers, individuals and other stakeholders (e.g. non-government organisations, public authorities and academia) to resolve concerns and rectify adverse impacts on human rights.

The 2020 GLOBAL PRIVACY ASSEMBLY therefore resolves to:

1. Urge organisations that develop or use AI systems to consider implementing the following accountability measures:

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- (1) Assess the potential impact to human rights (including data protection and privacy rights) before the development and/or use of AI;
 - (2) Test the robustness, reliability, accuracy and data security of AI before putting it into use, including identifying and addressing bias in the systems and the data they use that may lead to unfair outcomes;
 - (3) Keep records of impact assessment, design, development, testing and use of AI;
 - (4) Disclose the results of the data protection, privacy and human rights impact assessment of AI;
 - (5) Ensure transparency and openness by disclosing the use of AI, the data being used and the logic involved in the AI;
 - (6) Ensure an accountable human actor is identified (a) with whom concerns related to automated decisions can be raised and rights can be exercised, and (b) who can trigger evaluation of the decision process and human intervention;
 - (7) Provide explanations in clear and understandable language for the automated decisions made by AI upon request;
 - (8) Make human intervention on the automated decision made by AI upon request;
 - (9) Continuously monitor and evaluate the performance and impacts of AI by human beings, and act promptly and firmly to address identified issues;
 - (10) Implement whistleblowing / reporting mechanisms about non-compliance or significant risk in the use of AI;
 - (11) Ensure the auditability of AI systems and be prepared to demonstrate accountability to data protection authorities on request; and
 - (12) Engage in multi-stakeholder discussions (including with non-governmental organisations, public authorities and academia) to identify and address the wider socio- economic impact of AI and to ensure algorithmic vigilance.
2. Urge organisations that develop or use AI systems to implement accountability measures which are appropriate regarding the risks of interference with human rights.
 3. Call upon all members of the Global Privacy Assembly to work with organisations that develop or use AI systems in their jurisdictions and globally to promote the principles adopted in its 2018 resolution, and accountability in the development and use of AI, and the adoption of accountability measures;

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4. Encourage governments to consider the need to make legislative changes in personal data protection laws, to make clear the legal obligations regarding accountability in the development and use of AI, where such provisions are not already in place; and
5. Encourage governments, public authorities, standardisation bodies, organisations developing or using AI systems and all other relevant stakeholders to work with data protection authorities in establishing principles, standards, and accountability mechanisms, such as certification, for the purpose of demonstrating legal compliance, accountability and ethics in the development and use of AI systems.

[An Explanatory Note accompanies the Resolution. The Explanatory Note summarizes the opinions of the members of the Global Privacy Assembly on the measures for demonstrating accountability in the development and use of AI.]

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UNESCO Recommendation on AI Ethics

**The UNESCO Recommendation on the Ethics of Artificial
Intelligence**

Adopted November 24, 2021

Preamble

The General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO), meeting in Paris from 9 to 24, at its 41st session,

Recognizing the profound and dynamic positive and negative impacts of artificial intelligence (AI) on societies, environment, ecosystems and human lives, including the human mind, in part because of the new ways in which its use influences human thinking, interaction and decision-making and affects education, human, social and natural sciences, culture, and communication and information,

Recalling that, by the terms of its Constitution, UNESCO seeks to contribute to peace and security by promoting collaboration among nations through education, the sciences, culture, and communication and information, in order to further universal respect for justice, for the rule of law and for the human rights and fundamental freedoms which are affirmed for the peoples of the world,

Convinced that the Recommendation presented here, as a standard-setting instrument developed through a global approach, based on international law, focusing on human dignity and human rights, as well as gender equality, social and economic justice and development, physical and mental wellbeing, diversity, interconnectedness, inclusiveness, and environmental and ecosystem protection can guide AI technologies in a responsible direction,

Guided by the purposes and principles of the Charter of the United Nations,

Considering that AI technologies can be of great service to humanity and all countries can benefit from them, but also raise fundamental ethical concerns, for instance regarding the biases they can embed and exacerbate, potentially resulting in discrimination, inequality, digital divides, exclusion and a threat to cultural, social and biological diversity and social or

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economic divides; the need for transparency and understandability of the workings of algorithms and the data with which they have been trained; and their potential impact on, including but not limited to, human dignity, human rights and fundamental freedoms, gender equality, democracy, social, economic, political and cultural processes, scientific and engineering practices, animal welfare, and the environment and ecosystems,

Also recognizing that AI technologies can deepen existing divides and inequalities in the world, within and between countries, and that justice, trust and fairness must be upheld so that no country and no one should be left behind, either by having fair access to AI technologies and enjoying their benefits or in the protection against their negative implications, while recognizing the different circumstances of different countries and respecting the desire of some people not to take part in all technological developments,

Conscious of the fact that all countries are facing an acceleration in the use of information and communication technologies and AI technologies, as well as an increasing need for media and information literacy, and that the digital economy presents important societal, economic and environmental challenges and opportunities of benefit-sharing, especially for low- and middleincome countries (LMICs), including but not limited to least developed countries (LDCs), landlocked developing countries (LLDCs) and small island developing States (SIDS), requiring the recognition, protection and promotion of endogenous cultures, values and knowledge in order to develop sustainable digital economies,

Further recognizing that AI technologies have the potential to be beneficial to the environment and ecosystems, and in order for those benefits to be realized, potential harms to and negative impacts on the environment and ecosystems should not be ignored but instead addressed, ***Noting*** that addressing risks and ethical concerns should not hamper innovation and development but rather provide new opportunities and stimulate ethically-conducted research and innovation that anchor AI technologies in human rights and fundamental freedoms, values and principles, and moral and ethical reflection,

Also recalling that in November 2019, the General Conference of UNESCO, at its 40th session, adopted 40 C/Resolution 37, by which it mandated the Director-General “to prepare an international standard-setting

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instrument on the ethics of artificial intelligence (AI) in the form of a recommendation”, which is to be submitted to the General Conference at its 41st session in 2021,

Recognizing that the development of AI technologies necessitates a commensurate increase in data, media and information literacy as well as access to independent, pluralistic, trusted sources of information, including as part of efforts to mitigate risks of misinformation, disinformation and hate speech, and harm caused through the misuse of personal data,

Observing that a normative framework for AI technologies and its social implications finds its basis in international and national legal frameworks, human rights and fundamental freedoms, ethics, need for access to data, information and knowledge, the freedom of research and innovation, human and environmental and ecosystem well-being, and connects ethical values and principles to the challenges and opportunities linked to AI technologies, based on common understanding and shared aims,

Also recognizing that ethical values and principles can help develop and implement rights-based policy measures and legal norms, by providing guidance with a view to the fast pace of technological development,

Also convinced that globally accepted ethical standards for AI technologies, in full respect of international law, in particular human rights law, can play a key role in developing AI-related norms across the globe,

Bearing in mind the Universal Declaration of Human Rights (1948), the instruments of the international human rights framework, including the Convention Relating to the Status of Refugees (1951), the Discrimination (Employment and Occupation) Convention (1958), the International Convention on the Elimination of All Forms of Racial Discrimination (1965), the International Covenant on Civil and Political Rights (1966), the International Covenant on Economic, Social and Cultural Rights (1966), the Convention on the Elimination of All Forms of Discrimination against Women (1979), the Convention on the Rights of the Child (1989), and the Convention on the Rights of Persons with Disabilities (2006), the Convention against Discrimination in Education (1960), the Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005), as well as any other relevant international instruments, recommendations and declarations,

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Also noting the United Nations Declaration on the Right to Development (1986); the Declaration on the Responsibilities of the Present Generations Towards Future Generations (1997); the Universal Declaration on Bioethics and Human Rights (2005); the United Nations Declaration on the Rights of Indigenous Peoples (2007); the United Nations General Assembly resolution on the review of the World Summit on the Information Society (A/RES/70/125) (2015); the United Nations General Assembly Resolution on Transforming our world: the 2030 Agenda for Sustainable Development (A/RES/70/1) (2015); the Recommendation Concerning the Preservation of, and Access to, Documentary Heritage Including in Digital Form (2015); the Declaration of Ethical Principles in relation to Climate Change (2017); the Recommendation on Science and Scientific Researchers (2017); the Internet Universality Indicators (endorsed by UNESCO’s International Programme for the Development of Communication in 2018), including the ROAM principles (endorsed by UNESCO’s General Conference in 2015); the Human Rights Council’s resolution on “The right to privacy in the digital age” (A/HRC/RES/42/15) (2019); and the Human Rights Council’s resolution on “New and emerging digital technologies and human rights” (A/HRC/RES/41/11) (2019),

Emphasizing that specific attention must be paid to LMICs, including but not limited to LDCs, LLDCs and SIDS, as they have their own capacity but have been underrepresented in the AI ethics debate, which raises concerns about neglecting local knowledge, cultural pluralism, value systems and the demands of global fairness to deal with the positive and negative impacts of AI technologies,

Also conscious of the many existing national policies, other frameworks and initiatives elaborated by relevant United Nations entities, intergovernmental organizations, including regional organizations, as well as those by the private sector, professional organizations, non-governmental organizations, and the scientific community, related to the ethics and regulation of AI technologies,

Further convinced that AI technologies can bring important benefits, but that achieving them can also amplify tension around innovation, asymmetric access to knowledge and technologies, including the digital and civic literacy deficit that limits the public’s ability to engage in topics related to AI, as well as barriers to access to information and gaps in capacity, human and institutional capacities, barriers to access to technological innovation, and a lack of adequate physical and digital

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infrastructure and regulatory frameworks, including those related to data, all of which need to be addressed,

Underlining that the strengthening of global cooperation and solidarity, including through multilateralism, is needed to facilitate fair access to AI technologies and address the challenges that they bring to diversity and interconnectivity of cultures and ethical systems, to mitigate potential misuse, to realize the full potential that AI can bring, especially in the area of development, and to ensure that national AI strategies are guided by ethical principles,

Taking fully into account that the rapid development of AI technologies challenges their ethical implementation and governance, as well as the respect for and protection of cultural diversity, and has the potential to disrupt local and regional ethical standards and values,

1. ***Adopts*** the present Recommendation on the Ethics of Artificial Intelligence;
2. ***Recommends*** that Member States apply on a voluntary basis the provisions of this Recommendation by taking appropriate steps, including whatever legislative or other measures may be required, in conformity with the constitutional practice and governing structures of each State, to give effect within their jurisdictions to the principles and norms of the Recommendation in conformity with international law, including international human rights law;
3. ***Also recommends*** that Member States engage all stakeholders, including business enterprises, to ensure that they play their respective roles in the implementation of this Recommendation; and bring the Recommendation to the attention of the authorities, bodies, research and academic organizations, institutions and organizations in public, private and civil society sectors involved in AI technologies, so that the development and use of AI technologies are guided by both sound scientific research as well as ethical analysis and evaluation.

I. Scope of Application

1. This Recommendation addresses ethical issues related to the domain of Artificial Intelligence to the extent that they are within UNESCO's mandate. It approaches AI ethics as a systematic normative reflection, based on a holistic, comprehensive, multicultural and evolving framework of interdependent values, principles and actions that can guide societies in dealing responsibly

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with the known and unknown impacts of AI technologies on human beings, societies and the environment and ecosystems, and offers them a basis to accept or reject AI technologies. It considers ethics as a dynamic basis for the normative evaluation and guidance of AI technologies, referring to human dignity, well-being and the prevention of harm as a compass and as rooted in the ethics of science and technology.

2. This Recommendation does not have the ambition to provide one single definition of AI, since such a definition would need to change over time, in accordance with technological developments. Rather, its ambition is to address those features of AI systems that are of central ethical relevance. Therefore, this Recommendation approaches AI systems as systems which have the capacity to process data and information in a way that resembles intelligent behaviour, and typically includes aspects of reasoning, learning, perception, prediction, planning or control. Three elements have a central place in this approach:

(a) AI systems are information-processing technologies that integrate models and algorithms that produce a capacity to learn and to perform cognitive tasks leading to outcomes such as prediction and decision-making in material and virtual environments. AI systems are designed to operate with varying degrees of autonomy by means of knowledge modelling and representation and by exploiting data and calculating correlations. AI systems may include several methods, such as but not limited to:

(i) machine learning, including deep learning and reinforcement learning;

(ii) machine reasoning, including planning, scheduling, knowledge representation and reasoning, search, and optimization.

AI systems can be used in cyber-physical systems, including the Internet of things, robotic systems, social robotics, and human-computer interfaces, which involve control, perception, the processing of data collected by sensors, and the operation of actuators in the environment in which AI systems work.

(b) Ethical questions regarding AI systems pertain to all stages of the AI system life cycle, understood here to range from research, design and development to deployment and use, including maintenance, operation, trade, financing, monitoring

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and evaluation, validation, end-of-use, disassembly and termination. In addition, AI actors can be defined as any actor involved in at least one stage of the AI system life cycle, and can refer both to natural and legal persons, such as researchers, programmers, engineers, data scientists, end-users, business enterprises, universities and public and private entities, among others.

(c) AI systems raise new types of ethical issues that include, but are not limited to, their impact on decision-making, employment and labour, social interaction, health care, education, media, access to information, digital divide, personal data and consumer protection, environment, democracy, rule of law, security and policing, dual use, and human rights and fundamental freedoms, including freedom of expression, privacy and non-discrimination. Furthermore, new ethical challenges are created by the potential of AI algorithms to reproduce and reinforce existing biases, and thus to exacerbate already existing forms of discrimination, prejudice and stereotyping. Some of these issues are related to the capacity of AI systems to perform tasks which previously only living beings could do, and which were in some cases even limited to human beings only. These characteristics give AI systems a profound, new role in human practices and society, as well as in their relationship with the environment and ecosystems, creating a new context for children and young people to grow up in, develop an understanding of the world and themselves, critically understand media and information, and learn to make decisions. In the long term, AI systems could challenge humans' special sense of experience and agency, raising additional concerns about, inter alia, human self-understanding, social, cultural and environmental interaction, autonomy, agency, worth and dignity.

3. This Recommendation pays specific attention to the broader ethical implications of AI systems in relation to the central domains of UNESCO: education, science, culture, and communication and information, as explored in the 2019 Preliminary Study on the Ethics of Artificial Intelligence by the UNESCO World Commission on Ethics of Scientific Knowledge and Technology (COMEST):

(a) Education, because living in digitalizing societies requires new educational practices, ethical reflection, critical thinking, responsible design practices and new skills, given the

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implications for the labour market, employability and civic participation.

(b) Science, in the broadest sense and including all academic fields from the natural sciences and medical sciences to the social sciences and humanities, as AI technologies bring new research capacities and approaches, have implications for our concepts of scientific understanding and explanation, and create a new basis for decision-making.

(c) Cultural identity and diversity, as AI technologies can enrich cultural and creative industries, but can also lead to an increased concentration of supply of cultural content, data, markets and income in the hands of only a few actors, with potential negative implications for the diversity and pluralism of languages, media, cultural expressions, participation and equality.

(d) Communication and information, as AI technologies play an increasingly important role in the processing, structuring and provision of information; the issues of automated journalism and the algorithmic provision of news and moderation and curation of content on social media and search engines are just a few examples raising issues related to access to information, disinformation, misinformation, hate speech, the emergence of new forms of societal narratives, discrimination, freedom of expression, privacy and media and information literacy, among others.

4. This Recommendation is addressed to Member States, both as AI actors and as authorities responsible for developing legal and regulatory frameworks throughout the entire AI system life cycle, and for promoting business responsibility. It also provides ethical guidance to all AI actors, including the public and private sectors, by providing a basis for an ethical impact assessment of AI systems throughout their life cycle.

II. Aims and Objectives

5. This Recommendation aims to provide a basis to make AI systems work for the good of humanity, individuals, societies and the environment and ecosystems, and to prevent harm. It also aims at stimulating the peaceful use of AI systems.

6. In addition to the existing ethical frameworks regarding AI around the world, this Recommendation aims to bring a globally accepted normative instrument that focuses not only on the articulation of values and principles, but also on their practical

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realization, via concrete policy recommendations, with a strong emphasis on inclusion issues of gender equality and protection of the environment and ecosystems.

7. Because the complexity of the ethical issues surrounding AI necessitates the cooperation of multiple stakeholders across the various levels and sectors of international, regional and national communities, this Recommendation aims to enable stakeholders to take shared responsibility based on a global and intercultural dialogue.

8. The objectives of this Recommendation are:

(a) to provide a universal framework of values, principles and actions to guide States in the formulation of their legislation, policies or other instruments regarding AI, consistent with international law;

(b) to guide the actions of individuals, groups, communities, institutions and private sector companies to ensure the embedding of ethics in all stages of the AI system life cycle;

(c) to protect, promote and respect human rights and fundamental freedoms, human dignity and equality, including gender equality; to safeguard the interests of present and future generations; to preserve the environment, biodiversity and ecosystems; and to respect cultural diversity in all stages of the AI system life cycle;

(d) to foster multi-stakeholder, multidisciplinary and pluralistic dialogue and consensus building about ethical issues relating to AI systems;

(e) to promote equitable access to developments and knowledge in the field of AI and the sharing of benefits, with particular attention to the needs and contributions of LMICs, including LDCs, LLDCs and SIDS.

III. Values and Principles

9. The values and principles included below should be respected by all actors in the AI system life cycle, in the first place and, where needed and appropriate, be promoted through amendments to the existing and elaboration of new legislation, regulations and business guidelines. This must comply with international law, including the United Nations Charter and Member States' human rights obligations, and should be in line with internationally agreed social, political, environmental, educational,

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scientific and economic sustainability objectives, such as the United Nations Sustainable Development Goals (SDGs).

10. Values play a powerful role as motivating ideals in shaping policy measures and legal norms. While the set of values outlined below thus inspires desirable behaviour and represents the foundations of principles, the principles unpack the values underlying them more concretely so that the values can be more easily operationalized in policy statements and actions.

11. While all the values and principles outlined below are desirable per se, in any practical contexts, there may be tensions between these values and principles. In any given situation, a contextual assessment will be necessary to manage potential tensions, taking into account the principle of proportionality and in compliance with human rights and fundamental freedoms. In all cases, any possible limitations on human rights and fundamental freedoms must have a lawful basis, and be reasonable, necessary and proportionate, and consistent with States' obligations under international law. To navigate such scenarios judiciously will typically require engagement with a broad range of appropriate stakeholders, making use of social dialogue, as well as ethical deliberation, due diligence and impact assessment.

12. The trustworthiness and integrity of the life cycle of AI systems is essential to ensure that AI technologies will work for the good of humanity, individuals, societies and the environment and ecosystems, and embody the values and principles set out in this Recommendation. People should have good reason to trust that AI systems can bring individual and shared benefits, while adequate measures are taken to mitigate risks. An essential requirement for trustworthiness is that, throughout their life cycle, AI systems are subject to thorough monitoring by the relevant stakeholders as appropriate. As trustworthiness is an outcome of the operationalization of the principles in this document, the policy actions proposed in this Recommendation are all directed at promoting trustworthiness in all stages of the AI system life cycle.

1) VALUES

Respect, protection and promotion of human rights and fundamental freedoms and human dignity

13. The inviolable and inherent dignity of every human constitutes the foundation for the universal, indivisible, inalienable, interdependent and interrelated system of human rights and

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fundamental freedoms. Therefore, respect, protection and promotion of human dignity and rights as established by international law, including international human rights law, is essential throughout the life cycle of AI systems. Human dignity relates to the recognition of the intrinsic and equal worth of each individual human being, regardless of race, colour, descent, gender, age, language, religion, political opinion, national origin, ethnic origin, social origin, economic or social condition of birth, or disability and any other grounds.

14. No human being or human community should be harmed or subordinated, whether physically, economically, socially, politically, culturally or mentally during any phase of the life cycle of AI systems. Throughout the life cycle of AI systems, the quality of life of human beings should be enhanced, while the definition of “quality of life” should be left open to individuals or groups, as long as there is no violation or abuse of human rights and fundamental freedoms, or the dignity of humans in terms of this definition.

15. Persons may interact with AI systems throughout their life cycle and receive assistance from them, such as care for vulnerable people or people in vulnerable situations, including but not limited to children, older persons, persons with disabilities or the ill. Within such interactions, persons should never be objectified, nor should their dignity be otherwise undermined, or human rights and fundamental freedoms violated or abused.

16. Human rights and fundamental freedoms must be respected, protected and promoted throughout the life cycle of AI systems. Governments, private sector, civil society, international organizations, technical communities and academia must respect human rights instruments and frameworks in their interventions in the processes surrounding the life cycle of AI systems. New technologies need to provide new means to advocate, defend and exercise human rights and not to infringe them.

Environment and ecosystem flourishing

17. Environmental and ecosystem flourishing should be recognized, protected and promoted through the life cycle of AI systems. Furthermore, environment and ecosystems are the existential necessity for humanity and other living beings to be able to enjoy the benefits of advances in AI.

18. All actors involved in the life cycle of AI systems must comply with applicable international law and domestic legislation, standards and practices, such as precaution, designed for

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environmental and ecosystem protection and restoration, and sustainable development. They should reduce the environmental impact of AI systems, including but not limited to its carbon footprint, to ensure the minimization of climate change and environmental risk factors, and prevent the unsustainable exploitation, use and transformation of natural resources contributing to the deterioration of the environment and the degradation of ecosystems.

Ensuring diversity and inclusiveness

19. Respect, protection and promotion of diversity and inclusiveness should be ensured throughout the life cycle of AI systems, consistent with international law, including human rights law. This may be done by promoting active participation of all individuals or groups regardless of race, colour, descent, gender, age, language, religion, political opinion, national origin, ethnic origin, social origin, economic or social condition of birth, or disability and any other grounds.

20. The scope of lifestyle choices, beliefs, opinions, expressions or personal experiences, including the optional use of AI systems and the co-design of these architectures should not be restricted during any phase of the life cycle of AI systems.

21. Furthermore, efforts, including international cooperation, should be made to overcome, and never take advantage of, the lack of necessary technological infrastructure, education and skills, as well as legal frameworks, particularly in LMICs, LDCs, LLDCs and SIDS, affecting communities.

Living in peaceful, just and interconnected societies

22. AI actors should play a participative and enabling role to ensure peaceful and just societies, which is based on an interconnected future for the benefit of all, consistent with human rights and fundamental freedoms. The value of living in peaceful and just societies points to the potential of AI systems to contribute throughout their life cycle to the interconnectedness of all living creatures with each other and with the natural environment.

23. The notion of humans being interconnected is based on the knowledge that every human belongs to a greater whole, which thrives when all its constituent parts are enabled to thrive. Living in peaceful, just and interconnected societies requires an organic, immediate, uncalculated bond of solidarity, characterized by a permanent search for peaceful relations, tending towards care for others and the natural environment in the broadest sense of the term.

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24. This value demands that peace, inclusiveness and justice, equity and interconnectedness should be promoted throughout the life cycle of AI systems, in so far as the processes of the life cycle of AI systems should not segregate, objectify or undermine freedom and autonomous decision-making as well as the safety of human beings and communities, divide and turn individuals and groups against each other, or threaten the coexistence between humans, other living beings and the natural environment.

2) PRINCIPLES

Proportionality and Do No Harm

25. It should be recognized that AI technologies do not necessarily, per se, ensure human and environmental and ecosystem flourishing. Furthermore, none of the processes related to the AI system life cycle shall exceed what is necessary to achieve legitimate aims or objectives and should be appropriate to the context. In the event of possible occurrence of any harm to human beings, human rights and fundamental freedoms, communities and society at large or the environment and ecosystems, the implementation of procedures for risk assessment and the adoption of measures in order to preclude the occurrence of such harm should be ensured.

26. The choice to use AI systems and which AI method to use should be justified in the following ways: (a) the AI method chosen should be appropriate and proportional to achieve a given legitimate aim; (b) the AI method chosen should not infringe upon the foundational values captured in this document, in particular, its use must not violate or abuse human rights; and (c) the AI method should be appropriate to the context and should be based on rigorous scientific foundations. In scenarios where decisions are understood to have an impact that is irreversible or difficult to reverse or may involve life and death decisions, final human determination should apply. In particular, AI systems should not be used for social scoring or mass surveillance purposes.

Safety and security

27. Unwanted harms (safety risks), as well as vulnerabilities to attack (security risks) should be avoided and should be addressed, prevented and eliminated throughout the life cycle of AI systems to ensure human, environmental and ecosystem safety and security. Safe and secure AI will be enabled by the development of sustainable,

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privacy-protective data access frameworks that foster better training and validation of AI models utilizing quality data.

Fairness and non-discrimination

28. AI actors should promote social justice and safeguard fairness and non-discrimination of any kind in compliance with international law. This implies an inclusive approach to ensuring that the benefits of AI technologies are available and accessible to all, taking into consideration the specific needs of different age groups, cultural systems, different language groups, persons with disabilities, girls and women, and disadvantaged, marginalized and vulnerable people or people in vulnerable situations. Member States should work to promote inclusive access for all, including local communities, to AI systems with locally relevant content and services, and with respect for multilingualism and cultural diversity. Member States should work to tackle digital divides and ensure inclusive access to and participation in the development of AI. At the national level, Member States should promote equity between rural and urban areas, and among all persons regardless of race, colour, descent, gender, age, language, religion, political opinion, national origin, ethnic origin, social origin, economic or social condition of birth, or disability and any other grounds, in terms of access to and participation in the AI system life cycle. At the international level, the most technologically advanced countries have a responsibility of solidarity with the least advanced to ensure that the benefits of AI technologies are shared such that access to and participation in the AI system life cycle for the latter contributes to a fairer world order with regard to information, communication, culture, education, research and socio-economic and political stability.

29. AI actors should make all reasonable efforts to minimize and avoid reinforcing or perpetuating discriminatory or biased applications and outcomes throughout the life cycle of the AI system to ensure fairness of such systems. Effective remedy should be available against discrimination and biased algorithmic determination.

30. Furthermore, digital and knowledge divides within and between countries need to be addressed throughout an AI system life cycle, including in terms of access and quality of access to technology and data, in accordance with relevant national, regional and international legal frameworks, as well as in terms of connectivity, knowledge and skills and meaningful participation of the affected communities, such that every person is treated equitably.

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Sustainability

31. The development of sustainable societies relies on the achievement of a complex set of objectives on a continuum of human, social, cultural, economic and environmental dimensions. The advent of AI technologies can either benefit sustainability objectives or hinder their realization, depending on how they are applied across countries with varying levels of development. The continuous assessment of the human, social, cultural, economic and environmental impact of AI technologies should therefore be carried out with full cognizance of the implications of AI technologies for sustainability as a set of constantly evolving goals across a range of dimensions, such as currently identified in the Sustainable Development Goals (SDGs) of the United Nations.

Right to Privacy, and Data Protection

32. Privacy, a right essential to the protection of human dignity, human autonomy and human agency, must be respected, protected and promoted throughout the life cycle of AI systems. It is important that data for AI systems be collected, used, shared, archived and deleted in ways that are consistent with international law and in line with the values and principles set forth in this Recommendation, while respecting relevant national, regional and international legal frameworks.

33. Adequate data protection frameworks and governance mechanisms should be established in a multi-stakeholder approach at the national or international level, protected by judicial systems, and ensured throughout the life cycle of AI systems. Data protection frameworks and any related mechanisms should take reference from international data protection principles and standards concerning the collection, use and disclosure of personal data and exercise of their rights by data subjects while ensuring a legitimate aim and a valid legal basis for the processing of personal data, including informed consent.

34. Algorithmic systems require adequate privacy impact assessments, which also include societal and ethical considerations of their use and an innovative use of the privacy by design approach. AI actors need to ensure that they are accountable for the design and implementation of AI systems in such a way as to ensure that personal information is protected throughout the life cycle of the AI system.

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Human oversight and determination

35. Member States should ensure that it is always possible to attribute ethical and legal responsibility for any stage of the life cycle of AI systems, as well as in cases of remedy related to AI systems, to physical persons or to existing legal entities. Human oversight refers thus not only to individual human oversight, but to inclusive public oversight, as appropriate.

36. It may be the case that sometimes humans would choose to rely on AI systems for reasons of efficacy, but the decision to cede control in limited contexts remains that of humans, as humans can resort to AI systems in decision-making and acting, but an AI system can never replace ultimate human responsibility and accountability. As a rule, life and death decisions should not be ceded to AI systems.

Transparency and explainability

37. The transparency and explainability of AI systems are often essential preconditions to ensure the respect, protection and promotion of human rights, fundamental freedoms and ethical principles. Transparency is necessary for relevant national and international liability regimes to work effectively. A lack of transparency could also undermine the possibility of effectively challenging decisions based on outcomes produced by AI systems and may thereby infringe the right to a fair trial and effective remedy, and limits the areas in which these systems can be legally used.

38. While efforts need to be made to increase transparency and explainability of AI systems, including those with extra-territorial impact, throughout their life cycle to support democratic governance, the level of transparency and explainability should always be appropriate to the context and impact, as there may be a need to balance between transparency and explainability and other principles such as privacy, safety and security. People should be fully informed when a decision is informed by or is made on the basis of AI algorithms, including when it affects their safety or human rights, and in those circumstances should have the opportunity to request explanatory information from the relevant AI actor or public sector institutions. In addition, individuals should be able to access the reasons for a decision affecting their rights and freedoms, and have the option of making submissions to a designated staff member of the private sector company or public sector institution able to review and correct the decision. AI actors should inform users when a product or service is provided directly or with the assistance of AI systems in a proper and timely manner.

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39. From a socio-technical lens, greater transparency contributes to more peaceful, just, democratic and inclusive societies. It allows for public scrutiny that can decrease corruption and discrimination, and can also help detect and prevent negative impacts on human rights. Transparency aims at providing appropriate information to the respective addressees to enable their understanding and foster trust. Specific to the AI system, transparency can enable people to understand how each stage of an AI system is put in place, appropriate to the context and sensitivity of the AI system. It may also include insight into factors that affect a specific prediction or decision, and whether or not appropriate assurances (such as safety or fairness measures) are in place. In cases of serious threats of adverse human rights impacts, transparency may also require the sharing of code or datasets.

40. Explainability refers to making intelligible and providing insight into the outcome of AI systems. The explainability of AI systems also refers to the understandability of the input, output and the functioning of each algorithmic building block and how it contributes to the outcome of the systems. Thus, explainability is closely related to transparency, as outcomes and subprocesses leading to outcomes should aim to be understandable and traceable, appropriate to the context. AI actors should commit to ensuring that the algorithms developed are explainable. In the case of AI applications that impact the end user in a way that is not temporary, easily reversible or otherwise low risk, it should be ensured that the meaningful explanation is provided with any decision that resulted in the action taken in order for the outcome to be considered transparent.

41. Transparency and explainability relate closely to adequate responsibility and accountability measures, as well as to the trustworthiness of AI systems.

Responsibility and accountability

42. AI actors and Member States should respect, protect and promote human rights and fundamental freedoms, and should also promote the protection of the environment and ecosystems, assuming their respective ethical and legal responsibility, in accordance with national and international law, in particular Member States' human rights obligations, and ethical guidance throughout the life cycle of AI systems, including with respect to AI actors within their effective territory and control. The ethical responsibility and liability for the decisions and actions based in any way on an AI system should

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always ultimately be attributable to AI actors corresponding to their role in the life cycle of the AI system.

43. Appropriate oversight, impact assessment, audit and due diligence mechanisms, including whistle-blowers' protection, should be developed to ensure accountability for AI systems and their impact throughout their life cycle. Both technical and institutional designs should ensure auditability and traceability of (the working of) AI systems in particular to address any conflicts with human rights norms and standards and threats to environmental and ecosystem wellbeing.

Awareness and literacy

44. Public awareness and understanding of AI technologies and the value of data should be promoted through open and accessible education, civic engagement, digital skills and AI ethics training, media and information literacy and training led jointly by governments, intergovernmental organizations, civil society, academia, the media, community leaders and the private sector, and considering the existing linguistic, social and cultural diversity, to ensure effective public participation so that all members of society can take informed decisions about their use of AI systems and be protected from undue influence.

45. Learning about the impact of AI systems should include learning about, through and for human rights and fundamental freedoms, meaning that the approach and understanding of AI systems should be grounded by their impact on human rights and access to rights, as well as on the environment and ecosystems.

Multi-stakeholder and adaptive governance and collaboration

46. International law and national sovereignty must be respected in the use of data. That means that States, complying with international law, can regulate the data generated within or passing through their territories, and take measures towards effective regulation of data, including data protection, based on respect for the right to privacy in accordance with international law and other human rights norms and standards.

47. Participation of different stakeholders throughout the AI system life cycle is necessary for inclusive approaches to AI governance, enabling the benefits to be shared by all, and to contribute to sustainable development. Stakeholders include but are not limited to governments, intergovernmental organizations, the technical community, civil society, researchers and academia, media, education, policy-makers, private sector companies, human rights

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institutions and equality bodies, anti-discrimination monitoring bodies, and groups for youth and children. The adoption of open standards and interoperability to facilitate collaboration should be in place. Measures should be adopted to take into account shifts in technologies, the emergence of new groups of stakeholders, and to allow for meaningful participation by marginalized groups, communities and individuals and, where relevant, in the case of Indigenous Peoples, respect for the self-governance of their data.

IV. Areas for Policy Action

48. The policy actions described in the following policy areas operationalize the values and principles set out in this Recommendation. The main action is for Member States to put in place effective measures, including, for example, policy frameworks or mechanisms, and to ensure that other stakeholders, such as private sector companies, academic and research institutions, and civil society adhere to them by, among other actions, encouraging all stakeholders to develop human rights, rule of law, democracy, and ethical impact assessment and due diligence tools in line with guidance including the United Nations Guiding Principles on Business and Human Rights. The process for developing such policies or mechanisms should be inclusive of all stakeholders and should take into account the circumstances and priorities of each Member State. UNESCO can be a partner and support Member States in the development as well as monitoring and evaluation of policy mechanisms.

49. UNESCO recognizes that Member States will be at different stages of readiness to implement this Recommendation, in terms of scientific, technological, economic, educational, legal, regulatory, infrastructural, societal, cultural and other dimensions. It is noted that “readiness” here is a dynamic status. In order to enable the effective implementation of this Recommendation, UNESCO will therefore: (1) develop a readiness assessment methodology to assist interested Member States in identifying their status at specific moments of their readiness trajectory along a continuum of dimensions; and (2) ensure support for interested Member States in terms of developing a UNESCO methodology for Ethical Impact Assessment (EIA) of AI technologies, sharing of best practices, assessment guidelines and other mechanisms and analytical work.

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Policy Area 1: Ethical Impact Assessment

50. Member States should introduce frameworks for impact assessments, such as ethical impact assessment, to identify and assess benefits, concerns and risks of AI systems, as well as appropriate risk prevention, mitigation and monitoring measures, among other assurance mechanisms. Such impact assessments should identify impacts on human rights and fundamental freedoms, in particular but not limited to the rights of marginalized and vulnerable people or people in vulnerable situations, labour rights, the environment and ecosystems and ethical and social implications, and facilitate citizen participation in line with the values and principles set forth in this Recommendation.

51. Member States and private sector companies should develop due diligence and oversight mechanisms to identify, prevent, mitigate and account for how they address the impact of AI systems on the respect for human rights, rule of law and inclusive societies. Member States should also be able to assess the socio-economic impact of AI systems on poverty and ensure that the gap between people living in wealth and poverty, as well as the digital divide among and within countries, are not increased with the massive adoption of AI technologies at present and in the future. In order to do this, in particular, enforceable transparency protocols should be implemented, corresponding to the access to information, including information of public interest held by private entities. Member States, private sector companies and civil society should investigate the sociological and psychological effects of AI-based recommendations on humans in their decision-making autonomy. AI systems identified as potential risks to human rights should be broadly tested by AI actors, including in real-world conditions if needed, as part of the Ethical Impact Assessment, before releasing them in the market.

52. Member States and business enterprises should implement appropriate measures to monitor all phases of an AI system life cycle, including the functioning of algorithms used for decision making, the data, as well as AI actors involved in the process, especially in public services and where direct end-user interaction is needed, as part of ethical impact assessment. Member States' human rights law obligations should form part of the ethical aspects of AI system assessments.

53. Governments should adopt a regulatory framework that sets out a procedure, particularly for public authorities, to carry out ethical impact assessments on AI systems to predict consequences, mitigate

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risks, avoid harmful consequences, facilitate citizen participation and address societal challenges. The assessment should also establish appropriate oversight mechanisms, including auditability, traceability and explainability, which enable the assessment of algorithms, data and design processes, as well as include external review of AI systems. Ethical impact assessments should be transparent and open to the public, where appropriate. Such assessments should also be multidisciplinary, multi-stakeholder, multicultural, pluralistic and inclusive. The public authorities should be required to monitor the AI systems implemented and/or deployed by those authorities by introducing appropriate mechanisms and tools.

Policy Area 2: Ethical Governance and Stewardship

54. Member States should ensure that AI governance mechanisms are inclusive, transparent, multidisciplinary, multilateral (this includes the possibility of mitigation and redress of harm across borders) and multi-stakeholder. In particular, governance should include aspects of anticipation, and effective protection, monitoring of impact, enforcement and redress.

55. Member States should ensure that harms caused through AI systems are investigated and redressed, by enacting strong enforcement mechanisms and remedial actions, to make certain that human rights and fundamental freedoms and the rule of law are respected in the digital world and in the physical world. Such mechanisms and actions should include remediation mechanisms provided by private and public sector companies. The auditability and traceability of AI systems should be promoted to this end. In addition, Member States should strengthen their institutional capacities to deliver on this commitment and should collaborate with researchers and other stakeholders to investigate, prevent and mitigate any potentially malicious uses of AI systems.

56. Member States are encouraged to develop national and regional AI strategies and to consider forms of soft governance such as a certification mechanism for AI systems and the mutual recognition of their certification, according to the sensitivity of the application domain and expected impact on human rights, the environment and ecosystems, and other ethical considerations set forth in this Recommendation. Such a mechanism might include different levels of audit of systems, data, and adherence to ethical guidelines and to procedural requirements in view of ethical aspects.

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At the same time, such a mechanism should not hinder innovation or disadvantage small and medium enterprises or start-ups, civil society as well as research and science organizations, as a result of an excessive administrative burden. These mechanisms should also include a regular monitoring component to ensure system robustness and continued integrity and adherence to ethical guidelines over the entire life cycle of the AI system, requiring re-certification if necessary.

57. Member States and public authorities should carry out transparent self-assessment of existing and proposed AI systems, which, in particular, should include the assessment of whether the adoption of AI is appropriate and, if so, should include further assessment to determine what the appropriate method is, as well as assessment as to whether such adoption would result in violations or abuses of Member States' human rights law obligations, and if that is the case, prohibit its use.

58. Member States should encourage public entities, private sector companies and civil society organizations to involve different stakeholders in their AI governance and to consider adding the role of an independent AI Ethics Officer or some other mechanism to oversee ethical impact assessment, auditing and continuous monitoring efforts and ensure ethical guidance of AI systems. Member States, private sector companies and civil society organizations, with the support of UNESCO, are encouraged to create a network of independent AI Ethics Officers to give support to this process at national, regional and international levels.

59. Member States should foster the development of, and access to, a digital ecosystem for ethical and inclusive development of AI systems at the national level, including to address gaps in access to the AI system life cycle, while contributing to international collaboration. Such an ecosystem includes, in particular, digital technologies and infrastructure, and mechanisms for sharing AI knowledge, as appropriate.

60. Member States should establish mechanisms, in collaboration with international organizations, transnational corporations, academic institutions and civil society, to ensure the active participation of all Member States, especially LMICs, in particular LDCs, LLDCs and SIDS, in international discussions concerning AI governance. This can be through the provision of funds, ensuring equal regional participation, or any other mechanisms. Furthermore, in order to ensure the inclusiveness of AI

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fora, Member States should facilitate the travel of AI actors in and out of their territory, especially from LMICs, in particular LDCs, LLDCs and SIDS, for the purpose of participating in these fora.

61. Amendments to the existing or elaboration of new national legislation addressing AI systems must comply with Member States' human rights law obligations and promote human rights and fundamental freedoms throughout the AI system life cycle. Promotion thereof should also take the form of governance initiatives, good exemplars of collaborative practices regarding AI systems, and national and international technical and methodological guidelines as AI technologies advance. Diverse sectors, including the private sector, in their practices regarding AI systems must respect, protect and promote human rights and fundamental freedoms using existing and new instruments in combination with this Recommendation.

62. Member States that acquire AI systems for human rights-sensitive use cases, such as law enforcement, welfare, employment, media and information providers, health care and the independent judiciary system should provide mechanisms to monitor the social and economic impact of such systems by appropriate oversight authorities, including independent data protection authorities, sectoral oversight and public bodies responsible for oversight.

63. Member States should enhance the capacity of the judiciary to make decisions related to AI systems as per the rule of law and in line with international law and standards, including in the use of AI systems in their deliberations, while ensuring that the principle of human oversight is upheld. In case AI systems are used by the judiciary, sufficient safeguards are needed to guarantee inter alia the protection of fundamental human rights, the rule of law, judicial independence as well as the principle of human oversight, and to ensure a trustworthy, public interest-oriented and human-centric development and use of AI systems in the judiciary.

64. Member States should ensure that governments and multilateral organizations play a leading role in ensuring the safety and security of AI systems, with multi-stakeholder participation. Specifically, Member States, international organizations and other relevant bodies should develop international standards that describe measurable, testable levels of safety and transparency, so that systems can be objectively assessed and levels of compliance determined. Furthermore, Member States and business enterprises should continuously support strategic research on potential safety and

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security risks of AI technologies and should encourage research into transparency and explainability, inclusion and literacy by putting additional funding into those areas for different domains and at different levels, such as technical and natural language.

65. Member States should implement policies to ensure that the actions of AI actors are consistent with international human rights law, standards and principles throughout the life cycle of AI systems, while taking into full consideration the current cultural and social diversities, including local customs and religious traditions, with due regard to the precedence and universality of human rights.

66. Member States should put in place mechanisms to require AI actors to disclose and combat any kind of stereotyping in the outcomes of AI systems and data, whether by design or by negligence, and to ensure that training data sets for AI systems do not foster cultural, economic or social inequalities, prejudice, the spreading of disinformation and misinformation, and disruption of freedom of expression and access to information. Particular attention should be given to regions where the data are scarce.

67. Member States should implement policies to promote and increase diversity and inclusiveness that reflect their populations in AI development teams and training datasets, and to ensure equal access to AI technologies and their benefits, particularly for marginalized groups, both from rural and urban zones.

68. Member States should develop, review and adapt, as appropriate, regulatory frameworks to achieve accountability and responsibility for the content and outcomes of AI systems at the different phases of their life cycle. Member States should, where necessary, introduce liability frameworks or clarify the interpretation of existing frameworks to ensure the attribution of accountability for the outcomes and the functioning of AI systems. Furthermore, when developing regulatory frameworks, Member States should, in particular, take into account that ultimate responsibility and accountability must always lie with natural or legal persons and that AI systems should not be given legal personality themselves. To ensure this, such regulatory frameworks should be consistent with the principle of human oversight and establish a comprehensive approach focused on AI actors and the technological processes involved across the different stages of the AI system life cycle.

69. In order to establish norms where these do not exist, or to adapt the existing legal frameworks, Member States should involve all AI actors (including, but not limited to, researchers,

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representatives of civil society and law enforcement, insurers, investors, manufacturers, engineers, lawyers and users). The norms can mature into best practices, laws and regulations. Member States are further encouraged to use mechanisms such as policy prototypes and regulatory sandboxes to accelerate the development of laws, regulations and policies, including regular reviews thereof, in line with the rapid development of new technologies and ensure that laws and regulations can be tested in a safe environment before being officially adopted. Member States should support local governments in the development of local policies, regulations and laws in line with national and international legal frameworks.

70. Member States should set clear requirements for AI system transparency and explainability so as to help ensure the trustworthiness of the full AI system life cycle. Such requirements should involve the design and implementation of impact mechanisms that take into consideration the nature of application domain, intended use, target audience and feasibility of each particular AI system.

Policy Area 3: Data Policy

71. Member States should work to develop data governance strategies that ensure the continual evaluation of the quality of training data for AI systems including the adequacy of the data collection and selection processes, proper data security and protection measures, as well as feedback mechanisms to learn from mistakes and share best practices among all AI actors.

72. Member States should put in place appropriate safeguards to protect the right to privacy in accordance with international law, including addressing concerns such as surveillance. Member States should, among others, adopt or enforce legislative frameworks that provide appropriate protection, compliant with international law. Member States should strongly encourage all AI actors, including business enterprises, to follow existing international standards and, in particular, to carry out adequate privacy impact assessments, as part of ethical impact assessments, which take into account the wider socio-economic impact of the intended data processing, and to apply privacy by design in their systems. Privacy should be respected, protected and promoted throughout the life cycle of AI systems.

73. Member States should ensure that individuals retain rights over their personal data and are protected by a framework, which notably foresees: transparency; appropriate safeguards for the

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processing of sensitive data; an appropriate level of data protection; effective and meaningful accountability schemes and mechanisms; the full enjoyment of the data subjects' rights and the ability to access and erase their personal data in AI systems, except for certain circumstances in compliance with international law; an appropriate level of protection in full compliance with data protection legislation where data are being used for commercial purposes such as enabling micro-targeted advertising, transferred cross-border; and an effective independent oversight as part of a data governance mechanism which keeps individuals in control of their personal data and fosters the benefits of a free flow of information internationally, including access to data.

74. Member States should establish their data policies or equivalent frameworks, or reinforce existing ones, to ensure full security for personal data and sensitive data, which, if disclosed, may cause exceptional damage, injury or hardship to individuals. Examples include data relating to offences, criminal proceedings and convictions, and related security measures; biometric, genetic and health data; and -personal data such as that relating to race, colour, descent, gender, age, language, religion, political opinion, national origin, ethnic origin, social origin, economic or social condition of birth, or disability and any other characteristics.

75. Member States should promote open data. In this regard, Member States should consider reviewing their policies and regulatory frameworks, including on access to information and open government to reflect AI-specific requirements and promoting mechanisms, such as open repositories for publicly funded or publicly held data and source code and data trusts, to support the safe, fair, legal and ethical sharing of data, among others.

76. Member States should promote and facilitate the use of quality and robust datasets for training, development and use of AI systems, and exercise vigilance in overseeing their collection and use. This could, if possible and feasible, include investing in the creation of gold standard datasets, including open and trustworthy datasets, which are diverse, constructed on a valid legal basis, including consent of data subjects, when required by law. Standards for annotating datasets should be encouraged, including disaggregating data on gender and other bases, so it can easily be determined how a dataset is gathered and what properties it has.

77. Member States, as also suggested in the report of the United Nations Secretary-General's High-level Panel on Digital

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Cooperation, with the support of the United Nations and UNESCO, should adopt a digital commons approach to data where appropriate, increase interoperability of tools and datasets and interfaces of systems hosting data, and encourage private sector companies to share the data they collect with all stakeholders, as appropriate, for research, innovation or public benefits. They should also promote public and private efforts to create collaborative platforms to share quality data in trusted and secured data spaces.

Policy Area 4: Development and International Cooperation

78. Member States and transnational corporations should prioritize AI ethics by including discussions of AI-related ethical issues into relevant international, intergovernmental and multistakeholder fora.

79. Member States should ensure that the use of AI in areas of development such as education, science, culture, communication and information, health care, agriculture and food supply, environment, natural resource and infrastructure management, economic planning and growth, among others, adheres to the values and principles set forth in this Recommendation.

80. Member States should work through international organizations to provide platforms for international cooperation on AI for development, including by contributing expertise, funding, data, domain knowledge, infrastructure, and facilitating multi-stakeholder collaboration to tackle challenging development problems, especially for LMICs, in particular LDCs, LLDCs and SIDS.

81. Member States should work to promote international collaboration on AI research and innovation, including research and innovation centres and networks that promote greater participation and leadership of researchers from LMICs and other countries, including LDCs, LLDCs and SIDS.

82. Member States should promote AI ethics research by engaging international organizations and research institutions, as well as transnational corporations, that can be a basis for the ethical use of AI systems by public and private entities, including research into the applicability of specific ethical frameworks in specific cultures and contexts, and the possibilities to develop technologically feasible solutions in line with these frameworks.

83. Member States should encourage international cooperation and collaboration in the field of AI to bridge geo-technological lines.

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Technological exchanges and consultations should take place between Member States and their populations, between the public and private sectors, and between and among the most and least technologically advanced countries in full respect of international law.

Policy Area 5: Environment and Ecosystems

84. Member States and business enterprises should assess the direct and indirect environmental impact throughout the AI system life cycle, including, but not limited to, its carbon footprint, energy consumption and the environmental impact of raw material extraction for supporting the manufacturing of AI technologies, and reduce the environmental impact of AI systems and data infrastructures. Member States should ensure compliance of all AI actors with environmental law, policies and practices.

85. Member States should introduce incentives, when needed and appropriate, to ensure the development and adoption of rights-based and ethical AI-powered solutions for disaster risk resilience; the monitoring, protection and regeneration of the environment and ecosystems; and the preservation of the planet. These AI systems should involve the participation of local and indigenous communities throughout the life cycle of AI systems and should support circular economy type approaches and sustainable consumption and production patterns. Some examples include using AI systems, when needed and appropriate, to:

- (a) Support the protection, monitoring and management of natural resources.
- (b) Support the prediction, prevention, control and mitigation of climate-related problems.
- (c) Support a more efficient and sustainable food ecosystem.
- (d) Support the acceleration of access to and mass adoption of sustainable energy.
- (e) Enable and promote the mainstreaming of sustainable infrastructure, sustainable business models and sustainable finance for sustainable development.
- (f) Detect pollutants or predict levels of pollution and thus help relevant stakeholders identify, plan and put in place targeted interventions to prevent and reduce pollution and exposure.

86. When choosing AI methods, given the potential data-intensive or resource-intensive character of some of them and the respective impact on the environment, Member States should ensure that AI actors, in line with the principle of proportionality, favour

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data, energy and resource efficient AI methods. Requirements should be developed to ensure that appropriate evidence is available to show that an AI application will have the intended effect, or that safeguards accompanying an AI application can support the justification for its use. If this cannot be done, the precautionary principle must be favoured, and in instances where there are disproportionate negative impacts on the environment, AI should not be used.

Policy Area 6: Gender

87. Member States should ensure that the potential for digital technologies and artificial intelligence to contribute to achieving gender equality is fully maximized, and must ensure that the human rights and fundamental freedoms of girls and women, and their safety and integrity are not violated at any stage of the AI system life cycle. Moreover, Ethical Impact Assessment should include a transversal gender perspective.

88. Member States should have dedicated funds from their public budgets linked to financing gender-responsive schemes, ensure that national digital policies include a gender action plan, and develop relevant policies, for example, on labour education, targeted at supporting girls and women to make sure they are not left out of the digital economy powered by AI. Special investment in providing targeted programmes and gender-specific language, to increase the opportunities of girls' and women's participation in science, technology, engineering, and mathematics (STEM), including information and communication technologies (ICT) disciplines, preparedness, employability, equal career development and professional growth of girls and women, should be considered and implemented.

89. Member States should ensure that the potential of AI systems to advance the achievement of gender equality is realized. They should ensure that these technologies do not exacerbate the already wide gender gaps existing in several fields in the analogue world, and instead eliminate those gaps. These gaps include: the gender wage gap; the unequal representation in certain professions and activities; the lack of representation at top management positions, boards of directors, or research teams in the AI field; the education gap; the digital and AI access, adoption, usage and affordability gap; and the unequal distribution of unpaid work and of the caring responsibilities in our societies.

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90. Member States should ensure that gender stereotyping and discriminatory biases are not translated into AI systems, and instead identify and proactively redress these. Efforts are necessary to avoid the compounding negative effect of technological divides in achieving gender equality and avoiding violence such as harassment, bullying or trafficking of girls and women and under-represented groups, including in the online domain.

91. Member States should encourage female entrepreneurship, participation and engagement in all stages of an AI system life cycle by offering and promoting economic, regulatory incentives, among other incentives and support schemes, as well as policies that aim at a balanced gender participation in AI research in academia, gender representation on digital and AI companies' top management positions, boards of directors and research teams. Member States should ensure that public funds (for innovation, research and technologies) are channelled to inclusive programmes and companies, with clear gender representation, and that private funds are similarly encouraged through affirmative action principles. Policies on harassment-free environments should be developed and enforced, together with the encouragement of the transfer of best practices on how to promote diversity throughout the AI system life cycle.

92. Member States should promote gender diversity in AI research in academia and industry by offering incentives to girls and women to enter the field, putting in place mechanisms to fight gender stereotyping and harassment within the AI research community, and encouraging academic and private entities to share best practices on how to enhance gender diversity.

93. UNESCO can help form a repository of best practices for incentivizing the participation of girls, women and under-represented groups in all stages of the AI system life cycle.

Policy Area 7: Culture

94. Member States are encouraged to incorporate AI systems, where appropriate, in the preservation, enrichment, understanding, promotion, management and accessibility of tangible, documentary and intangible cultural heritage, including endangered languages as well as indigenous languages and knowledges, for example by introducing or updating educational programmes related to the application of AI systems in these areas, where appropriate, and by ensuring a participatory approach, targeted at institutions and the public.

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95. Member States are encouraged to examine and address the cultural impact of AI systems, especially natural language processing (NLP) applications such as automated translation and voice assistants, on the nuances of human language and expression. Such assessments should provide input for the design and implementation of strategies that maximize the benefits from these systems by bridging cultural gaps and increasing human understanding, as well as addressing the negative implications such as the reduction of use, which could lead to the disappearance of endangered languages, local dialects, and tonal and cultural variations associated with human language and expression.

96. Member States should promote AI education and digital training for artists and creative professionals to assess the suitability of AI technologies for use in their profession, and contribute to the design and implementation of suitable AI technologies, as AI technologies are being used to create, produce, distribute, broadcast and consume a variety of cultural goods and services, bearing in mind the importance of preserving cultural heritage, diversity and artistic freedom.

97. Member States should promote awareness and evaluation of AI tools among local cultural industries and small and medium enterprises working in the field of culture, to avoid the risk of concentration in the cultural market.

98. Member States should engage technology companies and other stakeholders to promote a diverse supply of and plural access to cultural expressions, and in particular to ensure that algorithmic recommendation enhances the visibility and discoverability of local content.

99. Member States should foster new research at the intersection between AI and intellectual property (IP), for example to determine whether or how to protect with IP rights the works created by means of AI technologies. Member States should also assess how AI technologies are affecting the rights or interests of IP owners, whose works are used to research, develop, train or implement AI applications.

100. Member States should encourage museums, galleries, libraries and archives at the national level to use AI systems to highlight their collections and enhance their libraries, databases and knowledge base, while also providing access to their users.

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Policy Area 8: Education and Research

101. Member States should work with international organizations, educational institutions and private and non-governmental entities to provide adequate AI literacy education to the public on all levels in all countries in order to empower people and reduce the digital divides and digital access inequalities resulting from the wide adoption of AI systems.

102. Member States should promote the acquisition of “prerequisite skills” for AI education, such as basic literacy, numeracy, coding and digital skills, and media and information literacy, as well as critical and creative thinking, teamwork, communication, socio-emotional and AI ethics skills, especially in countries and in regions or areas within countries where there are notable gaps in the education of these skills.

103. Member States should promote general awareness programmes about AI developments, including on data and the opportunities and challenges brought about by AI technologies, the impact of AI systems on human rights and their implications, including children’s rights. These programmes should be accessible to non-technical as well as technical groups.

104. Member States should encourage research initiatives on the responsible and ethical use of AI technologies in teaching, teacher training and e-learning, among other issues, to enhance opportunities and mitigate the challenges and risks involved in this area. The initiatives should be accompanied by an adequate assessment of the quality of education and impact on students and teachers of the use of AI technologies. Member States should also ensure that AI technologies empower students and teachers and enhance their experience, bearing in mind that relational and social aspects and the value of traditional forms of education are vital in teacher-student and student-student relationships and should be considered when discussing the adoption of AI technologies in education. AI systems used in learning should be subject to strict requirements when it comes to the monitoring, assessment of abilities, or prediction of the learners’ behaviours. AI should support the learning process without reducing cognitive abilities and without extracting sensitive information, in compliance with relevant personal data protection standards. The data handed over to acquire knowledge collected during the learner’s interactions with the AI system must not be subject to misuse, misappropriation or criminal exploitation, including for commercial purposes.

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105. Member States should promote the participation and leadership of girls and women, diverse ethnicities and cultures, persons with disabilities, marginalized and vulnerable people or people in vulnerable situations, minorities and all persons not enjoying the full benefits of digital inclusion, in AI education programmes at all levels, as well as the monitoring and sharing of best practices in this regard with other Member States.

106. Member States should develop, in accordance with their national education programmes and traditions, AI ethics curricula for all levels, and promote cross-collaboration between AI technical skills education and humanistic, ethical and social aspects of AI education. Online courses and digital resources of AI ethics education should be developed in local languages, including indigenous languages, and take into account the diversity of environments, especially ensuring accessibility of formats for persons with disabilities.

107. Member States should promote and support AI research, notably AI ethics research, including for example through investing in such research or by creating incentives for the public and private sectors to invest in this area, recognizing that research contributes significantly to the further development and improvement of AI technologies with a view to promoting international law and the values and principles set forth in this Recommendation. Member States should also publicly promote the best practices of, and cooperation with, researchers and companies who develop AI in an ethical manner.

108. Member States should ensure that AI researchers are trained in research ethics and require them to include ethical considerations in their designs, products and publications, especially in the analyses of the datasets they use, how they are annotated, and the quality and scope of the results with possible applications.

109. Member States should encourage private sector companies to facilitate the access of the scientific community to their data for research, especially in LMICs, in particular LDCs, LLDCs and SIDS. This access should conform to relevant privacy and data protection standards.

110. To ensure a critical evaluation of AI research and proper monitoring of potential misuses or adverse effects, Member States should ensure that any future developments with regards to AI technologies should be based on rigorous and independent scientific research, and promote interdisciplinary AI research by including

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disciplines other than science, technology, engineering and mathematics (STEM), such as cultural studies, education, ethics, international relations, law, linguistics, philosophy, political science, sociology and psychology.

111. Recognizing that AI technologies present great opportunities to help advance scientific knowledge and practice, especially in traditionally model-driven disciplines, Member States should encourage scientific communities to be aware of the benefits, limits and risks of their use; this includes attempting to ensure that conclusions drawn from data-driven approaches, models and treatments are robust and sound. Furthermore, Member States should welcome and support the role of the scientific community in contributing to policy and in cultivating awareness of the strengths and weaknesses of AI technologies.

Policy Area 9: Communication and Information

112. Member States should use AI systems to improve access to information and knowledge. This can include support to researchers, academia, journalists, the general public and developers, to enhance freedom of expression, academic and scientific freedoms, access to information, and increased proactive disclosure of official data and information.

113. Member States should ensure that AI actors respect and promote freedom of expression as well as access to information with regard to automated content generation, moderation and curation. Appropriate frameworks, including regulation, should enable transparency of online communication and information operators and ensure users have access to a diversity of viewpoints, as well as processes for prompt notification to the users on the reasons for removal or other treatment of content, and appeal mechanisms that allow users to seek redress.

114. Member States should invest in and promote digital and media and information literacy skills to strengthen critical thinking and competencies needed to understand the use and implication of AI systems, in order to mitigate and counter disinformation, misinformation and hate speech. A better understanding and evaluation of both the positive and potentially harmful effects of recommender systems should be part of those efforts.

115. Member States should create enabling environments for media to have the rights and resources to effectively report on the benefits and harms of AI systems, and also encourage media to make ethical use of AI systems in their operations

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Policy Area 10: Economy and Labour

116. Member States should assess and address the impact of AI systems on labour markets and its implications for education requirements, in all countries and with special emphasis on countries where the economy is labour-intensive. This can include the introduction of a wider range of “core” and interdisciplinary skills at all education levels to provide current workers and new generations a fair chance of finding jobs in a rapidly changing market, and to ensure their awareness of the ethical aspects of AI systems. Skills such as “learning how to learn”, communication, critical thinking, teamwork, empathy, and the ability to transfer one’s knowledge across domains, should be taught alongside specialist, technical skills, as well as low-skilled tasks. Being transparent about what skills are in demand and updating curricula around these are key.

117. Member States should support collaboration agreements among governments, academic institutions, vocational education and training institutions, industry, workers’ organizations and civil society to bridge the gap of skillset requirements to align training programmes and strategies with the implications of the future of work and the needs of industry, including small and medium enterprises. Project-based teaching and learning approaches for AI should be promoted, allowing for partnerships between public institutions, private sector companies, universities and research centres.

118. Member States should work with private sector companies, civil society organizations and other stakeholders, including workers and unions to ensure a fair transition for at-risk employees. This includes putting in place upskilling and reskilling programmes, finding effective mechanisms of retaining employees during those transition periods, and exploring “safety net” programmes for those who cannot be retrained. Member States should develop and implement programmes to research and address the challenges identified that could include upskilling and reskilling, enhanced social protection, proactive industry policies and interventions, tax benefits, new taxation forms, among others. Member States should ensure that there is sufficient public funding to support these programmes. Relevant regulations, such as tax regimes, should be carefully examined and changed if needed to counteract the consequences of unemployment caused by AI-based automation.

119. Member States should encourage and support researchers to analyse the impact of AI systems on the local labour environment in order to anticipate future trends and challenges. These studies should

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have an interdisciplinary approach and investigate the impact of AI systems on economic, social and geographic sectors, as well as on human-robot interactions and human-human relationships, in order to advise on reskilling and redeployment best practices.

120. Member States should take appropriate steps to ensure competitive markets and consumer protection, considering possible measures and mechanisms at national, regional and international levels, to prevent abuse of dominant market positions, including by monopolies, in relation to AI systems throughout their life cycle, whether these are data, research, technology, or market. Member States should prevent the resulting inequalities, assess relevant markets and promote competitive markets. Due consideration should be given to LMICs, in particular LDCs, LLDCs and SIDS, which are more exposed and vulnerable to the possibility of abuses of market dominance as a result of a lack of infrastructure, human capacity and regulations, among other factors. AI actors developing AI systems in countries which have established or adopted ethical standards on AI should respect these standards when exporting these products, developing or applying their AI systems in countries where such standards may not exist, while respecting applicable international law and domestic legislation, standards and practices of these countries.

Policy Area 11: Health and Social Wellbeing

121. Member States should endeavour to employ effective AI systems for improving human health and protecting the right to life, including mitigating disease outbreaks, while building and maintaining international solidarity to tackle global health risks and uncertainties, and ensure that their deployment of AI systems in health care be consistent with international law and their human rights law obligations. Member States should ensure that actors involved in health care AI systems take into consideration the importance of a patient's relationships with their family and with health care staff.

122. Member States should ensure that the development and deployment of AI systems related to health in general and mental health in particular, paying due attention to children and youth, is regulated to the effect that they are safe, effective, efficient, scientifically and medically proven and enable evidence-based innovation and medical progress. Moreover, in the related area of digital health interventions, Member States are strongly encouraged to actively involve patients and their representatives in all relevant steps of the development of the system.

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123. Member States should pay particular attention in regulating prediction, detection and treatment solutions for health care in AI applications by:

- (a) ensuring oversight to minimize and mitigate bias;
- (b) ensuring that the professional, the patient, caregiver or service user is included as a “domain expert” in the team in all relevant steps when developing the algorithms;
- (c) paying due attention to privacy because of the potential need for being medically monitored and ensuring that all relevant national and international data protection requirements are met;
- (d) ensuring effective mechanisms so that those whose personal data is being analysed are aware of and provide informed consent for the use and analysis of their data, without preventing access to health care;
- (e) ensuring the human care and final decision of diagnosis and treatment are taken always by humans while acknowledging that AI systems can also assist in their work;
- (f) ensuring, where necessary, the review of AI systems by an ethical research committee prior to clinical use.

124. Member States should establish research on the effects and regulation of potential harms to mental health related to AI systems, such as higher degrees of depression, anxiety, social isolation, developing addiction, trafficking, radicalization and misinformation, among others.

125. Member States should develop guidelines for human-robot interactions and their impact on human-human relationships, based on research and directed at the future development of robots, and with special attention to the mental and physical health of human beings. Particular attention should be given to the use of robots in health care and the care for older persons and persons with disabilities, in education, and robots for use by children, toy robots, chatbots and companion robots for children and adults. Furthermore, assistance of AI technologies should be applied to increase the safety and ergonomic use of robots, including in a human-robot working environment. Special attention should be paid to the possibility of using AI to manipulate and abuse human cognitive biases.

126. Member States should ensure that human-robot interactions comply with the same values and principles that apply to any other

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AI systems, including human rights and fundamental freedoms, the promotion of diversity, and the protection of vulnerable people or people in vulnerable situations. Ethical questions related to AI-powered systems for neuro technologies and brain-computer interfaces should be considered in order to preserve human dignity and autonomy.

127. Member States should ensure that users can easily identify whether they are interacting with a living being, or with an AI system imitating human or animal characteristics, and can effectively refuse such interaction and request human intervention.

128. Member States should implement policies to raise awareness about the anthropomorphization of AI technologies and technologies that recognize and mimic human emotions, including in the language used to mention them, and assess the manifestations, ethical implications and possible limitations of such anthropomorphization, in particular in the context of robot-human interaction and especially when children are involved.

129. Member States should encourage and promote collaborative research into the effects of longterm interaction of people with AI systems, paying particular attention to the psychological and cognitive impact that these systems can have on children and young people. This should be done using multiple norms, principles, protocols, disciplinary approaches, and assessment of the modification of behaviours and habits, as well as careful evaluation of the downstream cultural and societal impacts. Furthermore, Member States should encourage research on the effect of AI technologies on health system performance and health outcomes.

130. Member States, as well as all stakeholders, should put in place mechanisms to meaningfully engage children and young people in conversations, debates and decision-making with regard to the impact of AI systems on their lives and futures.

V. Monitoring and Evaluation

131. Member States should, according to their specific conditions, governing structures and constitutional provisions, credibly and transparently monitor and evaluate policies, programmes and mechanisms related to ethics of AI, using a combination of quantitative and qualitative approaches. To support Member States, UNESCO can contribute by:

- (a) developing a UNESCO methodology for Ethical Impact Assessment (EIA) of AI technologies based on rigorous scientific research and grounded in international human rights

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law, guidance for its implementation in all stages of the AI system life cycle, and capacity-building materials to support Member States' efforts to train government officials, policy-makers and other relevant AI actors on EIA methodology;

(b) developing a UNESCO readiness assessment methodology to assist Member States in identifying their status at specific moments of their readiness trajectory along a continuum of dimensions;

(c) developing a UNESCO methodology to evaluate ex ante and ex post the effectiveness and efficiency of the policies for AI ethics and incentives against defined objectives;

(d) strengthening the research- and evidence-based analysis of and reporting on policies regarding AI ethics;

(e) collecting and disseminating progress, innovations, research reports, scientific publications, data and statistics regarding policies for AI ethics, including through existing initiatives, to support sharing best practices and mutual learning, and to advance the implementation of this Recommendation.

132. Processes for monitoring and evaluation should ensure broad participation of all stakeholders, including, but not limited to, vulnerable people or people in vulnerable situations. Social, cultural and gender diversity should be ensured, with a view to improving learning processes and strengthening the connections between findings, decision-making, transparency and accountability for results.

133. In the interests of promoting best policies and practices related to ethics of AI, appropriate tools and indicators should be developed for assessing the effectiveness and efficiency thereof against agreed standards, priorities and targets, including specific targets for persons belonging to disadvantaged, marginalized populations, and vulnerable people or people in vulnerable situations, as well as the impact of AI systems at individual and societal levels. The monitoring and assessment of the impact of AI systems and related AI ethics policies and practices should be carried out continuously in a systematic way proportionate to the relevant risks. This should be based on internationally agreed frameworks and involve evaluations of private and public institutions, providers and programmes, including self-evaluations, as well as tracer studies and the development of sets of indicators. Data collection and processing should be conducted in accordance with international law, national

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legislation on data protection and data privacy, and the values and principles outlined in this Recommendation.

134. In particular, Member States may wish to consider possible mechanisms for monitoring and evaluation, such as an ethics commission, AI ethics observatory, repository covering human rights-compliant and ethical development of AI systems, or contributions to existing initiatives by addressing adherence to ethical principles across UNESCO's areas of competence, an experience-sharing mechanism, AI regulatory sandboxes, and an assessment guide for all AI actors to evaluate their adherence to policy recommendations mentioned in this document.

VI. Utilization and Exploitation of the Present Recommendation

135. Member States and all other stakeholders as identified in this Recommendation should respect, promote and protect the ethical values, principles and standards regarding AI that are identified in this Recommendation, and should take all feasible steps to give effect to its policy recommendations.

136. Member States should strive to extend and complement their own action in respect of this Recommendation, by cooperating with all relevant national and international governmental and non-governmental organizations, as well as transnational corporations and scientific organizations, whose activities fall within the scope and objectives of this Recommendation. The development of a UNESCO Ethical Impact Assessment methodology and the establishment of national commissions for the ethics of AI can be important instruments for this.

VII. Promotion of the Present Recommendation

137. UNESCO has the vocation to be the principal United Nations agency to promote and disseminate this Recommendation, and accordingly will work in collaboration with other relevant United Nations entities, while respecting their mandate and avoiding duplication of work.

138. UNESCO, including its bodies, such as the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), the International Bioethics Committee (IBC) and the Intergovernmental Bioethics Committee (IGBC), will also work in collaboration with other international, regional and sub-regional governmental and non-governmental organizations.

139. Even though, within UNESCO, the mandate to promote and protect falls within the authority of governments and

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intergovernmental bodies, civil society will be an important actor to advocate for the public sector's interests and therefore UNESCO needs to ensure and promote its legitimacy.

VIII. Final Provisions

140. This Recommendation needs to be understood as a whole, and the foundational values and principles are to be understood as complementary and interrelated.

141. Nothing in this Recommendation may be interpreted as replacing, altering or otherwise prejudicing States' obligations or rights under international law, or as approval for any State, other political, economic or social actor, group or person to engage in any activity or perform any act contrary to human rights, fundamental freedoms, human dignity and concern for the environment and ecosystems, both living and non-living.

The Center for AI and Digital Policy

The **Center for AI and Digital Policy** aims to promote *a better society, more fair, more just —a world where technology promotes broad social inclusion based on fundamental rights, democratic institutions, and the rule of law*. The **Center** advises national governments and international organizations on AI policies and practices; publishes commentaries on AI policy; publishes annually *Artificial Intelligence and Democratic Values*; provides training and certification for future leaders in the AI policy field; organizes educational events with AI policy experts; and supports AI policy initiatives that promote human-centric and trustworthy AI, including the Universal Guidelines for AI. The **Center** also monitors implementation of the OECD AI Principles and other AI policy frameworks; and supports the establishment of new legal frameworks for AI that safeguard the rule of law, democratic institutions, and fundamental rights. More information about the Center is available at CAIDP.ORG.

About this Report

Artificial Intelligence and Democratic Values – the essential companion to AI policy practitioners, academics, and civil society (CAIDP 2022)

Reflecting the collaborative work of more than 100 AI policy experts around the world, *AI and Democratic Values* is the first comprehensive survey of national AI policies and practices, with country ratings and rankings. The report sets out a state-of-the-art analysis of 50 countries worldwide, based on a rigorous and transparent methodology. *AI and Democratic Values* provides an up-to-date review of the AI global policy landscape, describing recent developments at the European Union and the Council of Europe, as well as changes to national AI strategies, and current controversies surrounding social scoring, facial recognition, and lethal autonomous weapons. *AI and Democratic Values* also features the primary legal instruments for AI policy, including the Universal Guidelines for AI, the OECD AI Principles, the resolutions of the Global Privacy Assembly concerning AI, and the new UNESCO Recommendation on AI Ethics. Published in the EPUB format, *AI and Democratic Values* offers free and easy access to more than 1,000 policy documents in the field of AI policy.



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