



Center for AI and
Digital Policy

ARTIFICIAL INTELLIGENCE

and

DEMOCRATIC VALUES

The AI Social Contract Index 2020

(AISCI-2020)

Center for AI and Digital Policy,
Michael Dukakis Institute for
Leadership and Innovation

Boston, MA
Washington, DC

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FOREWORD – Gov. Michael Dukakis

Around the world, the growth of digital services is accelerating. Schools, businesses, government agencies, and hospitals are all moving online. Behind these digital connections are powerful computer systems that promote efficiency and economic growth, but also pose new challenges, particularly for democratic governments. Should AI systems determine criminal sentences? Should they decide who gets a job or is allowed to cross a national border? Should AI systems grade final exams? And how will we know if these systems make the right decisions?

These are real challenges that confront governments today. AI systems are also becoming more complex. In the early days, when people spoke of “artificial intelligence” they often meant expert systems that had turned a skill, such as a medical diagnosis, into a series of decisions. That process could be automated and provided the non-expert with the insights of the trained diagnostician. And if further research provided a better decision, it was relatively easy to modify the system to take account of new insights.

Today AI systems rely on very large data sets and processes that constantly modify outcomes based on elaborate testing that is not easy to replicate. Machine learning, deep learning, and neural networks are all part of a new generation of AI research. The advances in Artificial Intelligence over the last few decades have been remarkable. From image recognition and voice recognition, to self-driving vehicles, prose composition, and general-purpose programs that have defeated world champions in both chess and go.

In Massachusetts, we have long worked to promote technological innovations while also confronting the social and policy implications of our creations. Our state is home to many great universities and companies that advance the sciences and pioneer the future. But Boston and Cambridge are also leading efforts to limit the use of facial recognition, a particular AI technique that makes possible mass surveillance. And the Massachusetts Assembly is preparing legislation to establish a commission of experts to study the use of AI in agency decision-making on matters from criminal justice to child welfare. The Massachusetts AI commission would assess transparency and fairness, and help agencies validate and test the automated systems they use.

* * *

Many governments recognize the need to develop policies for artificial intelligence. Angel Gurría, the Secretary General of the OECD, has worked closely with OECD countries, and non-member countries, particularly in the global south, to establish an international framework that emphasizes human-centric AI, inclusive growth, sustainable development, and well-being. Former Prime Minister Shinzo Abe, joined with Secretary Gurría, to gather support for the AI Principles at the G20 summit last year in Osaka, another milestone in the development of global policy for AI.

Civil society organizations and experts in computer science have urged the OECD and countries to go further. Their proposed “Universal Guidelines for AI” examine such hard problems as the social scoring system in China that assigns numeric scores to each person based on their allegiance to the government. They have called for red lines that ban such practices. The Universal Guidelines also make clear that those who deploy AI systems should carry the responsibility for the consequences. If it is not possible to maintain control of an AI system, it may be necessary to pull the plug.

And the Boston Global Forum, working with the World Leadership Alliance, has set out the **Social Contract for Age of AI**. While TCP / IP is the platform for communication among internet users, the Social Contract for AI lays the foundation for a new international system; it focuses on the conduct of each nation, relations with non-state actors, and the interconnection of nations on a worldwide basis. The Social Contract for the Age of AI builds on the foundation of democratic governments, that members of a society should cooperate for social benefits and that this understanding should be expressed clearly in legal rules and political institutions that are accountable to the people.

The OECD should make sure that countries that have signed up for the OECD AI Principles implement the OECD AI Principles. The United Nations could pursue a global agreement so that AI is used only for constructive purposes, even as the European Union and the Council of Europe establish new legal frameworks for AI. Civil society and technology experts have a vital role in public discussions, ensuring that government maximize the social benefits and minimize the political and economic risks of AI.

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We must also recognize that these choices about AI carry real consequences for the rights and freedoms of citizens. We already see how authoritarian governments can use AI techniques to monitor social protest through facial recognition and analysis of communications and travel records. And once these systems are established, they will be difficult to dismantle. World leaders will need to speak clearly about the need to protect democratic values even as they promote this new technology.

This work is therefore vitally important for our societies and for democracies around the world. But we will need a way to measure progress, to close the gap between principles and practices. And that is the significance of this impressive report – *Artificial Intelligence and Democratic Values: The AI Social Contract Index*. The *AI Index* sets out the first methodology to evaluate and rank the AI policies of national governments. Grounded in international norms, such as the OECD AI Principles and the Universal Declaration for Human Rights, the AI Index urges countries to make good on their commitments. The AI Index provides a basis to measure progress over time.

I thank Marc Rotenberg and the extraordinary team at the **Center for AI and Digital Policy** that put together this landmark report. The Center for AI is the newest project of the Michael Dukakis Institute. In my many years in government, this report on *Artificial Intelligence and Democratic Values* is one of the most comprehensive and thoughtful reports I have read. I also thank the young researchers who worked on this project. One of the goals of the **Michael Dukakis Institute** is to train new leaders in the field of technology and policy. I am glad we provided this opportunity for them.

I also thank Tuan Nguyen who has worked closely with me at the Michael Dukakis Institute, developed our proposals on AI policy, organized the meetings of the **Boston Global Forum**, established the **AI World Society**, and prepared the **Social Contract for the Age of AI**. I also thank my colleagues at the Boston Global Forum, my friends at the **Club de Madrid**, and the **UN Academic Impact**, for their collaborations on this important work.

* * *

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Artificial Intelligence can help humans govern, but AI can't replace human decision-makers. We must promote a world in which AI provides broad social benefit for all, a world that also safeguards fundamental rights and strengthens democratic institutions.

The Michal Dukakis Institute, the World Leadership Alliance, the UN Academic Impact will join together with others to seek commitments from national government for the Social Contract for the Age of AI and the forthcoming Democratic Alliance on Digital Governance. *The AI Social Contract Index* will measure our success toward our shared goals. I look forward to future editions.

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Preface

Almost 30 years ago, a few privacy advocates set about the task of evaluating privacy practices around the world.¹ The project arose as countries were expanding systems for surveillance, creating identification requirements, and proposing limitations on encryption. The framing of the new report was human rights, “Privacy and human rights.” The starting point were the annual country assessments, prepared by the US Department of State, to document compliance with international human rights obligations. A single question in the State Department report inquired into each country’s privacy practices and provided documentation in support of an assessment.²

The advocates added additional questions and conducted independent research. They drew on the expertise of leading scholars in the privacy field and published reports from government agencies. They carefully documented their findings. Although the human rights focus was clear, the tone was objective and authoritative. Readers were left to decide for themselves whether the practices uncovered were favorable or unfavorable.

The first report was a couple dozen pages, hand-stapled in the corner, passed out at conferences among advocates, experts, and government officials. There were many typos. In one stack of collated reports, several pages were missing. Over time the report *Privacy and Human Rights: An International Survey of Privacy Laws and Developments* grew. Countries were added, new topics were explored. The network of experts went from a handful in a few countries to several

¹ The effort was launched by Simon Davies, the founder of Privacy International. *Privacy International – a foundation stone of the global privacy movement – turns 25 today* (Mar. 17, 2015), <http://www.privacysurgeon.org/blog/incision/privacy-international-the-foundation-stone-of-the-global-privacy-movement-turns-25-today-privacyint/>; *About PI – The Interim Report Members 1990-1991* (Nov. 25, 1991), <https://web.archive.org/web/20101202201847/http://www.privacyinternational.org/article.shtml>

² The question is derived from Article 12 of the Universal Declaration of Human Rights and asks about a country’s “Arbitrary or Unlawful Interference with Privacy, Family, Home, or Correspondence.” U.S. Department of State, Bureau of Democracy, Labor, and Human Rights, *2019 Country Reports on Human Rights Practices, Appendix A, Notes on the Preparation of Country Practices and Explanatory Materials*, <https://www.state.gov/reports/2019-country-reports-on-human-rights-practices/>

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hundred across more than 50 countries. The report was published online and on a CD-ROM. By the final publication in 2006, the print edition exceeded 1,100 pages and 6,000 footnotes. The printing house reported that it would no longer be possible to print the *Privacy and Human Rights* report in a single volume. The binding capacity of the press has been exceeded.

The annual *Privacy and Human Rights* report was influential. The report was discussed at the annual meetings of the data protection and privacy commissioners. The *Privacy and Human Rights* report called out countries engaged in practices that violated human rights. The report also recognized countries that were passing new laws and creating new agencies to address emerging challenges. *The Privacy and Human Rights* report highlighted the work of NGOs, the activists who led campaigns, pushed for legal reforms, and ultimately strengthened democratic institutions. The country reports provided the basis for comparative assessments. Over time, metrics were developed to provide both ratings and rankings of country practices.³

And the *Privacy and Human Rights* report was fiercely independent. No companies sponsored the report. No government could control its content. And the contributors were committed to accuracy. There were occasional mistakes, but they were corrected in subsequent editions. And readers were always invited to share information and updates for future editions. Reporting and evaluations followed lengthy research, discussion, and debate.

* * *

The *AI Social Contract Index* begins with a similar purpose and a similar ambition. We are witnessing today rapid changes in our society brought about the deployment of new technologies, broadly grouped under the banner “artificial intelligence.” To be sure, many applications of AI are

³ Dave Banisar has continued to map national privacy law to the present day. David Banisar, *National Comprehensive Data Protection/Privacy Laws and Bills 2020* (Nov. 30, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1951416. Graham Greenleaf, also one of the early participants in the project, has since pursued extensive work on comparative privacy law. His most recent survey is Graham Greenleaf, *Global Tables of Data Privacy Laws and Bills* (6th Ed), SSRN (May 30, 2019) (there are now 132 countries with privacy laws listed in Graham’s Global Table), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3380794

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promoting innovation, economic growth, and medical breakthroughs.⁴ But those achievements often announce themselves. They attract investment dollars and research grants. More difficult is the assessment of controversial systems, such as the use of AI for criminal sentencing, for hiring, or for public administration. AI as *facial recognition* to unlock a cellphone is a wonderful innovation. AI as *face surveillance* to monitor people in public spaces is an Orwellian nightmare.

How to assess these practices objectively and fairly? We begin today, as we did almost 30 years ago, looking for well-established norms and sources of authoritative assessments. The OECD/G20 AI Principles provided a starting point, as did the Universal Declaration for Human Rights, the most widely recognized legal instrument for fundamental rights. We developed a methodology, drawing on the work of international human rights organizations and data protection experts. We revised questions as our work progressed, and new factors were uncovered. We recognized early on the difference between a country's endorsement of a key principle, such as "fairness," and a country's implementation of that principle. Endorsement is easy to measure; implementation, not so much. In highlighting this distinction, we hope others will also look more closely at the difference between what countries say and what they do, all with the larger purpose of closing that gap. And we knew we could not look at the practices of all countries, so we chose those countries (again relying on objective metrics) that we thought would be most impactful.

We also reported the excellent work of civil society groups, particularly in Europe, that have undertaken their own assessment of AI policies and public attitudes, organized public campaigns, and put forward proposals to update the law. Groups such as AccessNow, AlgorithmWatch, Article 19, BEUC, EDRi, Homo Digitales, vzbv, and once again, Privacy International, are shaping the public debate over new technologies and preparing democratic institutions for the challenges ahead.

⁴ And even AI-derived medical breakthroughs should be subject to traditional methods for scientific proof. Nature, *Transparency and reproducibility in artificial intelligence* (Oct. 14, 2020) ("Scientific progress depends on the ability of researchers to scrutinize the results of a study and reproduce the main finding to learn from. But in computational research, it's not yet a widespread criterion for the details of an AI study to be fully accessible. This is detrimental to our progress."), <https://www.nature.com/articles/s41586-020-2766-y>

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In the construction of the methodology, we made clear our commitment to democratic values. In the AI policy field, political leaders often speak of “human-centric AI” and “trustworthy AI.” These are key objectives for the age of AI, but progress toward these goals will require new legal instruments, reflecting public concerns, commensurate with the actual impact of these systems. That is a process that occurs through democratic institutions that are open and transparent. This report should help in those efforts.

And those efforts are already underway. We made the best attempt we could to ensure that our summaries and assessments were accurate at the time of publication in December 2020, but it is likely that we missed key developments. We will post addendum for the *2020 AI Index*, prior to the publication of the *2021 AI Index*, at the website of the **Center for AI and Digital Policy** (caidp.dukakis.org).

The first edition of the *AI Social Contract Index* is more than the few dozen pages that comprised the first report on *Privacy and Human Rights*, and there is no staple in the corner. We also have the advantages of the Internet to promote distribution and to translate texts from original languages. Still there is a lot more to do – more countries to cover, more topics to explore, additional metrics, better summaries and visualizations, and other techniques to promote public understanding.⁵ The *AI Social Contract Index* is still in the early days.

This was an ambitious project, all the more remarkable that it came together in a few months, late in the year 2020, not one of the great years in world history. It is difficult to describe the gratitude I feel toward the people who worked with me on this project. Leaving EPIC was not in the plan. And I was not sure what would be ahead. On this new adventure, I joined with old friends and made new friends. They made this publication possible. As we were all volunteers in this endeavor, there was nothing to offer other than the possibility of interesting research and a meaningful outcome. Although writers often thank contributors in the context of a particular publication, I also owe deep thanks to those who worked with me during this unusual time. I could never thank them enough. And a special thanks go to my close friend, formerly with the OECD, Anne Carblanc. Out of

⁵ The World Justice Project, for example, provides an impressive model for those studying Rule of Law. <https://worldjusticeproject.org/>. Other notable projects include the Global Accountability Project run by the One World Trust.

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thoughtful argument there is progress. And by the end of this project, we made a lot of progress.

Tuan Nguyen brought me to the **Michael Dukakis Institute** in the summer of 2020 and together we launched the **Center for AI Digital Policy** with a modest mission – “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.” We have set a good course, though the journey will be long.

The extraordinary research team, listed here, is a wonderful group, dedicated, thoughtful, and hard-working. In our weekly meetings, they presented draft country reports, which we all reviewed and discussed in detail. Several sessions were devoted to the methodology, which improved over time. And in many emails and many edits, we went back and forth over various sections of the report, always trying to be sure we had the most accurate and up-to-date descriptions and the most authoritative sources. There was never a shortage of emails! We are grateful also to the outside reviewers for their expert comments and suggestions, which we tried our best to incorporate.⁶

Governor Dukakis has been an inspiration for me since the early days, growing up in Boston. His optimism about the future combined with his passion for social justice resonates deeply.

And the fam was always there. Thanks, Anna, Chaz, and Chloe.

Still, we are not ending a project. We are at the beginning. So, we close the forward to the first report on *Artificial Intelligence and*

⁶ Our reviewers included Suso Baleato, Harvard University; David Banisar, Article 19; Franziska Boehm, Karlsruhe Institute of Technology; Joy Buolamwin, Algorithmic Justice League and MIT; Isabelle Buscke, vzbv; Nazli Choucri and Nechama Huba, MIT; Christian D’Cunha, European Commission; Graham Greanleaf, UNSW Faculty of Law; Yuko Harayama, RIKEN; Joi Ito, Center of Complex Interventions; Amb. Karen Kornbluh (ret.); Gary T. Marx, MIT; Hirsoshi Miyashita, Chuo University; Ursula Pahl, BEUC; Lorraine Porciuncula, Internet and Jurisdiction Policy Network; Yves Pouillet, University of Namur; Katitza Rodriguez, co-editor, *Privacy and Human Rights*; Ben Shneiderman, University of Maryland; Cristos Velasco, Evidencia Digital.Lat; Robert Whitfield, One World Trust / World Federalist Movement; Gabriela Zafir-Fortuna, Future of Privacy Forum; Marcel Zutter, Boston Global Forum. Several unnamed reviewers offered helpful comments but asked not to be identified. Also, all errors remain the responsibility of the editor.

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Democratic Values as we often closed the forward to the annual *Privacy and Human Rights* report, asking for your feedback and advice, and looking forward to the next edition.

Please visit us at caidp.dukakis.org, and send us your suggestions for the 2021 edition of the *AI Social Contract Index* to marcrote@mac.com. You will find this report and related material at caidp.dukakis.org/aisci-2020/.

Marc Rotenberg
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Washington, DC
December 2020

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EXECUTIVE SUMMARY

Purpose and Scope

Artificial Intelligence and Democratic Values: The AI Social Contract Index is the first global survey to assess progress toward trustworthy AI. The **AI Index 2020** has these objectives: (1) to document the AI policies and practices of influential countries, based on publicly available sources, (2) to establish a methodology for the evaluation of AI policies and practices, based on global norms, (3) to assess AI policies and practices based on this methodology and 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.

The first edition of ***Artificial Intelligence and Democratic Values*** examined AI policies and practices in the Top 25 countries by GDP and other high impact countries. These countries are Australia, Belgium, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Netherlands, Poland, Russia, Saudi Arabia, Spain, Switzerland, Taiwan, Thailand, Sweden, Turkey, United Kingdom, United States. High impact countries include Estonia, Israel, Kazakhstan, Rwanda, and Singapore.

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

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

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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 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*

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.”⁷ 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 late 2020.

The Council of Europe

The Council of Europe (COE) is the continent’s leading human rights organization.⁸ 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.⁹

In 2018, the Council of Europe amended Convention 108 and opened for signature and ratification the COE Modernized Convention

⁷ Marc Rotenberg, *AI Policy Sourcebook* (2019, 2020).

⁸ Council of Europe, *Who we are*, <https://www.coe.int/en/web/about-us/who-we-are>

⁹ Council of Europe, Treaty office, *Details of Treaty No. 108*, <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/108>

108.¹⁰ 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 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.”¹¹ Forty-two states have signed the protocol amending the Privacy Convention.¹²

Several new AI initiatives are underway at the Council of Europe, including at the Council of Ministers, the COE Parliamentary Assembly, and the recently established Ad Hoc Committee on Artificial Intelligence (CAHAI). 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.”¹³

CAHAI

The COE Council of Ministers established the Ad Hoc Committee on Artificial Intelligence (CAHAI) in September 2019.¹⁴ 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 development, design and application of artificial intelligence, based on the

¹⁰ Council of Europe, Data Protection, Modernisation of Convention 108, <https://www.coe.int/en/web/data-protection/convention108/modernised>

¹¹ Council of Europe, Data Protection, *Modernisation of Convention 108: Overview of the novelties*, <https://rm.coe.int/modernised-conv-overview-of-the-novelties/16808accf8>

¹² 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>

¹³ Council of Europe, *Artificial intelligence and human rights*, <https://www.coe.int/en/web/artificial-intelligence/secretary-general-marija-pejcinovic-buric>

¹⁴ 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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Council of Europe’s standards on human rights, democracy and the rule of law.”¹⁵

The Council of Ministers approved the first progress report of the CAHAI in September 2020.¹⁶

Council of Ministers

In September 2020 the COE 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.”¹⁷ The 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 COE Ministers also proposed that the CAHAI should examine “human rights impact assessments” and “certification of algorithms and AI systems.”

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.¹⁸ 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.”

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

¹⁵ Council of Europe, *CAHAI - Ad hoc Committee on Artificial Intelligence*, <https://www.coe.int/en/web/artificial-intelligence/cahai>

¹⁶ 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

¹⁷ 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

¹⁸ Council of Europe, Parliamentary Assembly, *Need for democratic governance of artificial intelligence* (Oct. 22, 2020), <https://pace.coe.int/en/files/28803/html>

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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.¹⁹

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 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 2019.²⁰ At that time, von der Leyen recommended new rules on Artificial Intelligence that respect human safety and rights.²¹

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,

¹⁹ Council of Europe, *CEPEJ: Artificial intelligence and cyberjustice at the heart of the discussions* (Dec. 11, 2020)

²⁰ 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/>

²¹ 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

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particularly after a recent ruling of the European Court of Justice.”²² 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.”²³

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.”²⁴ 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 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 European Parliament

As the Commission has delayed introduction of framework legislation for AI, the European Parliament has convened hearings and adopted resolution to outline the element of EU legislation.²⁵ 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

²² 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

²³ Council on Foreign Relations, *A Conversation with Ursula von der Leyen* (Nov. 20, 2020), <https://www.cfr.org/event>

²⁴ 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

²⁵ 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/>

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.”

The influential LIBE Committee has also highlighted concerns about AI and fundamental rights and AI in criminal justice.²⁶ 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 on AI and the application of international law.²⁷

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*.²⁸ The study 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

²⁶ 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/>

²⁷ 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

²⁸ 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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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.”²⁹

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.³⁰ 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.³¹ “The biggest platforms would have to provide more information on the way their algorithms work, when regulators ask for it,” Vestager said.

The European Council

The European Council defines the EU's overall political direction and priorities.³² It is not one of the EU's legislating institutions, so does not negotiate or adopt EU laws. Instead, it sets the EU's policy agenda, traditionally by adopting 'conclusions' during European Council meetings which identify issues of concern and actions to take. The members of the European Council are the heads of state or government of the 27 EU member states, the European Council President and the President of the European Commission.

In June 2020, the Council of the European set out Conclusions for Shaping Europe’s Digital Future.³³ Regarding AI, the Council stressed,

²⁹ 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

³⁰ 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)

³¹ 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>

³² European Council, Council of the European Union, <https://www.consilium.europa.eu/en/european-council/>

³³ 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>

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.³⁴ “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.

The Presidency recommended a “fundamental rights-based” approach to AI and emphasized dignity, freedoms, equality, solidarity, citizen’s rights, and justice.³⁵ 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 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

³⁴ 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/#>

³⁵ 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>

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adopted.³⁶ Judgments of the Court concerning data transfers will also impact the development of AI systems. In the Schrems II judgment earlier this year, the Court struck down the Privacy Shield framework that permitted the transfer of personal data from the European Union to the United States.³⁷ The Schrems II judgment will likely limit the collection and use of personal data for AI systems.

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.³⁸

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.³⁹ 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

³⁶ 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/>

³⁷ 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>

³⁸ EDPB, *Who we are*, https://edpb.europa.eu/about-edpb/about-edpb_en

³⁹ 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

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“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 GDPR.⁴⁰

The European Data Protection Supervisor

The European Data Protection Supervisor is the European Union’s independent data protection authority.⁴¹ 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 administrations who process great amounts of personal data.”⁴² 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.”

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 assesses the use of AI for public

⁴⁰ 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

⁴¹ EDPS, *About*, https://edps.europa.eu/about-edps_en

⁴² 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

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administration and business in the EU.⁴³ A 2018 report explores discrimination in AI⁴⁴ and a 2019 FRA report examines facial recognition.⁴⁵

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.⁴⁶ 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 2020.⁴⁷ The German Government also provided its comments on the Commission White Paper on AI⁴⁸ and the detailed 2019 Opinion of the Data Ethics Commission concerning algorithm-based decision-making, AI, and data.⁴⁹

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.⁵⁰ The group members were selected following an open selection process and comprised representatives from academia, civil

⁴³ 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>

⁴⁴ 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>

⁴⁵ 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>

⁴⁶ *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/>

⁴⁷ *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)

⁴⁸ 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

⁴⁹ Daten Ethik Commission, *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

⁵⁰ European Commission, *High-Level Expert Group on Artificial Intelligence*, <https://ec.europa.eu/digital-single-market/en/high-level-expert-group-artificial-intelligence>

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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.

G-20

The G20 is an international forum, made up of 19 countries and the European Union, representing the world's major developed and emerging economies.⁵¹ Together, the G20 members represent 85 % of global GDP, 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.⁵²

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.”⁵³

⁵¹ OECD, *What is the G20?* <https://www.oecd.org/g20/about/>

⁵² 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>

⁵³ 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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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.”

The G20 work on AI also followed from an initiative of the Japanese government that began at the 2016 G7 Ministerial in Japan, hosted by former Prime Minister Shinzo Abe, and an initiative of the Boston Global Forum. In a paper prepared for the 2016 G7 Summit, the BGF proposed a new agenda for Securing Cyberspace.⁵⁴

Global Partnership on AI

The Global Partnership on Artificial Intelligence (GPAI) emerged from the OECD Recommendation on Artificial Intelligence.⁵⁵ GPAI activities are intended to foster the responsible development of AI grounded in “human rights, inclusion, diversity, innovation, and economic growth.”⁵⁶ 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. GPAI’s founding members are Australia, Canada, France, Germany, India, Italy, Japan, Mexico, New Zealand, the Republic of Korea, Singapore, Slovenia the United Kingdom, the United States, and the European Union.

The GPAI held the Montreal Summit in early 2020.⁵⁷ 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

⁵⁴ The BGF-G7 Summit Initiative Ise-Shima Norms (May 9, 2016), <https://bostonglobalforum.org/wp-content/uploads/sites/4/2016/05/BGF-G7-Summit-Initiative-Official-1.pdf>

⁵⁵ GPAI, *The Global Partnership on Artificial Intelligence*, <https://gpai.ai>

⁵⁶ GPAI, *About GPAI*, <https://gpai.ai/about/>

⁵⁷ GPAI, *Montreal Summit 2020*, <https://www.c2montreal.com/en/lp/global-partnership-on-artificial-intelligence/>

Summit included an AI Art Session to learn how AI will “advance art artistry.”

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.⁵⁸

The GPA adopted a foundational Declaration in 2018 on Ethics and Data Protection in Artificial Intelligence.⁵⁹ 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 implement accountability measures, including a human rights impact assessment.⁶⁰ 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.”

In 2020, the Global Privacy Assembly also adopted a Resolution on Facial Recognition Technology.⁶¹ 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

⁵⁸ 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/>

⁵⁹ 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

⁶⁰ 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>

⁶¹ Global Privacy Assembly, *Adopted Resolution on Facial Recognition Technology* (Oct. 2020), <https://globalprivacyassembly.org/wp-content/uploads/2020/10/FINAL-GPA-Resolution-on-Facial-Recognition-Technology-EN.pdf>

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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.”⁶² 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.⁶³ OECD policy frameworks are not treaties, do not have legal force, and are not directly applicable to OECD member 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.⁶⁴

⁶² OECD, *Who we are*, <https://www.oecd.org/about/>

⁶³ OECD, *OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data (1981)*, <https://www.oecd.org/sti/ieconomy/oecdguidelinesontheProtectionofPrivacyandTransborderFlowsOfPersonalData.htm>

⁶⁴ 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/>

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.⁶⁵ According to the OECD, the AI Policy Observatory is based on multidisciplinary, evidence-based analysis, and Global multi-stakeholder partnerships.

National Implementation

The OECD has also published the first report that attempts to assess the implementation of the OECD AI Principles among the G-20 nations.⁶⁶ 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

⁶⁵ OECD, *AI Policy Observatory*, <https://www.oecd.ai/>

⁶⁶ 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/>

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countries and firms, and policy-making on AI is in an active experimental phase.”⁶⁷

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.⁶⁸ 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, “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).⁶⁹ 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;

⁶⁷ 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>

⁶⁸ 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-oecdsgurría-underscores-ai-fairness-at-g-20-meeting/>

⁶⁹ 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.

UNESCO

UNESCO has 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."⁷⁰

UNESCO recently 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.

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

⁷⁰ UNESCO, *Artificial intelligence with human values for sustainable development*, <https://en.unesco.org/artificial-intelligence>

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Emergence of Artificial Intelligence.⁷¹ In 2015, the UN Interregional Crime and Justice Research Institute (UNICRI) launched a program on AI and Robotics.

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.”⁷² 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).⁷³

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.⁷⁴ The *Report of the Special Rapporteur on the promotion and protection of the right to 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,

⁷¹ 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

⁷² ITU, AI for Good Global Summit 2018, <https://www.itu.int/en/ITU-T/AI/2018/Pages/default.aspx>

⁷³ ITU News Magazine, *Artificial Intelligence for global good* (Jan. 2018), https://www.itu.int/en/itunews/Documents/2018/2018-01/2018_ITUNews01-en.pdf

⁷⁴ 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>

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.⁷⁵ 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).⁷⁶ In November 2019,⁷⁷ the CCW High Contracting Parties endorsed 11 Guiding Principles for LAWS.⁷⁸ But concerns about future of regulation of lethal autonomous weapons remain. At present, some countries believe

⁷⁵ 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).

⁷⁶ 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)

⁷⁷ 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>

⁷⁸ 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 (Sept. 25, 2019)*, <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G19/285/69/PDF/G1928569.pdf?OpenElement>

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that current international law “mostly suffices” while others believe new laws are needed.⁷⁹ Human Rights Watch provided an important overview of country positions on the future of banning fully autonomous weapons in August 2020.⁸⁰ Concerns over killer reports also arose at the 75th UN Assembly in October 2020.⁸¹ 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.”⁸² The Permanent Representative of the Holy See to the UN called for a ban on autonomous weapons in 2014.⁸³

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 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

⁷⁹ Dustin Lewis, *An Enduring Impasse on Autonomous Weapons*, Just Security (Sept. 28, 2020), <https://www.justsecurity.org/72610/an-enduring-impasse-on-autonomous-weapons/>

⁸⁰ 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#>

⁸¹ Stop Killer Robots, *75th UN Assembly* (Oct. 30, 2020), <https://www.stopkillerrobots.org/2020/10/un-diplomacy/>

⁸² 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_HolySec.pdf

⁸³ 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)

advances should be oriented towards respecting the dignity of the person and of Creation.”⁸⁴

Earlier in 2020, the Pope endorsed the Rome Call for AI Ethics.⁸⁵ 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.”⁸⁶

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).⁸⁷ The initial report *A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems* was published in 2015. The

⁸⁴ 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>

⁸⁵ *Rome Call AI Ethics*, <https://romecall.org>

⁸⁶ Pontifical Academy for Life, *Rome Call for Ethics* (Feb. 28, 2020), <http://www.academyforlife.va/content/pav/en/events/intelligenza-artificiale.html>

⁸⁷ IEEE Ethics in Action in Autonomous and Intelligent Systems, <https://ethicsinaction.ieee.org>

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IEEE published the second edition in 2017.⁸⁸ 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.”⁸⁹

ACM, an international society of computer scientists and professionals, has also contributed to the global AI policy landscape.⁹⁰ 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.⁹¹ 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.⁹²

Civil Society

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 proposals⁹³ and a very

⁸⁸ 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

⁸⁹ IEEE, *Artificial Intelligence* (June 24, 2019), <https://globalpolicy.ieee.org/wp-content/uploads/2019/06/IEEE18029.pdf>

⁹⁰ Association for Computing Machinery, www.acm.org/public-policy

⁹¹ 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.

⁹² 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>

⁹³ AccessNow, *Mapping Regulatory Proposals for Artificial Intelligence in Europe* (Nov. 2018),

recent report on “trustworthy AI.”⁹⁴ AlgorithmWatch has drawn attention to controversies in the use of AI-based decision-making systems.⁹⁵ BEUC, the European consumer organization, has surveyed public attitudes toward AI,⁹⁶ and in October 2020 proposed specific AI rights for consumers.⁹⁷ Privacy International has examined the impact of AI in several context, including advertising, welfare, and migration.⁹⁸

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.⁹⁹ 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 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.”¹⁰⁰ The German consumer association vzbv

https://www.accessnow.org/cms/assets/uploads/2018/11/mapping_regulatory_proposals_for_AI_in_EU.pdf

⁹⁴ AccessNow, *Europe’s Approach to Artificial Intelligence: How AI Strategy is Evolving* (Dec. 7, 2020), <https://www.accessnow.org/eu-trustworthy-ai-strategy-report/>

⁹⁵ AlgorithmWatch, *Automating Society Report 2020* (Oct. 2020), <https://automatingsociety.algorithmwatch.org>

⁹⁶ 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>

⁹⁷ BEUC, *AI Rights for Consumers* (2019), https://www.beuc.eu/publications/beuc-x-2019-063_ai_rights_for_consumers.pdf

⁹⁸ 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>

⁹⁹ 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/>

¹⁰⁰ 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

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has also said that the EC recommendation is too narrow.¹⁰¹ 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.¹⁰² 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."¹⁰³

United States

In the United States, the AI Now Institute at New York University has organized important conferences¹⁰⁴ and issued expert reports¹⁰⁵ 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.¹⁰⁶ The Electronic Privacy Information Center (EPIC) has pursued several innovative complaints concerning AI with the US Federal Trade Commission,¹⁰⁷ provided comments on AI to federal agencies,¹⁰⁸

¹⁰¹ 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

¹⁰² Reclaim Your Face, <https://reclaimyourface.eu>

¹⁰³ Reclaim Your Face, The Movement, <https://reclaimyourface.eu/the-movement/>

¹⁰⁴ AI Now Institute, *Bias*, <https://ainowinstitute.org/symposia.html>

¹⁰⁵ AI Now Institute, *Reports*, <https://ainowinstitute.org/reports.html>

¹⁰⁶ 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>

¹⁰⁷ EPIC, *In re HireVue*, <https://epic.org/privacy/ftc/hirevue/>

¹⁰⁸ Fight for the Future, *Ban Facial Recognition*, <https://www.banfacialrecognition.com>

expert statements to Congress,¹⁰⁹ and pursued public release of materials concerning the activities of the National Security Commission on AI.¹¹⁰ 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.¹¹¹ Amazon also came under widespread criticism from many US NGOs in 2018 about the company's facial recognition system Rekognition.¹¹² In June 2020, Amazon agreed to "pause" the police use of its facial recognition software.¹¹³ 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."¹¹⁴

The Algorithmic Justice League (AJL) has advised the US Congress on AI policy¹¹⁵ and facial recognition technology.¹¹⁶ The AJL has also proposed the creation of a federal agency, similar to the FDA, to regulate

¹⁰⁹ *EPIC Urges Congress to Regulate AI Techniques, Promotes 'Algorithmic Transparency'* (Dec. 12, 2017), <https://epic.org/2017/12/epic-urges-congress-to-regulat.html>

¹¹⁰ <https://www.epic.org/foia/epic-v-ai-commission/>

¹¹¹ *Fight for the Future, Ban Facial Recognition*, <https://www.banfacialrecognition.com>

¹¹² *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>

¹¹³ 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>

¹¹⁴ 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/>

¹¹⁵ 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>

¹¹⁶ 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>

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facial recognition technology.¹¹⁷ And the AJL published a landmark report on AI bias - *Gender Shades: Uncovering Gender and skin-Type bias in Commercial AI Products*.¹¹⁸

¹¹⁷ AJL, *Federal Recognition Technologies: A Call for a Federal Office* (May 29, 2020), <https://www.ajl.org/federal-office-call>

¹¹⁸ AJL, *Gender Shades: Uncovering Gender and skin-Type bias in Commercial AI Products*, <http://gendershades.org>

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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.”¹¹⁹ 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.¹²⁰ 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.”¹²¹ 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.

¹¹⁹ 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>

¹²⁰ 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

¹²¹ CSIRO, *Artificial Intelligence*, <https://www.csiro.au/en/Research/AI>

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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.”¹²² 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.¹²³ 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 2019.¹²⁴ 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.¹²⁵ In March 2020, Standards Australia published *Artificial Intelligence Standards Roadmap: Making Australia’s Voice Heard*.¹²⁶

¹²² Australian Government, Department of Industry, Science, Energy and Resources, *AI Ethics Framework*, <https://www.industry.gov.au/strategies-for-the-future/artificial-intelligence>

¹²³ 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>

¹²⁴ 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>

¹²⁵ Standards Australia, *Standards Australia sets priorities for Artificial Intelligence* (Mar. 12, 2020), <https://www.standards.org.au/news/standards-australia-sets-priorities-for-artificial-intelligence>

¹²⁶ 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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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 how to design, develop, deploy and operate AI in Australia.¹²⁷ 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."¹²⁸

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.¹²⁹ Clarke concluded that the AI Ethics Principles for Australia adequately addressed only 13 of the 50 Principles.¹³⁰ "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."

¹²⁷ 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>

¹²⁸ 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>

¹²⁹ Roger Clarke, *Responsible AI Technologies, Artefacts, Systems and Applications: The 50 Principles*, <http://www.rogerclarke.com/EC/AIP.html#App1>

¹³⁰ 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>

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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.¹³¹ The survey also found high levels of support 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.”¹³² 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.

Global Partnership on AI

Australia joined the Global Partnership on AI as a founding member in June 2020.¹³³ 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.”

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

¹³¹ Monash Data Futures Institute, *AI FOR SOCIAL GOOD? Australian public attitudes toward AI and society* (Aug. 2020), https://www.monash.edu/_data/assets/pdf_file/0019/2313262/MDFI_AI_for_Social_Good_report_Final.pdf

¹³² 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/>

¹³³ 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>

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accountability mechanisms.¹³⁴ 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.”

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.¹³⁵

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.¹³⁶ "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.”¹³⁷ The OECD also notes the work of Australia on trustworthy AI for health.

¹³⁴ Goldenfein, Jake, *Algorithmic Transparency and Decision-Making Accountability: Thoughts for Buying Machine Learning Algorithms* (Aug. 31, 2019), <https://ssrn.com/abstract=3445873>

¹³⁵ James Eysers, *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-h1cej1>

¹³⁶ 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

¹³⁷ 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>

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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 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 policies toward asylum seekers, and ongoing difficulties ensuring the equal rights of indigenous Australians.”¹³⁸

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 information¹³⁹ and a human rights commission that is engaged in AI oversight. But actual AI practices are difficult to evaluate. While there is, at the moment, no express support for the Universal Guidelines for AI or the Social Contract for the Age of AI, Australia’s adopted policies are similar to those recommended in those documents. Questions have also been raised about the adequacy of the Ethics Framework.

¹³⁸ Freedom House, *Freedom in the World 2020 – Australia* (2020), <https://freedomhouse.org/country/australia/freedom-world/2020>

¹³⁹ Australian Government, Office of the Australian Information Commission, https://tech.humanrights.gov.au/sites/default/files/2019-12/TechRights2019_DiscussionPaper.pdf

Belgium

National Strategy

In October 2020, the Belgium government, along with thirteen other countries, published a position paper on innovative and trustworthy AI.¹⁴⁰ 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.¹⁴¹ 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

¹⁴⁰ 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>

¹⁴¹ AI4Belgium, *AI4Belgium Strategy*, https://www.ai4belgium.be/wp-content/uploads/2019/04/report_en.pdf

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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
- 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.”¹⁴² The AI4Belgium coalition also encouraged the federal government to commission a National AI strategy.¹⁴³

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 2018.¹⁴⁴ 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

¹⁴² AI4Belgium, *About: Introduction*, <https://www.ai4belgium.be/introduction/>

¹⁴³ European Commission, *Belgium AI Strategy Report*, August 2020, https://ec.europa.eu/knowledge4policy/ai-watch/belgium-ai-strategy-report_en

¹⁴⁴ 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>

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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.”¹⁴⁵

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.”¹⁴⁶¹⁴⁷ This Working Group held its first meeting in 2018.¹⁴⁸

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

¹⁴⁵ 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=pdf&MItypeObj=application/pdf&MIvalObj=100664119>

¹⁴⁶ 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>

¹⁴⁷ 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>

¹⁴⁸ Gilles van den Burre, *Première réunion du groupe de travail sur l’agenda robonumérique au Parlement* (Jan. 2018) <https://gillesvandenburre.be/2018/01/18/premiere-reunion-groupe-de-travail-lagenda-robonumerique-parlement/>

affairs. The federal government is responsible for foreign affairs, defense, justice, finance, social security, healthcare and internal affairs.¹⁴⁹

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.¹⁵⁰ The Walloon government published a the “Digital Wallonia 2019-2024” strategy “based on values including a cross-disciplinary approach, transparency, coherence, openness and flexibility.”¹⁵¹ The 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.”¹⁵² The Brussels region also funds several awareness and educational programs through its regional innovation funding body, *Innoviris*.¹⁵³¹⁵⁴ 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.¹⁵⁵

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.¹⁵⁶ According to the survey, 76% of the

¹⁴⁹ Wikipedia, *Communities, regions and language areas of Belgium*,

https://en.wikipedia.org/wiki/Communities,_regions_and_language_areas_of_Belgium

¹⁵⁰ 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>

¹⁵¹ *Digitalwallonia.be*, *Digital Wallonia 2019-2024* (June 2018),

<https://www.digitalwallonia.be/en/posts/digital-wallonia-2019-2024>

¹⁵² *Digitalwallonia.be*, *DigitalWallonia4.ai*,

<https://www.digitalwallonia.be/en/projects/digitalwallonia4-ai#contacts>

¹⁵³ *Innoviris.brussels*, *Get funded*, <https://innoviris.brussels/get-funded>

¹⁵⁴ European Commission, *Belgium AI Strategy Report* (Aug. 2020),

https://ec.europa.eu/knowledge4policy/ai-watch/belgium-ai-strategy-report_en

¹⁵⁵ *OECD.ai*, *Approach of the Federation Wallonie Bruxelles* (Oct. 2019),

<https://www.oecd.ai/dashboards/policy-initiatives/2019-data-policyInitiatives-24911/>

¹⁵⁶ *AI4Belgium*, *Perceptie Artificiële Intelligentie* (Feb. 2019),

https://www.ai4belgium.be/wp-content/uploads/2019/04/enquete_en.pdf

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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%).

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.¹⁵⁷¹⁵⁸

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 politie informatie, COC) was reformed to function as an independent data protection body." This body is intended to oversee how the police use data.¹⁵⁹¹⁶⁰

¹⁵⁷ PWC Legal, *The new Belgian Data Protection Authority: who's who and how will it work* (Jan. 23, 2019), <https://www.pwcelegal.be/en/news/the-new-belgian-data-protection-authority---whos-who-and-how-wil.html>

¹⁵⁸ 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/>

¹⁵⁹ Algorithm Watch, *Automating Society Report 2020: Belgium*, 2020, <https://automatingsociety.algorithmwatch.org/report2020/belgium/>

¹⁶⁰ Supervisory Body for Police Information, <https://www.controleorgaan.be/en/>

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.¹⁶¹¹⁶²¹⁶³

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 industry.¹⁶⁴ Further, there is a form to contact the coalition as well as an opportunity to join the coalition.¹⁶⁵¹⁶⁶ 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."¹⁶⁷

Further, several regional websites, such as digitalwallonia.be, provide information on the region's specific initiatives and projects.¹⁶⁸

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.¹⁶⁹ A "smart" video surveillance system is also

¹⁶¹ LibertiesEU, *Belgium Approves Law Creating Long Overdue Human Rights Institution, 15th June 2019*, <https://www.liberties.eu/en/news/civicus-monitor-belgium-update-june-2019/18043>

¹⁶² 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/>

¹⁶³ Amnesty International, *Belgium 2019*, <https://www.amnesty.org/en/countries/europe-and-central-asia/belgium/report-belgium/>

¹⁶⁴ AI4Belgium, *News*, <https://www.ai4belgium.be/news/>

¹⁶⁵ AI4Belgium, *Join*, <https://www.ai4belgium.be/join-ai4belgium/>

¹⁶⁶ AI4Belgium, *Contact*, <https://www.ai4belgium.be/contact/>

¹⁶⁷ AI4Belgium, *About: Introduction*, <https://www.ai4belgium.be/introduction/>

¹⁶⁸ Digitalwallonia.be, <https://www.digitalwallonia.be/fr/projets>

¹⁶⁹ AlgorithmWatch, *Automating Society 2020*, (Oct. 2020), <https://automatingsociety.algorithmwatch.org/report2020/belgium/>

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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.¹⁷⁰

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.”¹⁷¹ 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. The right to contest, express his/her view, or receive information/explanation is not mentioned.¹⁷²

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.”¹⁷³ 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

¹⁷⁰ COC, *Visitatie-Toezichtrapport Executive Summary Publieke Versie*, 2020, https://www.contrôleorgaan.be/files/DIO19005_Onderzoek_LPABRUNAT_Gezichtsherkenning_Publiek_N.PDF

¹⁷¹ [GDPR Art. 22, Art. 13.2.f]

¹⁷² 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>

¹⁷³ *Chambre des représentants de Belgique [Belgian Chamber of Representatives], Proposition de résolution relative à la création d’un agenda robonomérique 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>,

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- 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.¹⁷⁴

OECD/G20 AI Principles

Belgium has endorsed the OECD/G20 AI Principles.

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.¹⁷⁵

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 or the Social Contract for the Age of AI.

¹⁷⁴ 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>)

¹⁷⁵ Freedom House, *Freedom in the World 2020: Belgium* (2020), <https://freedomhouse.org/country/belgium/freedom-world/2020>

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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 last September.¹⁷⁶

Following on the Digital Transformation Strategy (E-Digital),¹⁷⁷ the Brazilian government has taken steps toward a national AI strategy, “Estratégia Brasileira de Inteligência Artificial.”

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.¹⁷⁸

More recently, the development of the Artificial Intelligence strategy in Brazil has been 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,

¹⁷⁶ 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>

¹⁷⁷ 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/policy-initiatives?conceptUris=http%2F%2Fkim.oecd.org%2FTaxonomy%2FGeographicalAreas%23Brazil>

¹⁷⁸ 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>

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Technology and Digital Innovation (under the Secretary of Entrepreneurship and Innovation of MCTI).¹⁷⁹

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.”¹⁸⁰

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 about 1,000 contributions in total, which are being taken into account for the development of the strategy proposal.¹⁸¹

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

¹⁷⁹ Ministério da Ciência, Tecnologia e Inovações, *Organization Chart*, <https://www.gov.br/mcti/pt-br/imagens/organograma/sempi.pdf>

¹⁸⁰ 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>

¹⁸¹ OECD AI Policy Observatory, *Policy Initiatives for Brazil*, <https://oecd.ai/dashboards/policy-initiatives?conceptUris=http:%2F%2Fkim.oecd.org%2FTaxonomy%2FGeographicalAreas%23Brazil>

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governmental, academic, and private sector entities to benefit the private and public sectors and the workforce.¹⁸²

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.¹⁸³

In November 2020, the Brazilian government announced the launch of a national innovation network focused on AI. Aimed to increase the production capacity and competitiveness of local companies, the network results from the cooperation between the MCTI and the Brazilian Industrial Research and Innovation Company. The network will encourage use of advanced technologies in various productive sectors. Seventeen research centers with infrastructure and skilled professionals in areas such as machine learning, Internet of Things, Big Data, will support startups and established businesses in the development of new products and services based on the technology.¹⁸⁴

Privacy

In September 2020, Brazil's President signed the new Brazilian data protection law, *Lei Geral de Proteção de Dados Pessoais* (LGPD).¹⁸⁵ The LGPD is the first comprehensive data protection law in Brazil and mirrors

¹⁸² 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>

¹⁸³ Angelica Mari, *Brazil launches artificial intelligence center*, Brazil Tech (Oct. 14, 2020)

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

¹⁸⁴ Angelica Mari, *Brazil creates national AI innovation network*, Brazil Tech (Nov. 2, 2020), <https://www.zdnet.com/article/brazil-creates-national-ai-innovation-network/>

¹⁸⁵ 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>

the European Union's GDPR.¹⁸⁶ Before the LGPD, data privacy regulations in Brazil consisted of various provisions spread across Brazilian legislation.¹⁸⁷

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.¹⁸⁸

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.¹⁸⁹ From a subject matter perspective, the ANPD is guaranteed technical and decision-making autonomy,¹⁹⁰ and is given important attributions related to the LGPD interpretation, application and enforcement.¹⁹¹

Among other powers, the National Data Protection Authority (1) regulates the General Data Protection Law; (2) supervises compliance with

¹⁸⁶ 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>

¹⁸⁷ DLA Piper, *Data Protection Laws of the World: Brazil*, <https://www.dlapiperdataprotection.com/index.html?t=law&c=BR>

¹⁸⁸ 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>

¹⁸⁹ LGPD, Art. 55-A.

¹⁹⁰ LGPD, Art. 55-B.

¹⁹¹ 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

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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.¹⁹²

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.¹⁹³

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.¹⁹⁴ The OECD stated in 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."¹⁹⁵ 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"

¹⁹² 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>.

¹⁹³ 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>.

¹⁹⁴ Paula Pagani, Rafael Szmid, *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/>

¹⁹⁵ OECD, *Going Digital in Brazil* 127 (Oct. 26, 2020), <https://www.oecd-ilibrary.org/docserver/e9bf7f8a-en.pdf>

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.¹⁹⁶

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.”¹⁹⁷

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 the existence of a right to explanation in Brazil. However, this position demands greater jurisprudential consolidation.¹⁹⁸

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

¹⁹⁶ 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>

¹⁹⁷ LGPD, Art. 20 [GT].

¹⁹⁸ 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/>

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lack of resources to meet this demand¹⁹⁹ has led to numerous initiatives²⁰⁰ 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 supervision of judges,²⁰¹ has published in August 2020 a Resolution on ethics, transparency and governance in the production and use of Artificial Intelligence in the Judiciary.²⁰² 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 Office²⁰³ of the State of Rio de Janeiro has reportedly invested in data science and AI to expedite investigations and

¹⁹⁹ 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).

²⁰⁰ AI devices (called “robots”), tested in the Brazilian Judiciary include Leia, Poti, Jerimun, Clara, Radar, Elis, Sinapse, Victor, each with a specific function.

²⁰¹ 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

²⁰² 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>.

²⁰³ 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>

prevent crimes.²⁰⁴ The system allowed information from different sources and bodies to be collected and also real-time data to be collected from suspected criminals.²⁰⁵ Likewise, Brazil's federal and state police are using AI applications such as military drones²⁰⁶ and crime prediction software.²⁰⁷

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 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.²⁰⁸

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

²⁰⁴ 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>

²⁰⁵ https://www.loc.gov/law/help/artificial-intelligence/americas.php#_ftnref2 -

²⁰⁶ 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/>

²⁰⁷ 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

²⁰⁸ 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>

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Federal States between 2011 to 2019.²⁰⁹ The main use sectors are (i) public security, (ii) border control, (iii) transportation and (iv) education.²¹⁰

In August 2018, the Brazilian Institute of Consumer Protection (IDEC) filed a public civil action²¹¹ 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.²¹² 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.²¹³

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

²⁰⁹ 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.”)

²¹⁰ Thiago Moraes, *Facial Recognition in Brazil*, Wired (Nov. 20, 2019), <https://medium.com/@lapinbr/face-recognition-in-brazil-f2a23217f5f7>

²¹¹ Instituto Brasileiro de Defesa do Consumidor (Aug. 30, 2018), https://idec.org.br/sites/default/files/acp_viaquatro.pdf.

²¹² 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/>

²¹³ 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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managed by a biometrics lab. According to the police, the aim is to reduce the likelihood of mistakes, such as wrongly arresting people.²¹⁴

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 not joined the Global Partnership on AI.

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 protection of human rights and transparency.^{215 216}

During the 2018 discussions of the Group of Governmental Experts (GGE) on lethal autonomous weapons (LAWS),²¹⁷ 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.²¹⁸

Evaluation

Brazil does not yet have a national strategy for AI. Brazil has endorsed the OECD/G20 AI Principles and has promoted public

²¹⁴ 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/>

²¹⁵ Freedom House, *Freedom in the World 2020 – Brazil* (2020), <https://freedomhouse.org/country/brazil/freedom-world/2020>

²¹⁶ Human Rights Watch, *World Report 2020: Brazil* (2020), <https://www.hrw.org/world-report/2020/country-chapters/brazil>

²¹⁷ 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.

²¹⁸ 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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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.

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.”²¹⁹ 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.”²²⁰ 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.²²¹ The Pan-Canadian AI Strategy is expected to host the AICan Symposium in February 2021. The work is funded by the Government of Canada, Facebook, and the RBC Foundation.²²²

²¹⁹ 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>

²²⁰ 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>

²²¹ CIFAR, *Pan-Canadian Artificial Intelligence Strategy*, <https://www.cifar.ca/ai/pan-canadian-artificial-intelligence-strategy>

²²² CIFAR, *AICan2019: Annual Report of the CIFAR Pan-Canadian AI Strategy*, https://www.cifar.ca/docs/default-source/ai-reports/ai_annualreport2019_web.pdf

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Directive on Automated Decision-making

Canada has established a Directive on Automated Decision-making to ensure that administrative decisions are “compatible with core administrative law principles such as transparency, accountability, legality, and procedural fairness.”²²³ Canada has 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.

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.”²²⁵ 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

Canada has established an Advisory Council on Artificial Intelligence to “inform the long-term vision for Canada on AI both domestically and internationally.”²²⁶ It is unclear whether the Advisory Council has held meetings or issued reports.

²²³ Government of Canada, *Directive on Automated Decision-Making*, May 2, 2019, <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32592>

²²⁴ 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>

²²⁵ CitiesToday, ‘*Explainable AI predicts homelessness in Ontario city*’ (Aug, 25, 2020), <https://cities-today.com/explainable-ai-predicts-homelessness-in-ontario-city/>

²²⁶ Government of Canada, *Protecting and Promoting Privacy Rights*, <https://www.priv.gc.ca/en>

Data Protection

The Office of the Privacy Commissioner of Canada provides advice and information for individuals about protecting personal information.²²⁷ 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.²²⁸ The Personal Information Protection and Electronic Documents Act (PIPEDA) applies to personal data collected by private companies.²²⁹

In November 2020, the Privacy Commissioner issued proposals on regulating artificial intelligence.²³⁰ 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

²²⁷ 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/

²²⁸ 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/

²²⁹ 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/

²³⁰ Office of the Privacy Commissioner of Canada, *Commissioner issues proposals on regulating artificial intelligence* (Nov. 2020), Commissioner issues proposals on regulating artificial intelligence

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- 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.²³¹

Algorithmic Transparency

The PIPEDA includes strong rights for individual access concerning automated decisions.²³² 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 subject to, automated processing.”²³³ 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.”

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

²³¹ 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/

²³² 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/

²³³ https://www.priv.gc.ca/en/about-the-opc/what-we-do/consultations/completed-consultations/consultation-ai/pol-ai_202011/

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democratic values . . .”²³⁴ 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 will be held in Canada 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.²³⁵

OECD/G20 AI Principles

Canada endorsed the OECD and the G20 AI Principles.

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.²³⁶ In 2017 Canadian academics urged Prime Minister Trudeau to oppose Autonomous Weapon Systems, as part of the #BanKillerAI campaign.²³⁷

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

²³⁴ 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>

²³⁵ 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

²³⁶ Freedom House, *Freedom in the World 2020 – Canada* (2020), <https://freedomhouse.org/country/canada/freedom-world/2020>

²³⁷ 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/>

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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. But actual AI practices in Canada are difficult to evaluate. There is, at the moment, no express support for the Universal Guidelines for AI or the Social Contract for the Age of AI, but Canada's policies are similar to those recommended in these documents.

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,²³⁸ Special Action of Innovation and Development of Smart Hardware Industry,²³⁹ and Artificial Intelligence Innovation Action Plan for Higher Institutions²⁴⁰ 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.²⁴¹ The Chinese government has

²³⁸ 机器人产业发展规划（2016-2020年）

https://www.ndrc.gov.cn/xxgk/zcfb/ghwb/201604/t20160427_962181.html

²³⁹ 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

²⁴⁰ 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

²⁴¹ 3-year plan promoting the AIDP (2018–2020) emphasizes coordination between provinces and local governments.

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handpicked three major tech giants to focus on developing specific sectors of AI, Baidu, Alibaba and Tencent.²⁴² 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 Xinjiang²⁴³ to research into "ethnic" aspects of AI-enabled facial recognition templates distinguishing "Uyghur" features.²⁴⁴ 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),²⁴⁵ China's major platform for international security and defense dialogue, Major General

²⁴² 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>.

²⁴³ Angela Dely, *Algorithmic oppression with Chinese characteristics: AI against Xinjiang's Uyghurs*, Global Information Society Watch (2019), https://www.giswatch.org/node/6165#_ftn33

²⁴⁴ 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>

²⁴⁵ 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/>

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.²⁴⁶ Another speaker 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.²⁴⁷

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).²⁴⁸ According to some experts, China is pursuing the most aggressive strategy for developing AI for military uses among the major military powers.²⁴⁹ 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

246 Elsa Kania, "AlphaGo and Beyond: The Chinese Military Looks to Future 'Intelligentized' Warfare." Lawfare (June 5, 2017), <https://www.lawfareblog.com/alphago-and-beyond-chinese-military-looks-future-intelligentized-warfare>.

²⁴⁷ 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>

²⁴⁸ 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>

²⁴⁹ 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/>

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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.”²⁵⁰ Guiding Opinions on Promoting on Promoting 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.²⁵¹ Moreover, President Xi has frequently spoken of the centrality of AI to the country’s overall economic development.²⁵²

Notably, the Chinese government is better prepared than many other countries when it comes to the longer-term challenges of automation.²⁵³ For instance, there are higher education courses that address the shortage in AI skills and support the skilled labor required in the information age.²⁵⁴ China has oriented its education system to prioritize high-proficiency in science, technology, and engineering²⁵⁵ and has issued several policy directives toward this end.²⁵⁶ According to China’s New Generation of AI Development Report 2020, in 2019, 180 Chinese universities added AI,

²⁵⁰ 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/>

²⁵¹ 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

²⁵² 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/

²⁵³ 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>

²⁵⁴ 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>

²⁵⁵ *Is China ready for intelligent automation?* (2018) China Power, Center for Strategic and International Studies. <https://chinapower.csis.org/china-intelligent-automation/>

²⁵⁶ the National Medium- and Long-term Education Reform and Development Plan (2010-2020)

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.²⁵⁷ Specifically, in the healthcare reform,²⁵⁸ environmental protection²⁵⁹, the administration of justice,²⁶⁰ and Social Credit System or Social Score.²⁶¹ 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.”²⁶² 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.

²⁵⁷ Heilmann S (2017) *Big data reshapes China’s approach to governance*. Financial Times <https://www.ft.com/content/43170fd2-a46d-11e7-b797-b61809486fe2>

²⁵⁸ 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/>.

²⁵⁹ 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/c9864_9-9549956.html

²⁶⁰ 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

²⁶¹ 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

²⁶² 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>

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Facial Recognition

There are many reports on China's use of facial recognition technology against ethnic minorities.²⁶³ 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.²⁶⁴ This gap between stated ethical principles and on-the-ground applications of AI demonstrate the weakness 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.²⁶⁵ 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.²⁶⁶ Some experts warn that this concept of public health and social welfare in China will diminish already weak safeguards for personal data.

²⁶³ 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>.

²⁶⁴ 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>

²⁶⁵ 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>

²⁶⁶ 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>

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.”²⁶⁷ 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, improving efficiency in hospitals, and precautionary measures for returning to normal business operations.²⁶⁸

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.²⁶⁹ 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.²⁷⁰

²⁶⁷ “Full Text: Fighting COVID-19: China in Action,” Xinhua News via the State Council, June 7, 2020, <https://archive.vn/NYJQg>.

²⁶⁸ 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/>

²⁶⁹ *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/>

²⁷⁰ *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/>

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In 2019, the Beijing Academy of Artificial Intelligence (BAAI) released the Beijing AI Principles²⁷¹ 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 Intelligence²⁷² 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 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 standards²⁷³ 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

²⁷¹ Beijing Principles, <https://www.baai.ac.cn/news/beijing-ai-principles-en.html>

²⁷² *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/>

²⁷³ 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/>

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.²⁷⁴ China put in place more than two million CCTV cameras in Shenzhen, making it the most watched city in the world.²⁷⁵ 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 recognition—a technology that courts more controversy than almost any other.”²⁷⁶ 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.²⁷⁷ There are over 850 million mobile Internet

²⁷⁴ 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;

²⁷⁵ 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>.

²⁷⁶ 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/>

²⁷⁷ 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/>

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users in China. Meanwhile, the Hong Kong government invoked emergency powers in October 2019 to ban demonstrators from wearing face masks.²⁷⁸

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.²⁷⁹ 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.²⁸⁰ 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.”²⁸¹

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 exporting this technology to regimes around the globe.”²⁸² 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.”

²⁷⁸ 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/>

²⁷⁹ 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>

²⁸⁰ BBC, *Hong Kong security law: What is it and is it worrying?* (June 30, 2020), <https://www.bbc.com/news/world-asia-china-52765838>

²⁸¹ Christopher Bodeen, *Hong Kong protesters wary of Chinese surveillance technology* (June 13, 2019), <https://apnews.com/article/028636932a874675a3a5749b7a533969>

²⁸² Ross Anderson, *The Panopticon is Already Here*, *The Atlantic* (Sept. 2020), <https://www.theatlantic.com/magazine/archive/2020/09/china-ai-surveillance/614197/>

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.”²⁸³ 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).²⁸⁴ 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.²⁸⁵ 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.”

The *Post* editorial followed a *New York Times* investigation which found extensive involvement by U.S. firms in the Chinese surveillance industry.²⁸⁶

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

²⁸³ 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/ue-diligence-guidance/>

²⁸⁴ 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/>

²⁸⁵ 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-bae0-50bb17126614_story.html

²⁸⁶ 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>

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China, 54% of respondents stating that they considered the problem of personal data breaches as ‘severe.’²⁸⁷ 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.²⁸⁸ “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

In October 2020, the Chinese government published a draft Personal Data Protection Law (个人信息保护法 (草案)).²⁸⁹ The law is modeled after the EU GDPR and is meant to be the first dedicated system to protect the privacy and personal data in China.²⁹⁰ A significant portion of the law covers private collection of data, imposes consent and notice requirement, and enhanced legal liability for infringement. However, the law places a greater emphasis on how private companies may collect and use data rather than the use of data by authorities. For instance, article 27 on personal images and facial recognition allows the collection of unlimited amounts of personal data so long as it is done “for the purpose of safeguarding public

²⁸⁷ 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/>

²⁸⁸ 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/>

²⁸⁹ *China’s Draft ‘Personal Information Protection Law’* (Oct. 21, 2020) (English Translation) <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/chinas-draft-personal-information-protection-law-full-translation/>

²⁹⁰ Gabriela Zanfir-Fortuna, *China’s Draft Personal Information Protection Law in 13 Key Points*, the Startup (Nov. 3, 2020), <https://medium.com/swlh/chinas-draft-personal-information-protection-law-in-13-key-points-5a9b9cdef02c>. Gil Zhang and Kate Yin, *A look at China’s draft of Personal Data Protection Law*, IAPP (Oct. 26, 2020), <https://iapp.org/news/a/a-look-at-chinas-draft-of-personal-data-protection-law/>

security.”²⁹¹ That is to say, the draft law does not limit the government’s ability to collect or store biometric data obtained through facial recognition. In contrast, EU GDPR sees personal images as sensitive biometric data and requires Data Protection Impact Assessment (DPIA) for facial recognition technology. Finally, the draft law does not assign responsibilities when it comes to government entities that collect personal data, and who will be held responsible when it leaks. This became increasingly important with the rise of recent incidents of government leaks of personal information of its citizens.²⁹²

Nevertheless, as the big data industry has been rapidly growing in China, the draft law will significantly impact companies and provide more protection to users against unwanted data collection by private companies.

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.²⁹³ Relatedly, problematic exemptions for the collection and use of data, when it is related to security, health, or the flexibly interpretable “significant public interests”²⁹⁴ contribute to weak data protection in China.

²⁹¹ *China's Draft 'Personal Information Protection Law'* (Oct. 21, 2020) (English Translation) <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/chinas-draft-personal-information-protection-law-full-translation/>

²⁹² *China, coronavirus and surveillance: the messy reality of personal data*, *Financial Times* (Apr. 2, 2020), <https://www.ft.com/content/760142e6-740e-11ea-95fe-fcd274e920ca>; Paul Mozur, *China, Desperate to Stop Coronavirus, Turns Neighbor Against Neighbor*, *The New York Times* (Feb. 3, 2020), <https://www.nytimes.com/2020/02/03/business/china-coronavirus-wuhan-surveillance.html>; Personal data leaks spread along with coronavirus panic, TechNode, <https://technode.com/2020/02/03/wuhan-data-leak-coronavirus/>

²⁹³ Greenleaf, *Data Privacy* (n 3) 196 f; Wang, ‘Redefining Privacy’ (n 11) 110; Ma and Roth (n 2) 355

²⁹⁴ 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-privacy-standard-looks-more-far-reaching-gdpr>.

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These exemptions are also behind the big data collection and mass surveillance system, the Integrated Joint Operations Platform (IJOP),²⁹⁵ 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.²⁹⁶ Moreover, policies and administrative decisions on both central and provincial levels often contradict the legal protection²⁹⁷ as administrative agencies may ignore the law on the basis of party policy, morality, public opinion, or other political considerations.²⁹⁸

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. 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, 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.

²⁹⁵ China's Big Brother App, Human Rights Watch

<https://www.hrw.org/news/2019/05/01/interview-chinas-big-brother-app>

²⁹⁶ 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

²⁹⁷ 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.

²⁹⁸ 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>

Estonia

A global leader in the use of digital technologies for e-government,²⁹⁹ 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 2020.³⁰⁰ 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.³⁰¹ In light of its commitment to e-government, Estonia emphasizes the use of AI for government services.³⁰² 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.”³⁰³

The Estonian government makes use of automated decision-making in many different contexts.³⁰⁴ 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

²⁹⁹ e-estonia, <https://e-estonia.com>.

³⁰⁰ Republic of Estonia GCIO Office, Artificial Intelligence for Estonia, <https://www.kratid.ee/in-english>

³⁰¹ 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).

³⁰² 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).

³⁰³ 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.”

³⁰⁴ See also #KrattAI Roadmap for 2020 <https://www.kratid.ee/roadmap>.

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determination of a child's school on the basis of their registered residence.³⁰⁵ There has been international coverage of Estonia's ambitious plans for AI in the public sector – including on the issue of “Robot Judges.”³⁰⁶ 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.”³⁰⁷

National AI Strategy

The Estonian Cabinet adopted its National AI Strategy in July 2019.³⁰⁸ 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.³⁰⁹ 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.

³⁰⁵ 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>.

³⁰⁶ 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/>.

³⁰⁷ 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/>.

³⁰⁸ *Estonia's National AI Strategy 2019-2021* (July 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_27a618cb80a648c38be427194affa2f3.pdf.

³⁰⁹ *Report of Estonia's AI Taskforce* (May 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf.

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.³¹⁰ The Taskforce Report maintained that: "Both 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.³¹¹ 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.³¹²

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.³¹³ 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

³¹⁰ 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, 2019), <https://www.loc.gov/law/foreign-news/article/estonia-government-issues-artificial-intelligence-report/>.

³¹¹ Estonia's National AI Strategy (July 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_27a618cb80a648c38be427194affa2f3.pdf.

³¹² 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>.

³¹³ 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>.

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and objective.”³¹⁴ 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.
- 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.”³¹⁵

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

³¹⁴ Report of Estonia’s AI Taskforce (May 2019), https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf.

³¹⁵ 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>.

Covenant on Civil and Political Rights. The Estonian Constitution grants basic rights to citizens.

In Freedom House's 2020 Country Report, Estonia ranked highly (94/100). It was reported that, 'Democratic institutions are strong, and political and civil rights are widely respected in Estonia.'³¹⁶ 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."

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.³¹⁷

Algorithmic Transparency

Estonia is also a member of the Council of Europe and was among the first states to ratify the modernized Privacy Convention.³¹⁸ 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.³¹⁹ Accordingly, the processing of personal data in Estonia must comply with the data protection principles, including the principles of purpose limitation, minimization, and

³¹⁶ Freedom House, *Freedom in the World 2020 – Estonia* (2020), <https://freedomhouse.org/country/estonia/freedom-world/2020>

³¹⁷ 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>.

³¹⁸ Council of Europe, i (Sept. 16, 2020), <https://www.coe.int/en/web/human-rights-rule-of-law/-/estonia-7th-state-to-ratify-convention-108->

³¹⁹ Personal Data Protection Act <https://www.riigiteataja.ee/en/eli/523012019001/consolide>.

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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.³²⁰ The Estonian Supervisory Authority is the Data Protection Inspectorate.³²¹

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.³²² 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 of an automatic process or viewed by an official.”³²³ 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.³²⁴ 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.”³²⁵

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

³²⁰ 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>.

³²¹ Data Protection Inspectorate <https://www.aki.ee/en>.

³²² Federico Plantera, ‘*Data Tracker - Tool that Builds Trust in Institutions*’ (e-estonia, September 2019) <https://e-estonia.com/data-tracker-build-citizen-trust/>.

³²³ Algorithm Watch, *Automating Society Report 2020 75* (Oct. 2020), <https://automatingsociety.algorithmwatch.org/wp-content/uploads/2020/10/Automating-Society-Report-2020.pdf>.

³²⁴ 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).

³²⁵ Algorithm Watch, *Automating Society Report 2020 75* (Oct. 2020), <https://automatingsociety.algorithmwatch.org/wp-content/uploads/2020/10/Automating-Society-Report-2020.pdf>.

of the individual's data.³²⁶ 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.³²⁷ The three tasks of this expert group were to

- 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.³²⁸ There is a commitment to the importance of diverse inputs in the AI debate. The e-estonia website states:

³²⁶ 'Estonian Ministry: Use of AI must Respect Fundamental Rights (Aug. 19, 2020) www.baltic-course.com/eng/Technology/?doc=158411&output=d.

³²⁷ *Report of Estonia's AI Taskforce* 42 (May 2019) https://f98cc689-5814-47ec-86b3-db505a7c3978.filesusr.com/ugd/7df26f_486454c9f32340b28206e140350159cf.pdf.

³²⁸ *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).

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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.³²⁹

Documents relating to the AI Strategy are accessible on the internet. The website Kratid 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'.³³⁰

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 transparent guidelines, standards, norms and principles that can be employed as a steering mechanism to guide AI programmes."³³¹ 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.

³²⁹ e-estonia, *AI and the Kratt Momentum* (Oct. 2018) <https://e-estonia.com/ai-and-the-kratt-momentum/>.

³³⁰ <https://www.kratid.ee/in-english>.

³³¹ 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.

France

National AI Strategy

France's national Strategy on Artificial Intelligence³³² (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 2018.³³³ "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 objectives³³⁴: 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,³³⁵ the work of the Commission Nationale de l'Informatique et des Libertés³³⁶

³³² 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>

³³³ 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>

³³⁴ Government of France, *Artificial Intelligence: "Making France a leader"* (Mar. 30, 2018), <https://www.gouvernement.fr/en/artificial-intelligence-making-france-a-leader>

³³⁵ 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>

³³⁶ 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>

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(CNIL), and the Villani³³⁷ report For a Meaningful Artificial Intelligence: Towards a French and European strategy (March 2018).³³⁸ The National Coordinator for AI works with all administrations, centers and research laboratories dedicated to AI.³³⁹

The Health Data Hub Controversy

In pursuit of the objective of an open data policy, France launched in December 2019³⁴⁰ the Health Data Hub³⁴¹(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.³⁴² The HDH's compiled health data is hosted by Microsoft.³⁴³

Following the *Schrems II* decision in July 2020 that invalidated the Privacy Shield, France's highest administrative court (the *Conseil d'État*)

³³⁷ 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.

³³⁸ Cedric Villani, *For a Meaningful Artificial Intelligence: Toward a French and European Strategy* (March 2018), https://www.aiforhumanity.fr/pdfs/MissionVillani_Report_ENG-VF.pdf

³³⁹ 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

³⁴⁰ 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>

³⁴¹ *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

³⁴² 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/>

³⁴³ 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>

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 requires special precautions to be taken, under the supervision of the CNIL.”³⁴⁴

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.³⁴⁵

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’Etat, the risks are hypothetical and not urgent.³⁴⁶ A recent CNIL’s draft determination, pending validation by a commissioner, would essentially prevent implementation of the HDH.³⁴⁷ 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.³⁴⁸

³⁴⁴ Le Conseil d'Etat, *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>

³⁴⁵ 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>

³⁴⁶ 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>

³⁴⁷ 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_

³⁴⁸ Mediapart, *Health Data Hub: Véran s’engage à retirer l’hébergement à Microsoft d’ici «deux ans»* (Nov. 22, 2020),

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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 prototype of "Gaia-X" is set to be released early 2021.³⁴⁹ 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.³⁵⁰

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.³⁵¹

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

<https://www.mediapart.fr/journal/france/221120/health-data-hub-veran-s-engage-retirer-l-hebergement-microsoft-d-ici-deux-ans>.

³⁴⁹ 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>

³⁵⁰ 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/>

³⁵¹ 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>

awareness, inform and assist individuals, companies, administrations, institutions, etc., in their decision-making process.³⁵² 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 COVID-19 health crisis.³⁵³ In July 2020, the NPCDE issued a call for public comments on the ethical issues of chatbots.³⁵⁴

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.”³⁵⁵ 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

³⁵² Claude Kirchner, *The French National Committee for Digital Ethics* (Feb. 24, 2020), <https://ai-regulation.com/the-french-national-committee-for-digital-ethics/>

³⁵³ 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>

³⁵⁴ 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

³⁵⁵ 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.

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algorithmic systems on fundamental rights.”³⁵⁶ 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.³⁵⁷

Their report *Algorithms: preventing automated discrimination*³⁵⁸ 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 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.³⁵⁹ 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,³⁶⁰ to be deployed in

³⁵⁶ <https://www.defenseurdesdroits.fr/sites/default/files/atoms/files/synth-algos-en-num-16.07.20.pdf>

³⁵⁷ 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>

³⁵⁸ 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>.

³⁵⁹ 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/>

³⁶⁰ <https://www.interieur.gouv.fr/Actualites/L-actu-du-Ministere/Alicem-la-premiere-solution-d-identite-numerique-regalienne-securisee> (in French) - ; Charlotte Jee, *France*

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.³⁶¹

In November 2019, the CNIL published guidance on the use of facial recognition.³⁶² 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 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 Numériques³⁶³ 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.³⁶⁴

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/>

³⁶¹ 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-basee-sur-la-reconnaissance-faciale.N1024754>

³⁶² 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).

³⁶³ 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).

³⁶⁴ *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/>

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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.³⁶⁵ Following an analysis from the CNIL,³⁶⁶ 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.³⁶⁷ This was the first decision ever by a court applying the General Data Protection Regulation (GDPR) to Facial Recognition Technologies (FRTs).³⁶⁸

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.³⁶⁹

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.³⁷⁰ BEUC also reported that there is little trust over authorities to exert effective control over organizations and companies

³⁶⁵ Tribunal Administratif de Marseille, *La Quadrature du Net*, No. 1901249 (27 Nov. 2020), https://forum.technopolice.fr/assets/uploads/files/1582802422930-1090394890_1901249.pdf

³⁶⁶ 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>

³⁶⁷ 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/>

³⁶⁸ 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/>

³⁶⁹ 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>

³⁷⁰ 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

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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 . . .”³⁷¹ 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.

Algorithmic Transparency

France 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.”³⁷² 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).³⁷³ 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.³⁷⁴ In the 2020 paper with the Defender of

³⁷¹ 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>

³⁷² [GDPR Art. 22, Art. 13.2.f]

³⁷³ 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>

³⁷⁴ 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

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Rights, the CNIL went into more details concerning the transparency obligations of those who are responsible for AI systems.³⁷⁵

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.”³⁷⁶

OECD/G20 AI Principles

France endorsed the OECD and the G20 AI Principles. France is also co-hosting the Global Partnership for AI.³⁷⁷ France is a signatory to many international human rights treaties and conventions.

Human Rights

France typically ranks among the top nations in the world for the protection of human rights and transparency.³⁷⁸ 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.”

³⁷⁵ 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>

³⁷⁶ Cédric O, *Régulations*, Medium.com (Oct. 20, 2020), <https://medium.com/@cedric.o/r%C3%A9gulations-657189f5d9d2>

³⁷⁷ 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>

³⁷⁸ *Freedom House Report: France* (2020), <https://freedomhouse.org/country/france>

Lethal Autonomous Weapons

President Macron declared in an interview that he is “dead against” the deployment of lethal autonomous weapons.³⁷⁹ “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,³⁸⁰ though an earlier French initiative led to annual international discussions on LAWS) within the framework of the Convention on Certain Conventional Weapons.³⁸¹

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, at the moment, no express support for the Universal Guidelines for AI or the Social Contract for the Age of AI, France’s policies are similar to those recommended in these documents.

³⁷⁹ 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/>

³⁸⁰ *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>

³⁸¹ *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>.

Germany

National Strategy

The German government published its national AI strategy in November 2018.³⁸² 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.³⁸³

There are several programs underway to implement the National AI Strategy. According to the OECD, there are approximately 29 initiatives on

³⁸² Die Bundesregierung, *Artificial Intelligence Strategy*, (Nov.2018), https://www.bmbf.de/files/Nationale_KI-Strategie.pdf

³⁸³ 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

AI across several topics and institutions.³⁸⁴ They range from the ethical guidelines to initiatives that foster fruitful business environments. There are four that specifically focus on ethics.

First, the Ethical Guidelines for Automated and Connected Driving set out 20 ethical principles for autonomous and semi-autonomous vehicles.³⁸⁵ 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.³⁸⁶

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.³⁸⁷

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.³⁸⁸

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

³⁸⁴ OECD.ai, *AI in Germany*, <https://oecd.ai/dashboards/countries/Germany/>

³⁸⁵ 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>

³⁸⁶ 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>

³⁸⁷ 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>

³⁸⁸ 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

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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.³⁸⁹

Further, the Federal Ministry for Economic Affairs and Energy launched a Regulatory Sandboxes initiative in 2018. This initiative focuses on “testing innovation and regulation which enable digital innovations to be tested under real-life conditions and experience to be gathered.”³⁹⁰

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.³⁹¹

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.³⁹² 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.³⁹³

³⁸⁹ Toolkit Digitalisierung, *FAIR Forward – Artificial Intelligence for All*, <https://toolkit-digitalisierung.de/en/fair-forward/>

³⁹⁰ 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>

³⁹¹ 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

³⁹² Lernende Systeme, *Mission Statement*, <https://www.plattform-lernende-systeme.de/mission-statement.html>

³⁹³ Lernende Systeme, *WG 3: IT Security, Privacy, Legal and Ethical Framework*, <https://www.plattform-lernende-systeme.de/wg-3.html>

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To inform the public about AI policy, the government created a website to provide information on AI strategy implementation and new policy developments.³⁹⁴ *Plattform Lernende Systeme* also offers a map that shows, by region, AI developments across Germany.³⁹⁵

There is a Bundestag Commission comprising in equal parts of parliamentary representatives and experts called the “Study Commission on Artificial Intelligence, Social Responsibility and Economic, Social and Ecological Potential.”³⁹⁶ Their aim is 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 are broadcasted on parliamentary television or can be attended in person.

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.”³⁹⁷ 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.³⁹⁸

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).³⁹⁹ The vzbv further emphasized that the aim of ADM (Automated

³⁹⁴ Die Bundesregierung, <https://www.ki-strategie-deutschland.de/home.html>

³⁹⁵ Lernende Systeme, *Artificial Intelligence in Germany*, <https://www.plattform-lernende-systeme.de/map-on-ai.html>

³⁹⁶ Deutscher Bundestag, Study Commission, *Artificial Intelligence, Social Responsibility and Economic, Social and Ecological Potential*, https://www.bundestag.de/en/committees/bodies/study/artificial_intelligence

³⁹⁷ Bundesministerium der Justiz und für Verbraucherschutz, Data Ethics Commission, https://www.bmjv.de/DE/Themen/FokusThemen/Datenethikkommission/Datenethikkommission_EN_node.html

³⁹⁸ Datenethikkommission, *Opinion of the Data Ethics Commission* (Jan. 2020), https://www.bmjv.de/SharedDocs/Downloads/DE/Themen/Fokusthemen/Gutachten_DEK_EN_lang.pdf?__blob=publicationFile&v=3

³⁹⁹ Communication between the Editor and Isabelle Buscke, vzbv Nov. 27, 2020 (on file).

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DecisionMaking) 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.”⁴⁰⁰ 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.⁴⁰¹⁴⁰²

Facial Recognition

In 2018 facial recognition technology at a large crossing in Berlin, set up by the government, sparked opposition from civil society.⁴⁰³ 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.⁴⁰⁴

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

⁴⁰⁰ Vzbv, *Artificial Intelligence: Trust is Good, Control is Better* (2019), https://www.vzbv.de/sites/default/files/2019_vzbv_factsheet_artificial_intelligence.pdf

⁴⁰¹ Die Bundesregierung, *Der Digitalrat: Experten, die uns antreiben*, <https://www.bundesregierung.de/breg-de/themen/digitalisierung/der-digitalrat-experten-die-uns-antreiben-1504866>

⁴⁰² Die Bundesregierung, *Digitalisierung wird Chefsache*, <https://www.bundesregierung.de/breg-de/aktuelles/digitalisierung-wird-chefsache-1140420>

⁴⁰³ Janosch Delcker, *Big Brother in Berlin*, Politico (Sept. 13, 2018), <https://www.politico.eu/article/berlin-big-brother-state-surveillance-facial-recognition-technology/>

⁴⁰⁴ 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/>

government is using AI techniques to identify evolving international crises in their foreign policy, check identities of immigrants and administer social services.⁴⁰⁵

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.⁴⁰⁶ 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.⁴⁰⁷ The German Institute has not yet explicitly addressed AI but might do so in the future as have human rights commissions in other countries.⁴⁰⁸

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. Every state has a respective data protection authority dedicated to matters involving the private sector.⁴⁰⁹

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

⁴⁰⁵ AlgorithmWatch, *Automating Society 2020* (Oct. 2020), <https://automatingsociety.algorithmwatch.org/report2020/belgium/>

⁴⁰⁶ German Institute for Human Rights, *Das Institut*, <https://www.institut-fuer-menschenrechte.de/das-institut>.

⁴⁰⁷ German Institute for Human Rights, *FAQ*, <https://www.institut-fuer-menschenrechte.de/das-institut/faq>

⁴⁰⁸ See, for example, the activities of the Human Rights Commission of Australia.

⁴⁰⁹ 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.

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government agencies.⁴¹⁰ 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.⁴¹¹

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.⁴¹²

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.”⁴¹³ According to AlgorithmWatch,⁴¹⁴ 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.⁴¹⁵ 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

⁴¹⁰ Datenschutz Bayern, *Bavarian Data Protection Commissioner*, <https://www.datenschutz-bayern.de>; BayLDA - *Offizielle Webseite*, <https://www.lda.bayern.de/de/index.html>

⁴¹¹ Datenschutz Hessen, *Zuständigkeit des Hessischen Beauftragten für Datenschutz und Informationsfreiheit*, <https://datenschutz.hessen.de/ueber-uns/zustaendigkeit-des-hessischen-datenschutzbeauftragten>.

⁴¹² Der Bundesbeauftragte für den Datenschutz und die Informationsfreiheit, *Aufgaben und Befugnisse*, https://www.bfdi.bund.de/DE/BfDI/Artikel_BFDI/AufgabenBFDI.html

⁴¹³ [GDPR Art. 22, Art. 13.2.f]

⁴¹⁴ Algorithm Watch, *Automating Society: Germany* (Jan. 29, 2019), <https://algorithmwatch.org/en/automating-society-germany/>

⁴¹⁵ 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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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 the Federal government's central research goals.⁴¹⁶ Funding is “aimed at collaborative projects between science and industry in an interdisciplinary composition.”⁴¹⁷

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.”⁴¹⁸

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.⁴¹⁹ 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.”

⁴¹⁶ Bundesministerium für Bildung und Forschung, KI-Erklärbarkeit und Transparenz, <https://www.softwaresysteme.pt-dlr.de/de/ki-erkl-rbarkeit-und-transparenz.php>

⁴¹⁷ OECD G20 Digital Economy Task Force, *Examples of AI National Policies* [PAGE #] (2020), <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

⁴¹⁸ 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>

⁴¹⁹ 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 coalition agreement states that it "rejects autonomous weapon systems devoid of human control" and calls for a global ban.⁴²⁰ 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."⁴²¹

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 express support for the Universal Guidelines for AI or the Social Contract for the Age of AI, Germany's policies reflect elements found in these documents

⁴²⁰ 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)

⁴²¹ 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>

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*,⁴²² which has produced a benchmarking report (2018),⁴²³ has played a role in setting forth India's vision regarding AI.

In 2017, India's Ministry of Congress and Industry established NITI Aayog, an AI hub which includes a functioning AI Commission. Its mandate is to establish a National Program on AI to guide research and development initiatives in AI, among other tasks. NITI Aayog adopted a three-pronged approach to meet this mandate: Undertake exploratory proof-of-concept AI projects; Craft a national strategy for building a vibrant AI ecosystem in India; and Collaborate with experts and stakeholders.⁴²⁴ In June of 2018, NITI Aayog published the first draft of its AI strategy advancing recommendations for India “to become a leading nation in AI by empowering human capability and ensuring social and inclusive growth.”⁴²⁵ The commission identified five strategic focus areas for AI development: healthcare, agriculture, education, smart cities and transportation.⁴²⁶ 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;

⁴²² Artificial Intelligence Task Force, Ministry of Commerce and Industry, Government of India, <https://www.aitf.org.in>.

⁴²³ 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>

⁴²⁴ [OECD.AI, 2020; Sinha et al, 2018]:

⁴²⁵ (*National Strategy for Artificial Intelligence #AIforAll*)

⁴²⁶ [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.

In November 2020, NITI Aayog published an additional draft outlining its AI Strategy, *Enforcement Mechanisms for Responsible AI for All*.⁴²⁷ 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,
- 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.

⁴²⁷ 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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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.

Quad Group

This year 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.⁴²⁸ 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.

AI Policy Development and Oversight

As discussed previously, India's Ministry of Congress 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 report that sets out the goals, functions, and operations of India's AI Oversight Body.⁴²⁹

In addition to the NITI Aayog, the *Ministry of Electronics and Information Technology* (MeitY) is also pursuing work on AI policy. The

⁴²⁸ 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/>

⁴²⁹ 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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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.⁴³⁰ (

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

⁴³⁰ Government of India, Ministry of Electronics and Information Technology, *Artificial Intelligence Committee Reports*, <https://www.meity.gov.in/artificial-intelligence-committees-reports>

ecosystem, the Aadhaar identity system. This ecosystem utilizes AI and machine learning techniques throughout. To facilitate a fully digital, cashless society and economy, a large number of open application programming interfaces or APIs are 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."⁴³¹ 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.⁴³² However, a series of landmark rulings from the Supreme Court of India, culminating in the landmark Aadhaar Privacy Decision of 2018,⁴³³ greatly curtailed the negative uses of the Aadhaar system and created a significant national mandate for technological, procedural, and policy improvements.⁴³⁴ 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 in India. 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."

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;

⁴³¹ *The India Stack*, <https://www.indiastack.org/about/>

⁴³² 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>

⁴³³ Software Freedom Law Center, Full text of decision (Sept. 26, 2018), <https://sflc.in/updates-aadhaar-final-hearing/aadhaar-judgement>

⁴³⁴ *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>

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and trustworthiness.⁴³⁵ 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*.

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*.”⁴³⁶ 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 (MeitY) publishes reports from each of its four AI Committees, each charged with promoting AI initiatives and developing policy frameworks.⁴³⁷

In November 2020, the SFLC wrote to the Chairperson of the of the Joint Parliamentary Committee regarding the Personal Data Protection bill.⁴³⁸ 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.”

And in November 2020, 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

⁴³⁵ AI Standardisation committee, 2020.

⁴³⁶ AI Standardisation committee, 2020.

⁴³⁷ Ministry of Electronics and Information Technology, *Artificial Intelligence Committees Reports*, <https://www.meity.gov.in/artificial-intelligence-committees-reports>

⁴³⁸ 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>

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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.”⁴³⁹ 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.⁴⁴⁰ Notably, India has not addressed Accountability or International Cooperation for Trustworthy AI.

Data Protection

The Supreme Court of India's Aadhaar privacy decision (2018) created meaningful opportunities for public participation in AI policy, and a series of assertive architectural, procedural, legislative, and other improvements have been undertaken. For example, the Aadhaar biometric identity ecosystem in the post-Aadhaar privacy decision era has been demonstrably improved, though vigilance will be needed. Additionally, in 2019 India laid before its Parliament a draft national privacy bill that further addresses AI.⁴⁴¹ 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

⁴³⁹ 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/>

⁴⁴⁰ 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>

⁴⁴¹ Personal Data Protection Bill, 2019, India. Section 3(31), processing, 3(32), profiling, 3(34) re-identification, 3 (36) sensitive personal data (inclusive of biometric data), among other sections.

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Algorithmic Transparency

Prime Minister addressed directly the issue of algorithmic transparency in October 2020.⁴⁴² 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.”

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.⁴⁴³ 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.”

Evaluation

India has endorsed the G20 AI Principles. 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.

⁴⁴² 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>

⁴⁴³ Freedom House, *Freedom in the World 2020 – India* (2020), <https://freedomhouse.org/country/india/freedom-world/2020>

Indonesia

National Strategy for Artificial Intelligence

Indonesia published the National Strategy for Artificial Intelligence (*Stranas KA*) in August 2020.⁴⁴⁴ The National Strategy is aimed at advancing the Indonesian economy through leadership in AI, through the year 2045.⁴⁴⁵ The AI Strategy for Indonesia is intended to implement *Visi Indonesia 2045*, 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.⁴⁴⁶

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.⁴⁴⁷ 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.⁴⁴⁸ However, the guidelines cite data misuse as a hurdle and note that the country has neither the provisions to regulate AI, nor an

⁴⁴⁴ *KA Menuju Visi Indonesia 2045: Pusat Inovasi Kecerdasan Artifisial Indonesia*, <https://ai-innovation.id>

⁴⁴⁵ 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

⁴⁴⁶ <https://www2.investindonesia.go.id/en/why-invest/indonesia-economic-update/making-indonesia-4.0-indonesias-strategy-to-enter-the-4th-generation-of-ind>

⁴⁴⁷ <https://www.globalgovernmentforum.com/indonesia-publishes-ai-strategy/>

⁴⁴⁸ *The Journey of AI Adoption in ASEAN Countries*, People Matters (Oct. 23, 2018), <https://www.peoplemattersglobal.com/article/technology/the-journey-of-ai-adoption-in-asean-countries-19636>

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official agency to oversee AI development. They recommend establishing a data ethics board that would set national standards for AI innovation.

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.⁴⁴⁹ 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 behind in the implementation of digital services.⁴⁵⁰ 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.⁴⁵¹ Bureaucratic reform was also revisited in the National AI strategy, in which it is one of the five priority areas.⁴⁵²

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

⁴⁴⁹ 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>

⁴⁵⁰ 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>

⁴⁵¹ 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>

⁴⁵² Kecerdasan Artifisial Indonesia, *AI towards Indonesia Vision 2045*, <https://ai-innovation.id/stranas-ka>

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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).”⁴⁵³

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.⁴⁵⁴ 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 2020.⁴⁵⁵ 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.⁴⁵⁶ The AI Strategy sets out the

⁴⁵³ 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/>

⁴⁵⁴ <https://techwireasia.com/2020/10/ai-to-be-a-us366b-industry-in-indonesia-by-2030/>

⁴⁵⁵ Kecerdasan Artifisial Indonesia, Speakers, <https://ai-innovation.id/jadwal-ais2020>

⁴⁵⁶ Wikipedia, *Pancasila (politics)*, [https://en.wikipedia.org/wiki/Pancasila_\(politics\)](https://en.wikipedia.org/wiki/Pancasila_(politics))

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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 as a means to ensure that policy is relevant and helpful.

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.⁴⁵⁷ At the moment, the Minister of Communication and Informatics (the MoCI) is responsible for overseeing compliance with the data protection regime.⁴⁵⁸

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.⁴⁵⁹ 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

⁴⁵⁷ DLA Piper, *Data Protection Laws of the World: Indonesia* (Nov. 2020), <https://www.dlapiperdataprotection.com/?t=law&c=ID>

⁴⁵⁸ 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>

⁴⁵⁹ Komnas Ham, *Legal Foundation*, <https://www.komnasham.go.id/index.php/about/1/tentang-komnas-ham.html>

government and other stakeholders to improve on the strategy, fix current flaws and anticipate risks.⁴⁶⁰ 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 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.”⁴⁶¹

There is a website that is dedicated to the National AI Strategy. It illustrates the strategy, provides information on and material from the AI Summit 2020 and displays work done by poster session participants from the summit. It further, provides an Artificial Intelligence Map that maps and 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

⁴⁶⁰ 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

⁴⁶¹ 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/>

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community complaints was conducted with effective coordination between the Jakarta Smart City team and various government departments.”⁴⁶²

Data Privacy Law

The Indonesian data protection regime comprises of several laws, however, there is no general law on data protection.⁴⁶³ 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.⁴⁶⁴ Data protection law is important, relevant in the global life as the economy has transformed lives in the digital era,” Communications Minister Johnny G. Plate told a news conference. Indonesia's Personal Data Protection Bill ("PDP Bill") was initially planned to be issued in October 2020. Its issuance and enactment were, however, delayed.⁴⁶⁵

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.⁴⁶⁶ Indonesia did however participate as an observer on the Council of Europe Convention 108 Consultative Committee.

⁴⁶² 1 World Connected, *Jakarta Smart City* (Sept. 1, 2020),

https://1worldconnected.org/project/asia_egov_jakartasmartcityindonesia/

⁴⁶³ DLA Piper, *Data Protection Laws of the World: Indonesia* (Nov. 2020),

<https://www.dlapiperdataprotection.com/?t=law&c=ID>

⁴⁶⁴ 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>

⁴⁶⁵ 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>

⁴⁶⁶ 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>

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OECD/G20 AI Principles

Indonesia is a member of the G20 and endorsed the G20 AI Principles in 2019. According to the OECD, the implementation of the AI Principles is still pending completion of the National AI Strategy.

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.⁴⁶⁷ 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.

⁴⁶⁷ Freedom House, *Freedom in the World 2020 – Indonesia*, <https://freedomhouse.org/country/indonesia/freedom-world/2020>

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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,⁴⁶⁸ at present Israel does not have a national strategy for AI. In January 2018 Prime Minister Benjamin Netanyahu stated, "Artificial intelligence is changing everything, connectivity is important and these are changing the structure of growth."⁴⁶⁹ 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.⁴⁷⁰ 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.⁴⁷¹ 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

⁴⁶⁸ ASGARD, *The Global Artificial Intelligence Landscape*, <https://asgard.vc/global-ai/>

⁴⁶⁹ 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/>

⁴⁷⁰ 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>

⁴⁷¹ 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>.

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 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.⁴⁷² The INSS argued that developing a national strategy for artificial intelligence, including its ethical aspects, is critical for Israel's future security.

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 regulatory aspects of AI, including privacy and legal responsibility.⁴⁷³ 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."⁴⁷⁴

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

⁴⁷² 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>

⁴⁷³ 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>

⁴⁷⁴ Israel Innovation Authority, *2018-19 Report* (Jan. 14, 2019), <https://innovationisrael.org.il/en/news/israel-innovation-authority-2018-19-report>

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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).”⁴⁷⁵

The Ethics and Regulation subcommittee, chaired by Prof. Karine Nahon, released its report in November 2019.⁴⁷⁶ 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
- 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

⁴⁷⁵ 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

⁴⁷⁶ 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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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.”

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.⁴⁷⁷

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.⁴⁷⁸ AI Week for 2020 was postponed. Tel Aviv University has announced AI Week for 2021, February 22-24, as a virtual event.⁴⁷⁹

Research & Development

The Council for Higher Education under the Israeli Ministry of Education, which is responsible for the budgets of higher education institutions in Israel, has defined AI as one of five flagship projects in their five-year plan. The approved four-year AI strategy aims to enhance research excellence in this area and involves the establishment of cross-disciplinary AI centers at all Israeli universities. Another aim is to enhance university collaboration with the major international R&D AI research centres present in Israel (such as Intel, Microsoft and IBM).

⁴⁷⁷ 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>

⁴⁷⁸ 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

⁴⁷⁹ Tel Aviv University, *AI Week: Feb. 22-24, 2021*, <https://ai-week.com>

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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,⁴⁸⁰ (2) the 1981 Privacy Protection Law (PPL)⁴⁸¹ and subsequent regulations,⁴⁸² such as Israel's 2017 Data Security Regulation,⁴⁸³ and (3) the guidelines of the Israeli Privacy Protection Authority.⁴⁸⁴ Chapter 1 of the PPL covers privacy generally, while Chapter 2 concerns data in storage and sets out various registration, purpose-limitation, transparency and security requirements, as well as individual rights of access and rectification.⁴⁸⁵ 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 has recently started to promote major update of the PPL, due to the major gap between GDPR and the current Israeli Law.

Israel's Privacy Protection Authority (PPA) is the primary regulator for matters relating to privacy and data security.⁴⁸⁶ The PPA sits within the Israeli Ministry of Justice and is headed by the Registrar of Databases. The

480 The Knesset, *Basic Law: Human Dignity and Liberty* (Mar. 17, 1992)

http://www.knesset.gov.il/laws/special/eng/basic3_eng.htm

481 The Knesset, *Protection of Privacy Law 1981* (unofficial English translation), <https://www.gov.il/BlobFolder/legalinfo/legislation/en/ProtectionofPrivacyLaw57411981unofficialtranslatio.pdf>

482 IAPP, *Protection of Privacy Regulations (Data Security) 2017* (Unofficial translation), https://iapp.org/media/pdf/resource_center/IS-PROTECTION-OF-PRIVACY-REGULATIONS.pdf

483 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/>

484 Yoram Shiv and Shira Nager, *Israel - Data Protection Overview*, OneTrust (Oct. 2020), <https://www.dataguidance.com/notes/israel-data-protection-overview>

485 The Privacy Protection Authority, *Legislation* (Oct. 3, 2017) (unofficial translation), <https://www.gov.il/en/Departments/legalInfo/legislation>

486 The Privacy Protection Authority, https://www.gov.il/en/departments/the_privacy_protection_authority

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 2016.⁴⁸⁷

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.⁴⁸⁸

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.⁴⁸⁹ Israel's plans to combine health maintenance organizations' digital health records of most Israelis

⁴⁸⁷ 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>

⁴⁸⁸ 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>

⁴⁸⁹ <https://www.timesofisrael.com/despite-privacy-concerns-israel-to-put-nations-medical-database-online/>

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into a single system for AI and data analytics to tap were confirmed by the press last September.⁴⁹⁰

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.⁴⁹¹

Israel then turned to Shin Bet, the Israeli Security Agency, to monitor the general population and track potential Covid patients and their contacts.⁴⁹² 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.⁴⁹³ "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.⁴⁹⁴ 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

⁴⁹⁰ 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>

⁴⁹¹ 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>

⁴⁹² 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>

⁴⁹³ BBC News, *Coronavirus: Israeli court bans lawless contact tracing* (Apr. 27, 2020), <https://www.bbc.com/news/technology-52439145>

⁴⁹⁴ Cardoza Law School, Versa, *Ben Meir v. Prime Minister, H CJ 2109/20*, (Apr. 26, 2020), <https://versa.cardozo.yu.edu/opinions/ben-meir-v-prime-minister-0>

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.⁴⁹⁵ Human rights organizations renewed their objections.⁴⁹⁶

In a September 2020 opinion, the national Privacy Protection Authority also objected to the use of the Israeli Internal Security Service location tracking tool.⁴⁹⁷ 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.

Social Ranking

Following a proposal to use scoring technologies for Israelis who may be infected with COVID-19, 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.⁴⁹⁸ 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

⁴⁹⁵ 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-surveillance/israel-approves-cellphone-tracking-of-covid-19-carriers-for-rest-of-year-idUSKCN24L2PJ>

⁴⁹⁶ 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-to-do>

⁴⁹⁷ 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/>

⁴⁹⁸ 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

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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 2009.⁴⁹⁹ 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.⁵⁰⁰

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.⁵⁰¹

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.⁵⁰²

499 Wikipedia, *Biometric Database Law*,

https://en.wikipedia.org/wiki/Biometric_Database_Law

⁵⁰⁰ 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>

⁵⁰¹ 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>

⁵⁰² Matt O'Brien, *Microsoft divests from Israeli facial-recognition startup* (March 28, 2020), <https://www.timesofisrael.com/microsoft-divests-from-israeli-facial-recognition-startup/>

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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.

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.⁵⁰³ 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 system⁵⁰⁴ and the Harop suicide drone.⁵⁰⁵ The Israeli mission to the GGE on LAWS of the Convention on Certain Conventional Weapons clarified Israel’s position in August 2019.⁵⁰⁶ In August 2020, Israel expressed further views on the Eleven Guiding Principles Adopted by the Group of Government Expert concerning lethal autonomous weapons

⁵⁰³ Freedom House, *Freedom in the World 2020 – Israel* (2020), <https://freedomhouse.org/country/israel/freedom-world/2020>

⁵⁰⁴ 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>

⁵⁰⁵ 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>

⁵⁰⁶ 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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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 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."⁵⁰⁷

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 have stalled. 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 and the reluctance to support limits on lethal autonomous weapons. 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 or the Social Contract for the Age of AI.

⁵⁰⁷ 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>

Italy

National Strategy for AI

In July 2020, the Italian Ministry of Economic Development issued the National Strategy for Artificial Intelligence.⁵⁰⁸ The document is the result of the public consultation closed in September 2019 on the draft version,⁵⁰⁹ and a background paper providing initial guiding principles and policy recommendations as a basis for Italy's AI strategy.⁵¹⁰ 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.⁵¹¹ 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.

⁵⁰⁸ Italian Ministry of Economic Development, *Proposte per una strategia nazionale per l'intelligenza artificiale* (2019),

⁵⁰⁹ 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>

⁵¹⁰ 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>

⁵¹¹ 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.⁵¹² 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

⁵¹² 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.

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, 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.

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.⁵¹³ The National Innovation Fund established in 2019 is another source of resources up to €1 billion.⁵¹⁴ 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 2021-2027,⁵¹⁵

⁵¹³ <https://www.mise.gov.it/index.php/it/incentivi/impresa/smart-start>.

⁵¹⁴ <https://www.mise.gov.it/index.php/it/incentivi/impresa/fondo-nazionale-innovazione>.

⁵¹⁵ *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>

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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.⁵¹⁶ This is based, for instance, on improving the interoperability and 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).⁵¹⁷ 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

⁵¹⁶ 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/2018/232 final (April 25, 2018), <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A52018DC0232>

⁵¹⁷ <https://ec.europa.eu/digital-single-market/en/eurohpc-joint-undertaking>

generation for future adoption and ensuring a better understanding of trustworthiness on use cases where AI is used.⁵¹⁸

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.⁵¹⁹ At higher education levels, the government is encouraging the integration of courses with AI-related themes in bachelors, masters and doctoral 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,⁵²⁰ and the Italian Startup Visa.⁵²¹

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.

⁵¹⁸ At 61-62. <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

⁵¹⁹ https://www.istruzione.it/scuola_digitale/allegati/Materiali/pnsd-layout-30.10-WEB.pdf

⁵²⁰ <https://www.apply.eu/BlueCard/Italy/>

⁵²¹ <http://italiastartupvisa.mise.gov.it/#homepage>

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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 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.

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- 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, it 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 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.

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The Rome Call for Ethics

This initiative is aimed at increasing awareness of the role of ethics in AI.⁵²² 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.⁵²³ The group was comprised of ten 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.⁵²⁴ The group was tasked with developing recommendations on:

⁵²² <http://www.academyforlife.va/content/pav/it/events/workshop-intelligenza-artificiale.html>

⁵²³ 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>

⁵²⁴ At 14-15. <https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf>

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- 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.⁵²⁵ 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.”

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.”⁵²⁶ Privacy International reported that Como “embraced a narrative of technological innovation pushed by

⁵²⁵ 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

⁵²⁶ 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>

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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.⁵²⁷ In September 2020, AlgorithmWatch also reported that Italy is exploring the use of facial recognition in football stadiums.⁵²⁸

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.

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.

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 89/100 in 2020 for political rights and civil liberties.⁵²⁹

⁵²⁷ 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-collaudato/>

⁵²⁸ AlgorithmWatch, *In Italy, an appetite for face recognition in football stadiums* (Sept. 16, 2020), <https://algorithmwatch.org/en/story/italy-stadium-face-recognition/>

⁵²⁹ Freedom House, *Freedom in the World 2020 – Italy* (2020), <https://freedomhouse.org/country/italy/freedom-world/2020>

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.

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Japan

AI National 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.”⁵³⁰

Earlier, in 2016, Prime Minister Abe called for the Japanese government to establish an “Artificial Intelligence Technology Strategy Council.”⁵³¹ The Council set out an Artificial Intelligence Technology Strategy and Industrialization Roadmap.⁵³² The Roadmap focuses on public-private collaboration along the AI “full pipeline from R&D 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.⁵³³

⁵³⁰ 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

⁵³¹ Prime Minister of Japan, *Council for Science, Technology and Innovation* (Sept. 15, 2016), https://japan.kantei.go.jp/97_abe/actions/201609/15article2.html

⁵³² Strategic Council for AI Technology, *Artificial Intelligence Technology Strategy* (March 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>

⁵³³ Strategic Council for AI Technology, *Artificial Intelligence Technology Strategy* (Mar. 31, 2017), <https://www.nedo.go.jp/content/100865202.pdf> (top page 6)

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Japan's updated AI Strategy 2019⁵³⁴ "AI for Everyone: People, Industries, Regions and Governments" focuses on the measures that the Japanese government should immediately take in a 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 2017.⁵³⁵ 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 centred on people, respects ethical and democratic values, is transparent, safe and accountable."

⁵³⁴ 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/aistratagy2019en.pdf

⁵³⁵ Conference toward AI Network Society, *Draft AI R&D Guidelines* (July 28, 2017) https://www.soumu.go.jp/main_content/000507517.pdf

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Social Principles of Human-Centric AI

Japan's 2019 "Social Principles of Human-Centric AI"⁵³⁶ 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 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.

⁵³⁶ 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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AI R&D Guidelines and AI Utilization Guidelines

The original AI R&D Guidelines are directed at developers.⁵³⁷ 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 Guidelines⁵³⁸ 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. 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 2019.⁵³⁹ 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

⁵³⁷ 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

⁵³⁸ 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

⁵³⁹ 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/cc/page4e_000973.html

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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."⁵⁴⁰ The G20 Leaders adopted the concept at the 2019 Summit,⁵⁴¹ and reaffirmed the goal at the 2020 Summit in Riyadh.⁵⁴² The phrase "Data Free Flows with Trust" also appears, with emphasis, in the December 2020 Joint Communication from the European Communication, proposing a New US Agenda for Global Change.⁵⁴³

Public Participation

Japan organized a conference with public participation in advance of the 2016 G-7 Ministerial.⁵⁴⁴ The conclusions of the conference informed the 2016 Takamatsu Declaration.⁵⁴⁵ The G7 ICT Ministers agreed to promote ICT technology R&D for Artificial Intelligence. In October 2016, Japan⁵⁴⁶ 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

⁵⁴⁰ 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>

⁵⁴¹ 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/>

⁵⁴² G20 Riyadh Summit, *Leaders' Declaration* (Nov. 21-22, 2020), https://g20.org/en/media/Documents/G20%20Riyadh%20Summit%20Leaders%20Declaration_EN.pdf

⁵⁴³ 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

⁵⁴⁴ The event was organized by the Institute for Information and Communications Policy (IICP) of the Ministry of Internal Affairs and Communications (MIC).

⁵⁴⁵ 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>

⁵⁴⁶ The event was organized by the Institute for Information and Communications Policy (IICP) of the Ministry of Internal Affairs and Communications (MIC).

of AI.⁵⁴⁷ The AI Network Society conference, chaired by Dr. Osamu Sudoh,⁵⁴⁸ formulated the AI R&D Guidelines. The Japanese government presented AI R&D Guidelines to the G-7 meeting in Turin, Italy in 2017.⁵⁴⁹ 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.”⁵⁵⁰

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.⁵⁵¹

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).⁵⁵² 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,

⁵⁴⁷ 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

⁵⁴⁸ Professor at the Faculty of Global Informatics, Chuo University and Project Professor at the Graduate School of Interdisciplinary Information Studies, University of Tokyo.

⁵⁴⁹ 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

⁵⁵⁰ 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

⁵⁵¹ 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

⁵⁵² 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).

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the European Commission adopted an adequacy decision on Japan's APPI, allowing personal data to flow freely between the two economies.⁵⁵³

Two laws regulate data processing by government.⁵⁵⁴ The APPI also requires national and local governments to be "responsible for 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.⁵⁵⁵

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 2019.⁵⁵⁶

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

⁵⁵³ Personal Information Protection Commission, *Amended Act on the Protection of Personal Information* (Feb. 2016) (tentative translation).

https://www.ppc.go.jp/files/pdf/280222_amendedlaw.pdf

⁵⁵⁴ 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; *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

⁵⁵⁵ 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>

⁵⁵⁶ 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/>

provided with specific explanations on the reasons for the rejection of a request to conclude a loan agreement.⁵⁵⁷

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.⁵⁵⁸ AI systems are also under consideration for defense, national security, trade management, and public health. The move complements the plans by the administration of Prime Minister Yoshihide Suga to accelerate digitalization.⁵⁵⁹

Facial Recognition

Japan has deployed facial recognition in several sectors, including transportation, banking (ATMs), police and immigration. According to Japan Times, Japan plans to use facial recognition technology, originally intended for security purposes, to prevent the spread of the novel coronavirus when it hosts the Tokyo Olympics and Paralympics in 2021.⁵⁶⁰ 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.⁵⁶² Likewise, the Japanese Ministry of Economy,

⁵⁵⁷ 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>

⁵⁵⁸ 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/>.

⁵⁵⁹ 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

⁵⁶⁰ The Japan Times, *Facial Recognition*, <https://www.japantimes.co.jp/tag/facial-recognition>.

⁵⁶¹ 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/>

⁵⁶² 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.>

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Trade and Industry is testing facial recognition ticketing on driverless buses in several cities across the country.⁵⁶³

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.”⁵⁶⁴ The NPA manages and utilizes facial images under rules set by the National Public Safety Commission,⁵⁶⁵ as it does with fingerprints and 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.⁵⁶⁶ 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 as long as such data is sufficiently protected from being restored to its original form.

⁵⁶³ 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/>

⁵⁶⁴ 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>

⁵⁶⁵ 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 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))

⁵⁶⁶ 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>

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.⁵⁶⁷

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 or the Social Contract for the Age of AI, Japan's policies reflect elements found in these documents

⁵⁶⁷ Freedom House, *Freedom in the World 2020 – Japan (2020)*, <https://freedomhouse.org/country/japan/freedom-world/2020>

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.⁵⁶⁸ Kazakhstan has also expressed interest in Russia's AI development.⁵⁶⁹ 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.⁵⁷⁰ The state program "Digital Kazakhstan" describes the implementation of this agenda through the realization of the following projects in the AI sector:⁵⁷¹

- 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:

⁵⁶⁸ 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>

⁵⁶⁹ 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>

⁵⁷⁰ 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

⁵⁷¹ On approval of the State Program "Digital Kazakhstan" (Об утверждении Государственной программы "Цифровой Казахстан") <http://adilet.zan.kz/rus/docs/P1700000827>

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 Readiness Index, with the lowest score in the technology sector.⁵⁷² A dearth of qualified IT specialists⁵⁷³ and low R&D spending (2.70 out of 100)⁵⁷⁴ 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.⁵⁷⁵ The country is trying to address this problem with the help of foreign investors⁵⁷⁶ and international partners.⁵⁷⁷

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.⁵⁷⁸ 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)⁵⁷⁹ to

⁵⁷² The Government AI Readiness Index 2020, Oxford Insights

<https://www.oxfordinsights.com/government-ai-readiness-index-2020>

⁵⁷³ 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>

⁵⁷⁴ Research and development expenditure (% of GDP) – Kazakhstan, The World Bank <https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?locations=KZ&view=map>

⁵⁷⁵ Готов ли Казахстан к технологической гонке? Is Kazakhstan ready for a technology race? https://forbes.kz//process/intellektualnaya_zadacha_1588745463/?

⁵⁷⁶ 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/>

⁵⁷⁷ 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/>

⁵⁷⁸ EAEU prime ministers participate in Digital Almaty Forum

<https://primeminister.kz/en/news/premer-ministry-eaes-prinyali-uchastie-v-forume-digital-almaty1>

⁵⁷⁹ Kazakhstan: Fostering Productive Innovation Project

<https://projects.worldbank.org/en/projects-operations/project-detail/P150402>

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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 economic dependence on natural resources.⁵⁸⁰ 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.⁵⁸¹

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.⁵⁸² Notably, President Tokayev had even paid a visit and discussed future cooperation with Hikvision,⁵⁸³ a Chinese state-owned surveillance company under U.S. sanctions⁵⁸⁴ 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

⁵⁸⁰ Kazakhstan's Ai Aspirations <https://www.rebellionresearch.com/blog/kazakhstan-s-ai-aspirations>

⁵⁸¹ 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

⁵⁸² 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>

⁵⁸³ «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>

⁵⁸⁴ <https://www.bloomberg.com/news/articles/2019-10-07/u-s-blacklists-eight-chinese-companies-including-hikvision-k1gvpq77>

places.⁵⁸⁵ Similarly, over 4,000 cameras blanket Nur-Sultan, the capital.⁵⁸⁶ In 2020, the authorities announced that Kazakhstan would be spending \$23 million to install facial recognition software in its largest city, Almaty.⁵⁸⁷

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,⁵⁸⁸ 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.⁵⁸⁹ 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.⁵⁹⁰ According to experts, the pandemic

585 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/>

586 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>

587 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/>

588 Kazakhstan embraces facial recognition, civil society recoils, Eurasianet, <https://eurasianet.org/kazakhstan-embraces-facial-recognition-civil-society-recoils>

589 Technology and Policing a Pandemic in Central Asia <https://thediplomat.com/2020/05/technology-and-policing-a-pandemic-in-central-asia/>

590 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>

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exacerbated the existing arbitrary and uneven policing practices as surveillance is augmented by national and municipal authorities without public oversight.⁵⁹¹

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 Nazarbayev University,⁵⁹² 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.⁵⁹³ Soon after that, the personal information of 11 million people were published online and could be accessed by anyone through a published database.⁵⁹⁴

These incidents led to the amendment of the existing data protection law, which was revised to mostly align with the GDPR.⁵⁹⁵ Amendments to the regulation of digital technologies and to the Personal Data Law entered

⁵⁹¹ 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/>

⁵⁹² Nazarbayev University, Institute of Smart Systems and Artificial Intelligence, <https://issai.nu.edu.kz/about/>

⁵⁹³ Catalin Cimpanu, *Extensive Hacking Operation Discovered in Kazakhstan*, ZDNet, (Nov. 23, 2019), <https://www.zdnet.com/article/extensive-hacking-operation-discovered-in-kazakhstan/>.

⁵⁹⁴ 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>

⁵⁹⁵ 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”).

into force on July 7, 2020.⁵⁹⁶ 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.

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.⁵⁹⁷

Human Rights

According to the Freedom House, Kazakhstan rates poorly for political rights and civil liberties. 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.”⁵⁹⁸ 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

⁵⁹⁶ 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>

⁵⁹⁷ 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

⁵⁹⁸ Freedom House, *Freedom in the World 2020 – Kazakhstan* (2020), <https://freedomhouse.org/country/kazakhstan/freedom-world/2020>

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to government information was adopted in 2015, but it is poorly implemented in practice.”

Still, there are indications that political reform is underway in Kazakhstan. The abrupt resignation of the past President in 2019, who had held power for almost 30 years, gave way to an election and a new Presidency. Parliamentary elections are now scheduled for January 2021.⁵⁹⁹

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 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.”⁶⁰⁰

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.

⁵⁹⁹ Georgi Gotev, *Kazakhstan to hold parliamentary elections in January* (Oct. 21, 2020), <https://www.euractiv.com/section/central-asia/news/kazakhstan-to-hold-parliamentary-elections-in-january/>

⁶⁰⁰ Council of Europe / European Union, *Central Asia Rule of Law Programme*, <https://pjp-eu.coe.int/en/web/central-asia>

Korea

*National Strategy for Artificial Intelligence*⁶⁰¹

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.⁶⁰²

AI R&D Strategy

To strengthen its national technological competitiveness, expand infrastructure, and secure AI talents, Korea announced the AI R&D Strategy

⁶⁰¹ 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>

⁶⁰² Presidential Committee on the Fourth Industrial Revolution, *About PCFIR* (2020)
<https://www.4th-ir.go.kr/home/en>

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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.⁶⁰³ Furthermore, Korea plans to promote the Next AI R&D Project⁶⁰⁴ (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.

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.⁶⁰⁵ 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.

Establishment of 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,

⁶⁰³ HRST Policy Platform, *AI R&D Strategy* (May 2018), https://hrstpolicy.re.kr/kistep/kr/policy/policyPlanKorDetail.html?board_seq=26570&board_class=BOARD01&rootId=2003000&menuId=2003102

⁶⁰⁴ (footnote #1) National Strategy for Artificial Intelligence, p. 22

⁶⁰⁵ Ministry of Culture, Sports and Tourism, “Data 3 Act” (Mar. 30, 2020) <http://www.korea.kr/special/policyCurationView.do?newsId=148867915>

2020.⁶⁰⁶ 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.

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 2019⁶⁰⁷ 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.⁶⁰⁸

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.⁶⁰⁹

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.”⁶¹⁰ In particular, Korea’s “National Strategy for Artificial

⁶⁰⁶ 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>

⁶⁰⁷ 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>

⁶⁰⁸ 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>

⁶⁰⁹ 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>

⁶¹⁰ 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>

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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.⁶¹¹

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 international norms, including discussions on lethal autonomous weapons at the meetings of the expert group under the UN.⁶¹²

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*.⁶¹³ The Korean government will determine the details and level of regulation as a form of ministerial decree after hearing opinions

⁶¹¹ 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

⁶¹² 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/>

⁶¹³ 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>

from the related parties and considering the technology development progress, AI industry vitalization, and infringement of business' autonomy.

Improvement of Policies and Laws for the Era of AI

In May 2020, the Korean government amended the *Framework Act on National Informatization*⁶¹⁴ 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'⁶¹⁵ 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.⁶¹⁶ 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*."⁶¹⁷

⁶¹⁴ 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>

⁶¹⁵ (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/>

⁶¹⁶ National Human Rights Commission of Korea, *Purpose* (2001)
<https://www.humanrights.go.kr/site/homepage/menu/viewMenu?menuid=002001001001>

⁶¹⁷ 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.⁶¹⁸

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 or the Social Contract for the Age of AI, elements of these documents are reflected in the national AI policies.

⁶¹⁸ Ministry of Foreign Affairs, *Human Rights Diplomacy*, http://www.mofa.go.kr/eng/wpge/m_5648/contents.do

Mexico

National 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 (COFECE) 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."⁶¹⁹

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.⁶²⁰

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

⁶¹⁹ Oxford Insights, *Towards an AI Strategy in Mexico: Harnessing the AI Revolution* (June 2018) <https://www.oxfordinsights.com/mexico>

⁶²⁰ 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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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. 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.⁶²¹ The federal government has reoriented its policy priorities away from AI and has cut the funding allotted to the implementation of the National Strategy.

In late 2020 a statement appeared on the IA2030Mx website, “Congratulations to IA Mexico for having been selected as Coordinating Institution 2021-2022. Soon we will be sharing more information about what this change of Coordination implies.”⁶²²

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.⁶²³ 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.⁶²⁴ This knowledge was then mobilized in the creation of a 2020 National Agenda for AI. The central

⁶²¹ Enrique Zapata, *Estrategia de Inteligencia Artificial MX 2018* (Mar. 18, 2018) <https://datos.gob.mx/blog/estrategia-de-inteligencia-artificial-mx-2018>

⁶²² IA2030Mx, <https://www.ia2030.mx/>

⁶²³ IA2030Mx, *Artificial Intelligence in Mexico: A National Agenda* (Nov. 2020) (English translation), <https://www.ia2030.mx/>

⁶²⁴ IA2030Mx, *Artificial Intelligence in Mexico: A National Agenda* (Nov. 2020) (English translation), <https://www.ia2030.mx/>

The AI Social Contract Index 2020

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.

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.⁶²⁵ 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 2021.⁶²⁶

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.

⁶²⁵ 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>

⁶²⁶ 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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The Ibero-American Data Protection Network (RIPD),⁶²⁷ 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."⁶²⁸ 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 2017.⁶²⁹ 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 presented by the INAI in collaboration with the PPP of Mexico, C-Minds and the IDB Group during 2021.⁶³⁰

⁶²⁷ *The Ibero-American Data Protection Network (Red Iberoamericana de Protección de Datos (RIPD))*, <https://www.redipd.org/>

⁶²⁸ 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

⁶²⁹ 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

⁶³⁰ CMINDS, *Prototipo de Políticas Públicas. Transparencia y explicabilidad de sistemas de IA*, <https://www.cminds.co/prototipo-politica-ia>

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.⁶³¹ 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.”⁶³²

Human Rights

Freedom House gives Mexico a “partly free” (62/100) rating for political rights and civil liberties. 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. However, the country suffers from severe rule of law deficits that limit full citizen enjoyment of political rights and civil liberties.”

⁶³¹ Principles for the Administration of Artificial Intelligence (Nov. 2018), https://www.gob.mx/cms/uploads/attachment/file/415644/Consolidado_Comentarios_Consulta_IA_1_.pdf

⁶³² 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>

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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.

Netherlands

Strategic Action Plan for AI

In September 2019, the Dutch government set out The Strategic Action Plan for Artificial Intelligence.⁶³³ 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.”⁶³⁴ 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.’”⁶³⁵ 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.”

⁶³³ *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>

⁶³⁴ *The Strategic Action Plan for Artificial Intelligence - Summary* (2019), <https://www.government.nl/binaries/government/documents/reports/2019/10/09/strategic-action-plan-for-artificial-intelligence/Strategic+Action+Plan+for+Artificial+Intelligence+Summary.pdf>

⁶³⁵ Dutch Digitalization Strategy (2018), <https://www.nederlanddigitaal.nl/documenten/publicaties/2019/11/13/english-version-of-the-dutch-digitalisation-strategy-2.0>

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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.⁶³⁶ 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.⁶³⁷

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.”

On August 27, 2020 the Dutch Data Protection Authority (Dutch DPA) approved the first ‘code of conduct’ in the Netherlands, the Data Pro Code⁶³⁸ drafted by NL Digital, the Dutch industry association for organizations in the ICT sector

Predictive Policing

Dutch Police, in collaboration with Utrecht University and the University of Amsterdam, established the National Police Lab AI to

⁶³⁶ 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>

⁶³⁷ *Dutch Artificial Intelligence Manifesto* (2008), <http://bnvki.org/wp-content/uploads/2018/09/Dutch-AI-Manifesto.pdf>

⁶³⁸ 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>

develop “AI techniques to improve the safety in the Netherlands in a socially, legally and ethically responsible way.”⁶³⁹ 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”.⁶⁴⁰ 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

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.⁶⁴¹ To date, none of the systems in use by Dutch police have been subjected to a comprehensive human rights evaluation.

The System Risk Indication Decision

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.⁶⁴² In the landmark decision, the Court ruled that the principle of transparency was

⁶³⁹ Innovation Center for Artificial Intelligence, *Police Lab AI*, <https://icai.ai/police-lab-ai/>

⁶⁴⁰ Amnesty International, *We Sense Trouble* (2020), <https://www.amnesty.org/download/Documents/EUR3529712020ENGLISH.PDF>

⁶⁴¹ Strikwerda, Litska (Aug. 2020), “*Predictive Policing: The Risks Associated with Risk Assessment*.” *The Police Journal*. <https://doi.org/10.1177/0032258X20947749>.

⁶⁴² *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/>

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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.”⁶⁴³ 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.”⁶⁴⁴ In April 2020, Data Processing by Partnerships Act was introduced by the government. Where SyRI was related to public data sharing, this bill expands the data surveillance and sharing to all data stored in public and private storage.⁶⁴⁵

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

⁶⁴³ 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>

⁶⁴⁴ 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>

⁶⁴⁵ AlgorithmWatch, *Automating Society Report 2020*,

<https://automatingsociety.algorithmwatch.org/wp-content/uploads/2020/10/Automating-Society-Report-2020.pdf>

for the person responsible for the responsible deployment of a particular algorithm.”⁶⁴⁶

Public Participation

The Electronic Announcement Act requires national governments to publish official publications on the internet rather than on paper.⁶⁴⁷ All AI policies are accessible by public via the websites of The Dutch Parliament and the Digital Government.⁶⁴⁸ 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.⁶⁴⁹ National Innovation Centre for AI (ICAI) is also a national network between knowledge institutions, industry and government.⁶⁵⁰

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

⁶⁴⁶ 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/>

⁶⁴⁷ 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

⁶⁴⁸ Netherlands, House of Representatives, <https://www.houseofrepresentatives.nl>; Netherlands, Digital Government Agenda, <https://www.nldigitalgovernment.nl/digital-government-agenda/>

⁶⁴⁹ 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>

⁶⁵⁰ Innovation Center for Artificial Intelligence, <https://icai.ai/>

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European Convention on Human Rights (ECHR).⁶⁵¹ 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.”⁶⁵² 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 an early stage (in the design and development phase.”¹

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.⁶⁵³ Government also views that a moratorium on fully autonomous weapon systems to be currently unfeasible.

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.”⁶⁵⁴ In alignment with GDPR

⁶⁵¹ 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

⁶⁵² UN HROHC, *UN Treaty Body Database*, https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CPR/C/NLD/CO/5&Lang=En

⁶⁵³ 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>

⁶⁵⁴ 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>

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 2020-23.⁶⁵⁵

Despite all the actions taken already in the Netherlands, there are also several concerns about these actions and how the government proceeds 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.⁶⁵⁶ The TCDT proposes that a standing committee for Digital Affairs be established after the elections.

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. It 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

⁶⁵⁵ 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

⁶⁵⁶ 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>

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Netherlands has not endorsed Social Contract for AI ⁶⁵⁷ Universal Guidelines for AI, ⁶⁵⁸ or the GPA Resolution on AI Accountability. ⁶⁵⁹

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 as well as risk-based systems that may adversely impact minority and vulnerable groups raise concern. The Netherlands is a member of the Global Partnership on AI. 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.

⁶⁵⁷ AIWS.Net, *Social Contract for the AI Age*, <https://aiws.net/practicing-principles/aiws-social-contract-2020-and-united-nations-2045/social-contract-for-the-ai-age/>

⁶⁵⁸ The Public Voice, *Universal Guidelines for AI Endorsement*, <https://thepublicvoice.org/AI-universal-guidelines/endorsement/>

⁶⁵⁹ 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>

Poland

National AI Strategy

In September 2020, the Polish Council of Ministers Committee for Digital Affairs⁶⁶⁰ adopted the ‘Policy for the Development of Artificial Intelligence in Poland.’⁶⁶¹ The Policy has not been published yet, but the government website states that the Policy should be adopted by the Standing Committee of the Council of Ministers by the end of 2020.⁶⁶² 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).⁶⁶³ 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

Once adopted, 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

⁶⁶⁰ 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>.

⁶⁶¹ <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.

⁶⁶² OECD, STIP Compass, *Poland’s National AI Strategy* (2020), <https://stip.oecd.org/stip/policy-initiatives/2019%2Fdata%2FpolicyInitiatives%2F24268>.

⁶⁶³ 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>.

⁶⁶⁴ European Commission, *Poland AI Strategy Report* (Feb. 2020), https://ec.europa.eu/knowledge4policy/ai-watch/poland-ai-strategy-report_en.

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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).⁶⁶⁵ The 2020 Policy follows on from a draft policy document that was released for consultation in 2019⁶⁶⁶ and a document released by the Minister for Digital Affairs in 2018, titled "Assumptions to AI Strategy in Poland."⁶⁶⁷ 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 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;

⁶⁶⁵ Government of Poland, *Digitalization of the Chancellery of the Prime Minister* [GT], <https://www.gov.pl/web/cyfryzacja/ai>.

⁶⁶⁶ <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.

⁶⁶⁷ 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>)

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.⁶⁶⁸ 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.⁶⁶⁹ 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 Artificial Intelligence;⁶⁷⁰ the High-Level Expert Group on AI's Ethics Guidelines for Trustworthy Artificial Intelligence;⁶⁷¹ the High-Level Expert Group on AI's

⁶⁶⁸ European Commission, *Poland AI Strategy Report* (Feb. 2020), https://ec.europa.eu/knowledge4policy/ai-watch/poland-ai-strategy-report_en.

⁶⁶⁹ <https://www.gov.pl/attachment/a8ea194c-d0ce-404e-a9ca-e007e9fbc93e>.

⁶⁷⁰ 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>.

⁶⁷¹ European Commission, *Ethics Guidelines for Trustworthy AI* (Apr. 8, 2019), <https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai>.

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Policy and Investment Recommendations for Trustworthy Artificial Intelligence;⁶⁷² and the OECD Council Recommendation on Artificial Intelligence.⁶⁷³

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.⁶⁷⁴ 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, 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

⁶⁷² 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>

⁶⁷³ OECD Legal Instruments, *Recommendation of the Council on Artificial Intelligence* (May 21, 2019), <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>.

⁶⁷⁴ 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-zabieraglos-w-sprawie-ai/>.

legal certainty and relations, ensure coordination within the EU, and limit the negative social impact.”⁶⁷⁵ 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.”⁶⁷⁶ 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.⁶⁷⁷ 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.⁶⁷⁸

⁶⁷⁵ 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>.

⁶⁷⁶ 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/>

⁶⁷⁷ 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>

⁶⁷⁸ 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.⁶⁷⁹ 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’.”⁶⁸⁰

The position occurs in the context of the Polish government opposition to the Convention on Preventing and Combating Violence against Women and Domestic Violence.⁶⁸¹ 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.⁶⁸²

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.⁶⁸³

intelligence-presidency-issues-conclusions-on-ensuring-respect-for-fundamental-rights/
<https://www.consilium.europa.eu/media/46496/st11481-en20.pdf>.

⁶⁷⁹ 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>

⁶⁸⁰ 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/>.

⁶⁸¹ 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/>

⁶⁸² 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>.

⁶⁸³ 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>

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.⁶⁸⁴ While Poland ranks quite highly in its Freedom House 2020 Country Report (84/100), concerns were raised about the fairness of parliamentary elections, media freedom, judicial reforms, and LGBT+ rights.⁶⁸⁵ Since 2015, Poland's ranking on the World Press Freedom Index has dropped from 18th to 62nd place.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.⁶⁸⁷ Poland supports the Ethics Guidelines for Trustworthy AI, including the requirements of human agency and oversight; privacy and data governance; transparency; and diversity, non-discrimination and fairness; and accountability.⁶⁸⁸

⁶⁸⁴ *The Constitution of the Republic of Poland, Article 32*,

<https://www.sejm.gov.pl/prawo/konst/angielski/kon1.htm>

⁶⁸⁵ Freedom House, *Freedom in the World 2020 – Poland* (2020),

<https://freedomhouse.org/country/poland/freedom-world/2020>. See also Case C-791/19 R *Commission v Poland* and Case C-619/18 *Commission v Poland*.

⁶⁸⁶ Reporters without Borders, *2020 World Press Freedom Index*,

<https://rsf.org/en/ranking>; Reporters without Borders, *2015 World Press Freedom Index*,

<https://rsf.org/en/ranking/2015#>.

⁶⁸⁷ President of the Office of Personal Data Protection, <https://uodo.gov.pl/en>.

⁶⁸⁸ 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-spoleczne-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>.

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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.⁶⁸⁹ 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.⁶⁹⁰

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.⁶⁹¹ 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.⁶⁹² 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 context.⁶⁹³ In particular, concerns were expressed regarding the protection of personal data and the absence of a transparent procedure to facilitate appeals.⁶⁹⁴ In addition, concerns were raised by the Polish Supreme Audit

⁶⁸⁹ 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>.

⁶⁹⁰ <https://www.gov.pl/web/cyfryzacja/konsultacje-spoleczne-projektu-polityki-rozwoju-sztucznej-inteligencji-w-polsce-na-lata-2019--2027>.

⁶⁹¹ 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.

⁶⁹² 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.

⁶⁹³ 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.

⁶⁹⁴ Fundacja Panoptykon, *Profiling the Unemployed in Poland: Social and Political Implications of Algorithmic Decision Making* (2015),

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.⁶⁹⁵ 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.⁶⁹⁶ STIR – System Teleinformatyczny Izby Rozliczeniowej – is a government tool that analyses information collected by financial institutions in order 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.⁶⁹⁷ 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.

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.⁶⁹⁸ The subsequently published Draft Policy document was released for public consultation in August 2019 (the consultation period closed in September 2019).⁶⁹⁹ According to the government website, 46 entities took part in the consultation.

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>.

⁶⁹⁵ AlgoirthmWatch, *Poland: Government to scrap controversial unemployment scoring system* (Apr. 16, 2019). <https://algorithmwatch.org/en/story/poland-government-to-scrap-controversial-unemployment-scoring-system/>.

⁶⁹⁶ Article 46 http://orka.sejm.gov.pl/opinie8.nsf/nazwa/3050_u/%24file/3050_u.pdf; <https://en.panoptykon.org/right-to-explanation>.

⁶⁹⁷ <https://automatingsociety.algorithmwatch.org/report2020/poland/>; <https://www.gov.pl/web/kas/sukces-analzyki-stir>.

⁶⁹⁸ 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>.

⁶⁹⁹ 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->

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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.

Russia

National Strategy for Artificial Intelligence

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.”⁷⁰⁰ 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 2019.⁷⁰¹ 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

⁷⁰⁰ CNN, *Who Vladimir Putin thinks will rule the world* (Sept. 2, 2017), *Who Vladimir Putin thinks will rule the world*

⁷⁰¹ *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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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-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

Russian government has put 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)⁷⁰² 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.⁷⁰³

⁷⁰² 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>

⁷⁰³ 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>

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.⁷⁰⁴ 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.

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.⁷⁰⁵

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 instructions⁷⁰⁶ following the meeting of the supervisory board of the Agency for Strategic Initiatives, which included the instruction to the

⁷⁰⁴ 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>

⁷⁰⁵ 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>

⁷⁰⁶ List of instructions following the meeting of the Supervisory Board of the Agency for Strategic Initiatives [GT], <http://kremlin.ru/acts/assignments/orders/59758>

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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 2019.⁷⁰⁷

According to the Future of Life Institute,⁷⁰⁸ 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 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.⁷⁰⁹ 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.⁷¹⁰

⁷⁰⁷ First draft of Russian AI strategy, <https://www.defenseone.com/technology/2019/09/whats-russias-national-ai-strategy/159740/>

⁷⁰⁸ Future of Life, *AI Policy – Russia* (Feb. 2020), <https://futureoflife.org/ai-policy-russia/>

⁷⁰⁹ 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>

⁷¹⁰

<http://sk.ru/foundation/legal/p/11.aspx>; <https://economy.gov.ru/material/directions/gosuda>

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.”⁷¹¹ 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 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.⁷¹² Moscow authorities are also planning to expand the use of this technology, installing CCTV cameras with facial recognition software in trams and underground trains.⁷¹³

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

rstvennoe_upravlenie/normativnoe_regulirovanie_cifrovoy_sredy/regulirovanie_primene
niya_tehnologiy_iskusstvennogo_intellekta/

⁷¹¹ *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>

⁷¹² *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>

⁷¹³ 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>

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public safety.”⁷¹⁴ 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.⁷¹⁵

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.⁷¹⁶ 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 personal data.⁷¹⁷ The Roskomnadzor, Russia’s data protection agency, interprets the federal law and brings enforcement actions.⁷¹⁸

Russia is also moving to update and expand its national data protection law.⁷¹⁹ 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

⁷¹⁴ 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>

⁷¹⁵ 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>

⁷¹⁶ *Constitution of the Russian Federation* (Articles 23 and 24), <http://archive.government.ru/eng/gov/base/54.html>

⁷¹⁷ Roskomnadzor, *Federal Law of 27 July 2006 N 152-FZ on Personal Data*, <https://pd.rkn.gov.ru/authority/p146/p164/>

⁷¹⁸ Roskomnadzor, *About the Competent Authority*, <http://eng.pd.rkn.gov.ru>

⁷¹⁹ 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/>

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 2013.⁷²⁰ Russia has not yet ratified the modernized Privacy Convention, which includes a broad provision regarding algorithm transparency.⁷²¹ Russian data protection law does broadly provide rights of access and transparency to the data subject.⁷²²

OECD/G20 AI Principles

Russia, a member of the G20, endorsed the G20 AI Principles at the G20 Ministerial in 2019.⁷²³ 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 Convention 108. However, Russia's derogation from the Council of Europe Convention on Human Rights remains controversial.⁷²⁴ 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."⁷²⁵

⁷²⁰ 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>

⁷²¹ Article 9(1)(c).

⁷²² OneTrust, *Russia – Data Protection Overview* (Nov. 2020), <https://www.dataguidance.com/notes/russia-data-protection-overview>

⁷²³ <http://www.oecd.org/digital/g20-digital-economy-ministers-meeting-july-2020.htm>

⁷²⁴ 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, *EU Law in Populist Times* (2020)

⁷²⁵ 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

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Freedom House gives Russia low marks for political rights and civil liberties.⁷²⁶ 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.

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/>

⁷²⁶ Freedom House, *Freedom in the World 2020 – Russia* (2020), <https://freedomhouse.org/country/russia/freedom-world/2020>

Rwanda

National AI Strategy

Rwanda, with Vision 2050, aspires to increase the quality of life and develop modern infrastructure ⁷²⁷ 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 2050.⁷²⁸ The government pledges to establish legal frameworks that spur economic development and instill fairness, transparency and accountability across institutions.⁷²⁹ 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.⁷³⁰

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.⁷³¹ 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

⁷²⁷ Republic of Rwanda, *Vision 2050* (2015)

http://www.minecofin.gov.rw/fileadmin/templates/documents/NDPR/Vision_2050/Vision_2050_Full_Document.pdf

⁷²⁸ 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

⁷²⁹ Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*

⁷³⁰ 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/>

⁷³¹ 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.⁷³² For implementation, GIZ FAIR Forward is tapped. “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.⁷³³ 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).

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.⁷³⁴ 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 international human rights laws.⁷³⁵ 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 2001⁷³⁶ to classify wealth and identify the poorest households using community assessments. The database is interlinked with the national ID

732 *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/>

733 Toolkit Digitalisierung , *FAIR Forward – Artificial Intelligence for All*, <https://toolkit-digitalisierung.de/en/fair-forward/>

734 ID4Africa, *Rwanda National ID Strategy*, https://www.id4africa.com/2019_event/presentations/PS1/5-Josephine-Mukesh-NIDA-Rwanda.pdf

735 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/>

736 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_tersectoral%20action%20final%20Report.pdf](https://www.afro.who.int/sites/default/files/2018-03/Rwanda_s_Performance_in_Addressing_Social_Determinants_of_Health_and%20in_tersectoral%20action%20final%20Report.pdf)

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.”⁷³⁷ 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, healthcare, technology, financial services, biotech firms and both commercial and residential space.⁷³⁸

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

737 UN Habitat, *Smart City Rwanda Master Plan*, https://unhabitat.org/sites/default/files/documents/2019-05/rwanda_smart_city-master_plan.pdf

738 Thelwell, K. *Big Plans for Rwandan Infrastructure*, The Borgen Project (Oct. 6, 2019) <https://borgenproject.org/tag/kigali-innovation-city/>

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development was aligned with the Smart Africa Alliance Smart Sustainable Cities Blueprint for Africa.⁷³⁹

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.⁷⁴⁰ 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.⁷⁴¹ 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.⁷⁴²

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.⁷⁴³ 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.

739 UN Habitat, *Smart City Rwanda Master Plan*

740 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/>

741 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>

742 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

743 Habumuremyi, E. *AI eyed to transform health care in Rwanda*, Global Information Society Watch, <https://www.giswatch.org/node/6186>

Fundamental Rights and 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.

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.⁷⁴⁴ 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.⁷⁴⁵ 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.⁷⁴⁶ 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."⁷⁴⁷ 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.

744 Nkusi, A. *The Rwandan Miracle*, UNICEF, <https://en.unesco.org/courier/2019-2/rwandan-miracle>

745 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

746 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>

747 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

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The Rwandan judiciary lacks independence from the executive. Top judicial officials are appointed by the president and confirmed by the Senate⁷⁴⁸ 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.⁷⁴⁹ 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 ratified the African Union Convention on Cyber Security and Personal Data Protection.⁷⁵⁰ In October 2020, the Cabinet approved the Data Protection and Privacy Law, however the law is not yet in force.⁷⁵¹ 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.⁷⁵² 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.”⁷⁵³

⁷⁴⁸ Freedom House, *Freedom in the World 2020*,

<https://freedomhouse.org/country/rwanda/freedom-world/2020>

⁷⁴⁹ 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

⁷⁵⁰ 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/>

⁷⁵¹ Republic of Rwanda, Office of the Prime Minister, *Statement on Cabinet Decisions of 27 October 2020*,

https://www.primature.gov.rw/index.php?id=131&tx_news_pi1%5Bnews%5D=933&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Baction%5D=detail&cHash=7a012c144e6b2eb6d384a0b1f153c26

⁷⁵² 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>

⁷⁵³ OneTrust DataGuidance, *Rwanda* (Oct. 29, 2020), <https://www.dataguidance.com/jurisdiction/rwanda>

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Algorithmic Transparency

Government provides open datasets⁷⁵⁴ and government services.⁷⁵⁵ Under NST1, government targets to ensure 100% Government services are delivered online by 2024.⁷⁵⁶ 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.

754 Rwanda Data Portal d<https://rwanda.opendataforafrica.org/>

755 Irembo.gov https://irembo.gov.rw/home/citizen/all_services

756 Republic of Rwanda, *7 Years Government Programme: National Strategy for Transformation (NST1)*

Saudi Arabia

National 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.⁷⁵⁷ The Saudi Data and AI Authority's website provides basic information about the Kingdoms goals for AI.⁷⁵⁸ 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.⁷⁵⁹ The AI Strategy is to advance the KSA Vision 2030.⁷⁶⁰⁷⁶¹ 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.”⁷⁶² 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

⁷⁵⁷ Saudi Gazette, *King Salman issues royal decrees, including setting up of industry and resources ministry* (Aug. 2019), <https://saudigazette.com.sa/article/575953>

⁷⁵⁸ Saudi Data and AI Authority, Home, <https://sdaia.gov.sa/>

⁷⁵⁹ Carrington Malin, *Saudi National Strategy for Data and AI* (Aug. 2020), <https://www.sme10x.com/technology/saudi-national-strategy-for-data-and-ai-approved>

⁷⁶⁰ Government of Saudi Arabia, *Vision 2030* (2020), <https://vision2030.gov.sa/en>

⁷⁶¹ Catherine Jewell, *Saudi Arabia embraces AI-driven innovation* (Sept. 2018), https://www.wipo.int/wipo_magazine/en/2018/05/article_0002.html

⁷⁶² 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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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 development of digital skills for jobs in emerging technology including AI.⁷⁶³

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.”⁷⁶⁴ 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.⁷⁶⁵ 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

⁷⁶³ Catherine Early, *Saudi Arabia signs off on Artificial Intelligence policy* (Aug. 2020), <https://www.globalgovernmentforum.com/saudi-arabia-signs-off-on-artificial-intelligence-policy/>

⁷⁶⁴ SDAIA, *National Strategy for Data & AI: Realizing our best tomorrow* (Oct. 2020), https://ai.sa/Brochure_NSDAI_Summit%20version_EN.pdf

⁷⁶⁵ 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>

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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.”⁷⁶⁶ “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 Ghamdi, president of SDAIA.⁷⁶⁷ 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.⁷⁶⁸⁷⁶⁹

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.⁷⁷⁰ “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

⁷⁶⁶ 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>

⁷⁶⁷ 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>

⁷⁶⁸ Future of Life, *AI-Policy Saudi Arabia*, <https://futureoflife.org/ai-policy-saudi-arabia/>

⁷⁶⁹ 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>

⁷⁷⁰ Early, Catherine, *Saudi Arabia signs off on Artificial Intelligence policy* (Aug. 2020), <https://www.globalgovernmentforum.com/saudi-arabia-signs-off-on-artificial-intelligence-policy/>

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.”⁷⁷¹

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.⁷⁷²⁷⁷³ *MIT Technology Review* reported that Tabaud is transparent, voluntary, and minimizes data collection.⁷⁷⁴

In 2017 Saudi Arabia granted the robot, Sophia, citizenship. This is a first worldwide and was met with mixed reactions.⁷⁷⁵ CNBC said, “Sophia been touted as the future of AI, but it may be more of a social experiment masquerading as a PR stunt.”⁷⁷⁶ Bloomberg noted that “Migrant laborers can’t become citizens; android Sophia can.”⁷⁷⁷

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).”⁷⁷⁸ 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:

⁷⁷¹ 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/>

⁷⁷² SDAIA, *Tawakkalna*, <https://ta.sdaia.gov.sa/En/>

⁷⁷³ SDAIA, *Tabaud*, <https://tabaud.sdaia.gov.sa/indexEn>

⁷⁷⁴ MIT Technology Review, *COVID Tracing Tracker* (May 7, 2020), <https://www.technologyreview.com/2020/05/07/1000961/launching-mittr-covid-tracing-tracker/>,

⁷⁷⁵ Future of Life, *AI Policy-Saudi Arabia*, <https://futureoflife.org/ai-policy-saudi-arabia/>

⁷⁷⁶ 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.cnbc.com/2018/06/05/hanson-robotics-sophia-the-robot-pr-stunt-artificial-intelligence.html>

⁷⁷⁷ 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>

⁷⁷⁸ Global AI Summit, *About Us*, <https://www.theglobalaisummit.com/#about-us>

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“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”.⁷⁷⁹ 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.⁷⁸⁰

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.”⁷⁸¹ 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.”⁷⁸²

⁷⁷⁹ Global AI Summit, *Program*, <https://www.theglobalaisummit.com/#program>

⁷⁸⁰ Global AI Summit, *AI for the Good of Humanity* (Oct. 21, 2020) (livestream), <https://www.youtube.com/watch?v=uOGYQlhmb8>

⁷⁸¹ 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>

⁷⁸² 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>

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 2030.⁷⁸³ 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.⁷⁸⁴

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 chosen by the Prime Minister.⁷⁸⁵ 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.⁷⁸⁶

The Vision 2030 website states their objectives and lists the respective programs in place to achieve them.⁷⁸⁷ Further it describes the indicators and targets for every so-called “Theme” as well as information on the respective initiatives. There is also a section on “Vision Progress” that lists what has been done within the scope of these programs, however this only covers the year 2017 and 2018 and only provides a title and short explanation with no link for more specific information.⁷⁸⁸ The Vision 2030, however, encompasses many different objectives, AI being only one of many. This makes it a good resource for development policy but not specifically for finding information on AI policy and initiatives.⁷⁸⁹

⁷⁸³ NEOM, *FAQ*, https://www.neom.com/en-us/static/pdf/en/NEOM_FAQ_EN.pdf

⁷⁸⁴ NEOM, *Brochure*, https://www.neom.com/en-us/static/pdf/en/NEOM_BROCHURE_EN.pdf

⁷⁸⁵ Saudi Gazette, *King Salman issues royal decrees, including setting up of industry and resources ministry* (Aug. 2019), <https://saudigazette.com.sa/article/575953>

⁷⁸⁶ Vision 2030, *Governance*, <https://vision2030.gov.sa/en/governance>

⁷⁸⁷ Kingdom of Saudi Arabia, *Vision 2030, Programs*, <https://vision2030.gov.sa/en/programs#>

⁷⁸⁸ Kingdom of Saudi Arabia, *Vision 2030, Vision Progress*, <https://vision2030.gov.sa/en/vision-progress>

⁷⁸⁹ Kingdom of Saudi Arabia, *Vision 2030* (Oct. 2020), <https://vision2030.gov.sa/en>

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Further, the SDAIA provides a digitized version of the strategy report. There is an email address under “Contact Us”, however no feedback or input form, nor is it encourage or mentioned anywhere on the website.⁷⁹⁰

The Global AI Summit also provided important opportunities for individuals and organizations to express their views on AI policy.

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 OECD AI Principles.⁷⁹¹ 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.”⁷⁹²⁷⁹³

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

⁷⁹⁰ Kingdom of Saudi Arabia, *National Strategy for Data and AI*, <https://ai.sa/index-en.html>

⁷⁹¹ 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>

⁷⁹² SDG Knowledge Hub, *G20 Digital Economy Ministers Meeting*, July 2020, <https://sdg.iisd.org/events/g20-digital-economy-ministers-meeting/>

⁷⁹³ 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>]

and communities, and the G20 Roadmap toward a Common Framework for Measuring the Digital Economy.”⁷⁹⁴

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.”

AI Oversight

The Saudi Data and Artificial Intelligence Authority (SDAIA) was established by a royal decree in 2019.⁷⁹⁵ 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 Commissions 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.”⁷⁹⁶

Data Protection

The Kingdom of Saudi Arabia does not yet have a specific national data protection legislation.⁷⁹⁷ There are, however, “privacy-related concepts

⁷⁹⁴ G20 Riyadh Summit, *Leaders Declaration* (Nov. 21-22, 2020), https://g20.org/en/media/Documents/G20%20Riyadh%20Summit%20Leaders%20Declaration_EN.pdf

⁷⁹⁵ 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>

⁷⁹⁶ Kingdom of Saudi Arabia, *Human Rights Commission*, <https://hrc.gov.sa/en-us/aboutHRC/AboutHRC/Pages/HRCvision.aspx>.

⁷⁹⁷ OneTrust DataGuidance, *Key Takeaways: Data Privacy in the Middle East* (June 2020), <https://www.dataguidance.com/opinion/key-takeaways-data-privacy-middle-east>

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legislation, including Shari'ah principles against the invasion of privacy or disclosure of secrets.” Further, “sectoral regulations contain data protection obligations regarding organisations working in telecommunication, IT/cloud services, healthcare and financial services industries.”⁷⁹⁸

As noted above, the National AI Strategy proposes 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.”⁸⁰⁰ 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.”⁸⁰¹ The KSA E-Commerce Law also prohibits service providers from using customers’ personal data for ‘unlicensed or unauthorised’ purposes, and

⁷⁹⁸ OneTrust DataGuidance, *Saudi Arabia Data Protection Overview* (Nov. 2019), <https://www.dataguidance.com/notes/saudi-arabia-data-protection-overview>

⁷⁹⁹ DLA Piper, *Data Protection Laws of the World, Saudi Arabia* (Jan. 2019), <https://www.dlapiperdataprotection.com/index.html?t=law&c=SA>

⁸⁰⁰ SDAIA, *National Strategy for Data & AI: Realizing our best tomorrow* (Oct. 2020), https://ai.sa/Brochure_NSDAI_Summit%20version_EN.pdf

⁸⁰¹ 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>

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 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)."⁸⁰²

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.⁸⁰³

Human Rights

Freedom House gives Saudi Arabia low marks for to civil liberties and political rights.⁸⁰⁴ 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).⁸⁰⁵ However, Saudi Arabia was the sole abstainer on the Declaration among Muslim nations, stating that it violated Sharia law.⁸⁰⁶

Upon pressure from the American foreign policy advocacy group, Freedom Forward, the mayors of New York, London, Paris and Los

⁸⁰² 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>

⁸⁰³ 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>

⁸⁰⁴ Freedom House, *Freedom in the World 2020: Saudi Arabia* (2020), <https://freedomhouse.org/country/saudi-arabia/freedom-world/2020>

⁸⁰⁵ Human Right Watch, International Human Rights Standards, <https://www.hrw.org/reports/1997/saudi/Saudi-07.htm>

⁸⁰⁶ Human Rights Watch, Saudi Arabia: Human Rights Developments, <https://www.hrw.org/reports/1992/WR92/MEW2-02.htm>

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Angeles chose to boycott the G20 meeting in Riyadh due to the human rights violations committed by the Saudi government.⁸⁰⁷

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.

⁸⁰⁷ Natasha Turak, *Saudi Arabia loses vote to stay on UN Human Rights Council; China, Russia and Cuba win seats*, CNBC (Oct. 14, 2020), <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/>

Singapore

National AI Strategy

Singapore's national AI strategy⁸⁰⁸ is part of its Smart Nation⁸⁰⁹ 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.”⁸¹⁰ Government supports a “dare to try” mind-set, experimentation with new ideas and manageable risks.⁸¹¹ The strategy also envisions “human-centric approach towards AI governance that builds and sustains public trust.”⁸¹²

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.⁸¹³ The scope of work addresses all five principles of the G20 AI Principles.

⁸⁰⁸ Singapore, *National Artificial Intelligence Strategy* (2019):

<https://www.smartnation.gov.sg/why-Smart-Nation/NationalAIStrategy>

⁸⁰⁹ 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

⁸¹⁰ Singapore, *National Artificial Intelligence Strategy* (2019):

<https://www.smartnation.gov.sg/why-Smart-Nation/NationalAIStrategy>

⁸¹¹ Smart Nation: The Way Forward Executive Summary (2018)

⁸¹² 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>

⁸¹³ 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>

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In 2019, Singapore published Asia's first Model AI Governance Framework⁸¹⁴ (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-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."⁸¹⁵

⁸¹⁴ IMDA and PDPC, *Model AI Governance Framework, 2nd Edition* (2020)

⁸¹⁵ The Singapore Computer Society, *Artificial Intelligence Ethics & Governance Body of Knowledge* (2020) <https://ai-ethics-bok.scs.org.sg/document/15>

AI System for Online Surveillance

Maintaining racial and religious harmony has been the Government's stated top priority.⁸¹⁶ Right to privacy is not a right protected by the Singapore constitution.⁸¹⁷ Protection from Online Falsehoods and Manipulation Act 2019⁸¹⁸ 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 Rights⁸¹⁹ 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.⁸²⁰ 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

⁸¹⁶ UN Human Rights Council, *Universal Periodic Review – Singapore, National Report, Second Cycle* (2015) <https://www.ohchr.org/EN/HRBodies/UPR/Pages/SGIndex.aspx>

⁸¹⁷ Privacy International, *Universal Periodic Review, Stakeholder Report: 24th Session, Singapore, The Right to Privacy in Singapore* (2015) https://privacyinternational.org/sites/default/files/2017-12/Singapore_UPR_PI_submission_FINAL.pdf

⁸¹⁸ Singapore Statutes Online, *Protection from Online Falsehoods and Manipulation Act 2019* <https://sso.agc.gov.sg/Acts-Supp/18-2019/Published/20190625?DocDate=20190625>

⁸¹⁹ 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>

⁸²⁰ Privacy International, *Universal Periodic Review, Stakeholder Report: 24th Session, Singapore*

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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.⁸²¹

Smart Cities

Singapore is leading the efforts to develop an ASEAN Framework on Digital Data Governance to facilitate harmonization of data regulations.⁸²² It is also one of the 26 within the ASEAN Smart Cities Network (ASCN) named by member states to pilot smart city project.

SingPass Mobile

SingPass Mobile⁸²³ is an application launched by the government where citizens can use to prove their identity or approve transactions with digital signature. 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.

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 control⁸²⁴

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.⁸²⁵ 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

⁸²¹ 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>

⁸²² Smart Nation Singapore: *The Way Forward* (June 2, 2020) <https://smartnation-strategy.opendoc.sg/08-strengthen-collaboration.html>

⁸²³ SingPass Mobile: <https://singpassmobile.sg/#authoriseTransaction>

⁸²⁴ Ministry of Communications and Information, *Public Consultations* <https://www.mci.gov.sg/public-consultations/archived?pagesize=24>

⁸²⁵ 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>

incorporates all of the OECD AI Principles. Singapore is a founding member of The Global Partnership on AI (GPAI).⁸²⁶

Data Protection and Algorithmic Transparency

The Personal Data Protection Act (PDPA) was enacted in 2012. 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.⁸²⁷ PDPA, however, does not provide protection against police or any public agency use of personal data.

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 (FEAT)⁸²⁸. 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 datasets⁸²⁹ from 70 public agencies, API library and resources for application developers using these data sets. Public Sector (Governance) Act 2018⁸³⁰ provides a governance framework for data sharing among government agencies. It is a step in the right direction for data quality and improved services. However, respect for data security and privacy in practice is yet to be proven. On the commercial side, the regulator, IMDA, introduced a “Trusted Data Sharing Framework”

⁸²⁶ 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>

⁸²⁷ 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>

⁸²⁸ 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>

⁸²⁹ Smart Nation Singapore: *Open Data Resources* <https://www.smartnation.gov.sg/resources/open-data-resources>

⁸³⁰ Public Sector (Governance) Act 2018: <https://sso.agc.gov.sg/Act/PSGA2018>

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⁸³¹ 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 Sandbox⁸³² 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.⁸³³

Singapore has not openly stated its position on a ban of fully autonomous weapons yet.⁸³⁴ However, Road Traffic (Autonomous Motor Vehicles) Rules 2017 regulates liability trials and use of autonomous motor vehicles⁸³⁵ Singapore has not endorsed Social Contract for AI ⁸³⁶ Universal Guidelines for AI,⁸³⁷ or GPA Resolution on AI Accountability.⁸³⁸ However, Singapore’s second edition Model AI Governance Framework provides clear practical guidance that essentially aligns with the GPA Resolution on AI Accountability.⁸³⁹

⁸³¹ 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>

⁸³² IMDA, *Data Collaboratives Programme (DCP)*,

<https://www.imda.gov.sg/programme-listing/data-collaborative-programme>

⁸³³ IMDA, *Data Protection Trustmark Certification*,

<https://www.imda.gov.sg/programme-listing/data-protection-trustmark-certification>

⁸³⁴ [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)

⁸³⁵ Campaign to Stop Killer Robots, *Country Views on Killer Robots* (March 11, 2020)

<https://sso.agc.gov.sg/Act/RTA1961>

⁸³⁶ AIWS.Net, *Social Contract for the AI Age*, <https://aiws.net/practicing-principles/aiws-social-contract-2020-and-united-nations-2045/social-contract-for-the-ai-age/>

⁸³⁷ The Public Voice, *Universal Guidelines for AI Endorsement*,

<https://thepublicvoice.org/AI-universal-guidelines/endorsement/>

⁸³⁸ 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>

⁸³⁹ 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>

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.⁸⁴⁰

Freedom House rates Singapore as partly free.⁸⁴¹ 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 a pioneering country regarding ethical AI guidelines and investment towards implementation of these guidelines. Singapore’s Advisory Council on the Ethical Use of AI and Data brings together business leaders with consumer and social advocates to advise on legal and ethical issues surrounding AI. However, [despite a proactive Personal Data Protection Commission](#), the absence of strong safeguards for personal data and privacy is a concern. In this context, the expansion of AI techniques should be monitored.

⁸⁴⁰ Human Rights Watch, *World Report 2020 – Singapore* (2020)
<https://www.hrw.org/world-report/2020/country-chapters/singapore>

⁸⁴¹ Freedom House, *Freedom in the World 2020 – Singapore* (2020),
<https://freedomhouse.org/country/singapore/freedom-world/2020>

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.”⁸⁴² On December 2, 2020.⁸⁴³ 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 2023.⁸⁴⁴ 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,

⁸⁴² 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

⁸⁴³ Government of Spain, *Estrategia Nacional de Inteligencia Artificial* (Dec. 2, 2020), <https://www.lamoncloa.gob.es/presidente/actividades/Documents/2020/021220-ENIA.pdf>

⁸⁴⁴ 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>

- 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,
- 5) and the promotion of multisectoral national and international fora for dialogue, awareness, and participation.

The National Strategy for AI follows from the Spanish Research, Development and Innovation (RDI) Strategy for Artificial Intelligence, published in 2019.⁸⁴⁵ 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 States 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 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.”⁸⁴⁶

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

⁸⁴⁵ 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

⁸⁴⁶ 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>

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develop, investigate, use, or lend services with AI technologies, on a national level as well as at the level of autonomous communities and provinces.”⁸⁴⁷ 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.⁸⁴⁸ 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 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.⁸⁴⁹ 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

⁸⁴⁷ Government of Spain, *Mapa de capacidades de tecnologías de IA*, <https://mapa.estrategiaia.es/>

⁸⁴⁸ 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>

⁸⁴⁹ 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

The AI Social Contract Index 2020

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.⁸⁵⁰ 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.

Charter on Digital Rights

In November 2020, the Spanish Government, following the recommendation of a group of experts, proposed a Charter on Digital Rights.⁸⁵¹ The aim is to “recognize the challenges posed by the adaptation of existing rights to the virtual environment, and propose a frame of reference for their protection in that context.”⁸⁵² The aim is to create a “magna carta” with rules for the digital world. The 12-page document and 25 guidelines are open for public comment.⁸⁵³ Spanish secretary of State for Digitalization and Artificial Intelligence, Carme Artigas says the Charter

⁸⁵⁰ 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/?vgnnextoid=51884ba89bc63710VgnVCM1000001d04140aRCRD>

⁸⁵¹ *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

⁸⁵² 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-Derechos-Digitales.html?idioma=en

⁸⁵³ 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/>

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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 potentialities and minimizing its risks.”⁸⁵⁴

The Charter 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.⁸⁵⁵

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.”⁸⁵⁶ The Spanish data protection agency (AEPD) has published a detailed guide on processing with AI.⁸⁵⁷ 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

⁸⁵⁴ IT Europa, *Spain offers digital rights charter as model* (Nov. 18, 2020), <https://www.iteuropa.com/news/spain-offers-digital-rights-charter-model>

⁸⁵⁵ PledgeTimes, *Artificial intelligence and pseudonymity: the Government presents the first version of the Bill of Digital Rights* (Nov. 17, 2020), <https://pledgetimes.com/artificial-intelligence-and-pseudonymity-the-government-presents-the-first-version-of-the-bill-of-digital-rights/>

⁸⁵⁶ [GDPR Art. 22, Art. 13.2.f]

⁸⁵⁷ 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

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.

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 2019.⁸⁵⁸ The Spanish government, however, does not endorse the creation of a preemptive treaty prohibiting LAWS.⁸⁵⁹

OECD/G20 AI Principles

Spain has endorsed the OECD AI Principles. However, many of the principles are still to be addressed in the National AI Strategy.⁸⁶⁰ 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.”⁸⁶¹ Spain published its national AI Strategy in December 2020.⁸⁶²

⁸⁵⁸ 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>

⁸⁵⁹ 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#>

⁸⁶⁰ 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>

⁸⁶¹ 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>

⁸⁶² https://www.lamoncloa.gob.es/lang/en/presidente/news/Paginas/2020/20201202_enia.asp

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Human Rights

Spain ranks highly for political rights and civil liberties (92/100). According to Freedom House, “Spain’s parliamentary system features competitive multiparty elections and peaceful transfers of power between rival parties. The rule of law prevails, and civil liberties are generally respected.”⁸⁶³

Evaluation

Spain has developed a strong ethics-focused national AI strategy, created an independent AI advisory council, proposed 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.⁸⁶⁴ 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 or the Social Contract for the Age of AI but the recently announced national AI strategy reflects elements of both.

⁸⁶³ Freedom House, Freedom in the World 2020 – Spain (2020), <https://freedomhouse.org/country/spain/freedom-world/2020>

⁸⁶⁴ 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>

Sweden

National Approach to Artificial Intelligence

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.”⁸⁶⁵

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.⁸⁶⁶ 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

⁸⁶⁵ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf>

⁸⁶⁶ *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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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.”

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. 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.”⁸⁶⁷

In the “Sweden AI Strategy Report,”⁸⁶⁸ 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.⁸⁶⁹ 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.

⁸⁶⁷ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

⁸⁶⁸ European Commission, *Sweden AI Strategy Report*, (Feb. 2020),

https://knowledge4policy.ec.europa.eu/ai-watch/sweden-ai-strategy-report_en

⁸⁶⁹ 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.

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In relation to research, the Government's assessment⁸⁷⁰ is that

- 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,⁸⁷¹ 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."⁸⁷² It also funds the development of innovative services that help citizens and journalists to review the public sector.⁸⁷³

⁸⁷⁰ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

⁸⁷¹ 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.

⁸⁷² Vinnova, <https://www.vinnova.se/en/>. See also Vinnova, "Civic tech: Digital services for strengthening trust between citizens and the public sector".

⁸⁷³ "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

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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.
- 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.⁸⁷⁴

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."⁸⁷⁵ 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."

can be used in a secure way", Vinnova, News, (Oct. 26, 2020),
<https://www.vinnova.se/en/>.

⁸⁷⁴ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018),

<https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf>.

⁸⁷⁵ <https://algorithmwatch.org/en/automating-society-sweden/>.

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The Swedish Government acknowledged the General Data Protection Regulation (GDPR) as “an important part of the AI framework.”⁸⁷⁶

A recent report for the International Bar Association 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.”⁸⁷⁷ 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.”

The Trellborg 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.”⁸⁷⁸ 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.”⁸⁷⁹ The Trellborg

⁸⁷⁶ Government Offices of Sweden, *National Approach to Artificial Intelligence*, (May 2018), <https://www.government.se/4a7451/contentassets/fe2ba005fb49433587574c513a837fac/national-approach-to-artificial-intelligence.pdf6>.

⁸⁷⁷ 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>.

⁸⁷⁸ 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/>

⁸⁷⁹ 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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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 Parliamentary Ombudsman has so far failed to determine whether the municipality provided “meaningful information” as required by Article 15 of the GDPR.⁸⁸⁰ 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.

Access to Data

In the National Approach to AI, the Swedish government stated that “[a]ccess to data is the lifeblood of AI and a crucial part of the infrastructure.” The report continued, “Appropriate frameworks of principles, norms and rules are therefore important prerequisites if Sweden is to realise the benefits of AI in society. Such frameworks must balance fundamental needs for privacy, ethics, trust and social protection with access to the data needed to realise the potential of AI.”

AI Sweden, the Swedish National Center for applied Artificial Intelligence, “is developing the Data Factory to become a national testbed for data factory solutions. It will include rapidly evolving new technology and position itself as an international benchmark of how to set up a highly valuable data factory.”⁸⁸¹ AI Sweden has also identified the need to create a Legal Expert Group. This Group “will consist of a smaller number of legal experts from our partners who will discuss legal questions related to AI and data and they will 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.”⁸⁸²

⁸⁸⁰ AlgorithmWatch, *Central authorities slow to react as Sweden’s cities embrace automation of welfare management* (2020),

<https://automatingsociety.algorithmwatch.org/report2020/sweden/sweden-story/>

⁸⁸¹ AI Sweden, *The Data Factory*, <https://www.ai.se/en/data-factory>.

⁸⁸² AI Sweden, *Legal Expert Group*, <https://www.ai.se/en/legal-expert-group>.

In May 2019, the Government launched several investigations⁸⁸³ on access to public sector.⁸⁸⁴ It has endowed with the mission to make concrete proposals. In a January 2020 report, the Swedish Agency for Digital Administration (DIGG) said that “AI carries challenges. Its use requires (...) systematic ethical considerations. However, these challenges can be properly addressed, highlighting the overall capacity of the public administration to deal with these issues.”⁸⁸⁵ 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; develop a national data strategy for public administrations.” Lastly, DIGG has also set up an expert group on AI for public administration, mainly composed of academics. It aims to provide advises to DIGG in the fulfilment of its mission.⁸⁸⁶

However, Sweden’s Open Government Partnership Action Plan 2019– 2021, does not address the link between access to data and the use of artificial intelligence in the public sector.⁸⁸⁷ It thus remains to be seen which concrete further steps it will take to address the issue and to which extent ethical considerations will be taken into account. The Action Plan does not refer either to Algorithmic Transparency.

Foreign Policy and AI

As for the international landscape, Peter Eriksson, the Swedish Minister for Housing and Digital development, signed the declaration on

⁸⁸³ 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]^[5P]

⁸⁸⁴ See also, OECD, *Digital Government Review of Sweden: Towards a Data-driven Public Sector Assessment and recommendations*, <https://doi.org/10.1787/5baa0880-en>.

⁸⁸⁵ DIGG, *Promote the ability of public administration to use AI* (Jan. 13, 2020) [GT], <https://www.digg.se/publicerat/publikationer/2020/framja-den-offentliga-forvaltningens-formaga-att-anvanda-ai> [MT]

⁸⁸⁶ DIGG, *Referensgrupp inom AI*, https://www.digg.se/om-oss/regeringsuppdrag/oppna-data-datadriven-innovation-och-ai#referensgrupp_inom_ai, [MT].

⁸⁸⁷ Government of Sweden, *Sweden’s Open Government Partnership Action Plan 2019– 2021* (Aug. 29, 2019), <https://www.regeringen.se/4ad5d7/contentassets/0e4dc8996f374895b54f9f994e6c5fd2/sweden-ogp-action-plan-2019-2021.pdf>.

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“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.”⁸⁸⁸ This Declaration has recently been reinforced by the Ministerial Declaration Digital North 2.0.⁸⁸⁹

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 support for business environments.”⁸⁹⁰ 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.”

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.⁸⁹¹ The Swedish police confirmed that they have used Clearview AI, after previously denying use of the face surveillance tool.⁸⁹²

⁸⁸⁸ Nordic Cooperation, *AI in the Nordic-Baltic region* (May 14, 2018), <https://www.norden.org/en/declaration/ai-nordic-baltic-region>.

⁸⁸⁹ Nordic Cooperation, *Ministerial Declaration Digital North 2.0* (Sept. 29, 2020), <https://www.norden.org/en/declaration/ministerial-declaration-digital-north-20>.

⁸⁹⁰ Anne Kuan and Julia Velkovic, *Automating Society: Sweden* (Jan. 29, 2019), <https://algorithmwatch.org/en/automating-society-sweden/>.

⁸⁹¹ 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>

⁸⁹² 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>

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.”⁸⁹³ 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 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.⁸⁹⁴ 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.”⁸⁹⁵ 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

⁸⁹³ 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/>.

⁸⁹⁴ 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>

⁸⁹⁵ 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.

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consent was not a valid legal basis given the clear imbalance between the data subject and the controller.⁸⁹⁶

Lethal Autonomous Weapons

Beginning in 2013, Swedish NGOs called for Sweden to endorse an official ban of LAWS.⁸⁹⁷ 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.”⁸⁹⁸ 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.”⁸⁹⁹ 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.⁹⁰⁰ 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.⁹⁰¹ The Swedish government has also set up a working group

⁸⁹⁶ <https://www.datainspektionen.se/nyheter/2019/facial-recognition-in-school-renders-swedens-first-gdpr-fine/>.

⁸⁹⁷ Campaign to Stop Killer Robots, *Building Awareness in Sweden* (Oct. 13, 2020), <https://www.stopkillerrobots.org/2013/10/sweden-outreach/>;

⁸⁹⁸ 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/>.

⁸⁹⁹ 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

⁹⁰⁰ Geneva Internet Platform, *GGE on lethal autonomous weapons systems*, <https://dig.watch/process/gge-laws#view-14508-1>

⁹⁰¹ Stockholm International Peace Research Institute, *Limits on Autonomy in Weapon Systems: Identifying Practical Elements of Human Control* (June 2020),

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.”⁹⁰²

OECD AI Principles and Human Rights

Sweden endorsed the OECD AI Principles. 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.⁹⁰³

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.”⁹⁰⁴ The Swedish Data Protection Authority is competent to handle complaints in this regard.⁹⁰⁵ 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.⁹⁰⁶

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>

⁹⁰² Swedish Peace and Arbitration Society, *Questions and Answers about Killer Robots*, [MT] <https://www.svenskafreds.se/vad-vi-gor/nedrustning/stoppamordarrobotar/faq-mordarrobotar/>

⁹⁰³ According to Freedom House, Sweden’s Global freedom score is 100/100, <https://freedomhouse.org/country/sweden/freedom-world/2020>.

⁹⁰⁴ [GDPR Art. 22, Art. 13.2.f].

⁹⁰⁵ The Swedish Data Protection Authority, <https://www.datainspektionen.se/other-lang/in-english/>.

⁹⁰⁶ 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.⁹⁰⁷ “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.”⁹⁰⁸

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.⁹⁰⁹ 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 ranks very highly for the protection of political rights and civil liberties. 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.”⁹¹⁰

Evaluation

Sweden endorsed the OECD AI Principles and is committed to developing trustworthy AI. Sweden ranks at the top among nations for the

⁹⁰⁷ Union for Professionals, *Algorithm Policy in a Digital World*, <https://akademssr.se/opinion/algoritmpolitik>.

⁹⁰⁸ <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>.

⁹⁰⁹ 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>.

⁹¹⁰ Freedom House, *Freedom in the World 2020 – Sweden (2020)*, <https://freedomhouse.org/country/sweden/freedom-world/2020>

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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.

Switzerland

National AI Strategy

The Swiss government recently announced AI Guidelines for the Federal Government.⁹¹¹ 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.⁹¹²

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.⁹¹³⁹¹⁴⁹¹⁵ 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:

⁹¹¹ 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

⁹¹² 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>)

⁹¹³ Schweizerischer Eidgenossenschaft, *Digital Switzerland» Strategy*, September 2020, https://www.bakom.admin.ch/dam/bakom/en/dokumente/informationsgesellschaft/strategie/strategie_digitale_schweiz.pdf.download.pdf/Strategie-DS-2020-EN.pdf

⁹¹⁴ 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

⁹¹⁵ 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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- 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
- 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.⁹¹⁶

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 Policy⁹¹⁷
- International Committees and Artificial Intelligence⁹¹⁸
- Artificial Intelligence, the Media and the Public⁹¹⁹

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

⁹¹⁶ 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>

⁹¹⁷ 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

⁹¹⁸ 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

⁹¹⁹ 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

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considerations can be integrated and what new regulatory measures need to be implemented.⁹²⁰

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 Swiss governments taking a position that upholds existing Swiss values like the respect of human rights, the rule of law, democracy and liberal values.⁹²¹

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.⁹²²

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:

⁹²⁰ Schweizerischer Eidgenossenschaft: Eidgenössisches Department für Verteidigung, Bevölkerungsschutz und Sport, Künstliche Intelligenz in der Cybersicherheit und Sicherheitspolitik, 2019. https://www.sbfi.admin.ch/dam/sbfi/de/dokumente/2019/12/k-i_c-s.pdf.download.pdf/k-i_c-s_d.pdf

⁹²¹ Schweizerischer Eidgenossenschaft, International Gremien und Künstliche Intelligenz, August 2019, https://www.sbfi.admin.ch/dam/sbfi/de/dokumente/2019/12/i-g_k-i.pdf.download.pdf/i-g_ki_d.pdf

⁹²² Schweizerischer Eidgenossenschaft: Eidgenössisches Department für Umwelt, Verkehr, Energie und Kommunikation UVEK, Künstliche Intelligenz, Medien und Öffentlichkeit, August 2019, https://www.sbfi.admin.ch/dam/sbfi/de/dokumente/2019/12/k-i_m-o.pdf.download.pdf/k-i_m-o_d.pdf

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- 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.⁹²³

These recommendations were then integrated in the Digital Switzerland Strategy 2020.⁹²⁴ The Strategy 2020 emphasizes: Putting people at the forefront, providing room for development, facilitating structural change, and networking the shaping of transformation processes.⁹²⁵ 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.”⁹²⁶ Transparency, sustainable development and equal opportunities and participation have

⁹²³ 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.d.pdf/bericht_idag_ki_d.pdf

⁹²⁴ 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>

⁹²⁵ Schweizerischer Eidgenossenschaft, Digital Switzerland Strategy, 2020, <https://www.digitaldialog.swiss/en/>

⁹²⁶ 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>

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been key objectives encompassed in these reports since the first version was released in 2016.⁹²⁷⁹²⁸

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 sustainable development using digital technologies, digital self-determination and cyber diplomacy.⁹²⁹

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.”

⁹²⁷ 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>

⁹²⁸ 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

⁹²⁹ Schweizerische 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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- “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 Swiss parliament in 2020.⁹³⁰ If it is not challenged in a referendum then it is set to come into force in 2021.⁹³¹ 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.⁹³²

⁹³⁰ 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

⁹³¹ 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

⁹³² 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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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.⁹³³ 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.⁹³⁴

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, include members from across society and receive an annual financial support from the Confederation.”⁹³⁵

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.^{936,937} Further, policy revisions or proposals of importance go through a consultation procedure with relevant stakeholders

⁹³³ 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>

⁹³⁴ 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>

⁹³⁵ 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>

⁹³⁶ Schweizerischer Eidgenossenschaft: Bundeskanzlei, *Referenden*, <https://www.bk.admin.ch/bk/de/home/politische-rechte/referenden.html>

⁹³⁷ Schweizerischer Eidgenossenschaft: Bundeskanzlei, *Volksinitiativen*, <https://www.bk.admin.ch/bk/de/home/politische-rechte/volksinitiativen.html>

to include their opinions and needs and therefore to minimize the chance of a referendum.⁹³⁸

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.⁹³⁹ 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.⁹⁴⁰

In 2018, the Federal Council established the opendata.swiss website, “the Swiss public administration’s central portal for open government data.”⁹⁴¹ 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, civil society and the internet community at the national level and meets on an ad-hoc basis.”⁹⁴²

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

⁹³⁸ Schweizerischer Eidgenossenschaft: Der Bundesrat: Das Portal der Schweizer Regierung, Vernehmlassungen (July 2019),

<https://www.admin.ch/gov/de/start/bundesrecht/vernehmlassungen.html>

⁹³⁹ Digital Switzerland Strategy, <https://www.digitaldialog.swiss/en/>

⁹⁴⁰ Digital Switzerland Strategy, <https://digitaldialog.typeform.com/to/ulwdzc>

⁹⁴¹ opendata.swiss, *Portal*, <https://opendata.swiss/en/about/>

⁹⁴² 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>

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annual AI for Good Global Summit in 2017.⁹⁴³ 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.⁹⁴⁴ 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 topics⁹⁴⁵”

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 the use of predictive policing in Switzerland is currently limited to a relatively small and clearly defined area of preventive police work.”⁹⁴⁶

⁹⁴³ International Telecommunications Union, *Artificial Intelligence* <https://www.itu.int/en/ITU-T/AI/Pages/201706-default.aspx>

⁹⁴⁴ 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>

⁹⁴⁵ ETH Zürich: ETH AI Center, *About Us*, <https://ai.ethz.ch/about-us.html>

⁹⁴⁶ AlgorithmWatch, *Automating Society 2020*, (Oct. 2020), <https://automatingsociety.algorithmwatch.org/report2020/switzerland/>

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 108.⁹⁴⁷ Switzerland ratified the Council of Europe Convention in 2019.⁹⁴⁸ 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.”⁹⁴⁹ 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.⁹⁵⁰

Article 21 of the new FADP introduces the "Duty to inform in the case of an automated individual decision."⁹⁵¹ 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

⁹⁴⁷ Linklaters, *Data Protected – Switzerland* (Oct. 2020), <https://www.linklaters.com/en-us/insights/data-protected/data-protected---switzerland>

⁹⁴⁸ Council of Europe, <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/223/signatures>

⁹⁴⁹ 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

⁹⁵⁰ Lexology, *Revision of Swiss data protection act adopted* (Sept. 25, 2020), <https://www.lexology.com/library/detail.aspx?g=ebc8ce19-0fee-457d-a94f-a0625e4805b8>

⁹⁵¹ 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. "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."⁹⁵²

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.⁹⁵³

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 or the Social Contract for the Age of AI.

⁹⁵² 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>.

⁹⁵³ Freedom House, *Freedom in the World 2019: Switzerland* (2019), <https://freedomhouse.org/country/switzerland/freedom-world/2019>.

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 Plan⁹⁵⁴ 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 Technology⁹⁵⁵ (MOST) to “cultivate AI technology specialists and create an environment for AI scientific research.” This “Grand Strategy for a Small Country⁹⁵⁶” has a budget of 490 million

⁹⁵⁴ 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>

⁹⁵⁵ 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.

⁹⁵⁶ Executive Yuan, R. O. C. (Taiwan). *AI innovation: Grand strategy for a small country (-Major Policies Detail)* <https://english.ey.gov.tw/News3/9E5540D592A5FECD/edad735-e6a6-43e1-ac93-1959602bb3ec>

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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” 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.⁹⁵⁷

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.”⁹⁵⁸ 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” AI⁹⁵⁹ and that “those who provide digital tools must be ethical.”⁹⁶⁰ 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 values⁹⁶¹: (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

⁹⁵⁷ 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>

⁹⁵⁸ Bryan Chuang, Adam Hwang, *MOST announces AI R&D guidelines*, DigiTIMES (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>

⁹⁵⁹ 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>

⁹⁶⁰ 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>

⁹⁶¹ Bryan Chuang, Adam Hwang, *MOST announces AI R&D guidelines*, DigiTIMES (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>

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).

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.⁹⁶² “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.⁹⁶³

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.⁹⁶⁴

⁹⁶² 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>

⁹⁶³ Bryan Chuang, Adam Hwang, *MOST announces AI R&D guidelines*, DigiTIMES (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>

⁹⁶⁴ 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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“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 we want to be working on,” says Cheng. “Putting humans in the equation – not just stealing and not just replacing people.”⁹⁶⁵

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-AIM⁹⁶⁶) 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.⁹⁶⁷The 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

⁹⁶⁵ 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/>

⁹⁶⁶ 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.

⁹⁶⁷ 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.

Health Insurance system, cancer registry, and cause of death registry.⁹⁶⁸ 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 transformation.⁹⁶⁹ Others seem more cautious,⁹⁷⁰ pointing to key issues raised by the current ethical governance⁹⁷¹ 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.⁹⁷²

⁹⁶⁸ Michael Cheng-tek, *Taiwanese Experience of Data-Sharing in Biobanking* (PPT slides)

⁹⁶⁹ 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/>

⁹⁷⁰ 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/>

⁹⁷¹ 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/>

⁹⁷² 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>

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"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.⁹⁷³ 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 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.⁹⁷⁴

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.⁹⁷⁵ Moreover, the regulations specifically call

⁹⁷³ 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>

⁹⁷⁴ BBC, *Coronavirus: Under surveillance and confined at home in Taiwan* (March 24, 2020), <https://www.bbc.co.uk/news/technology-52017993>

⁹⁷⁵ 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/>

for AI-boosted algorithmic unmanned platforms.⁹⁷⁶ Taiwan CAR (Connected, Autonomous, Road-test) Lab,⁹⁷⁷ the nation's first closed field for testing self-driving cars, also opened for use in 2019.

Facial Recognition

Facial recognition is implemented in Taiwan in various sectors, such as banks,⁹⁷⁸ retail stores,⁹⁷⁹ airports,⁹⁸⁰ and law enforcement.⁹⁸¹ In June 2019, the Taiwan Railways Administration announced that, due to privacy concerns, its surveillance system trial would not include facial recognition.⁹⁸² The artificial intelligence-based surveillance will still be capable of monitoring passenger behavior, including trespassing, loitering in restricted areas and prohibited acts.⁹⁸³

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.⁹⁸⁴ He wrote, "What is essentially a beneficial technology is deeply problematic given the

⁹⁷⁶ 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/>

⁹⁷⁷ 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.)

⁹⁷⁸ 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>

⁹⁷⁹ 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>

⁹⁸⁰ 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>

⁹⁸¹ 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>

⁹⁸² Focus Taiwan, *TRA to cut facial recognition feature from surveillance system trial* (Nov. 6, 2019), <https://focustaiwan.tw/society/201911060011>

⁹⁸³ 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/>

⁹⁸⁴ 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>

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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.”⁹⁸⁵ The PDPA applies to AI applications, but does not explicitly provisions regarding algorithmic transparency such as those found in the GDPR. No specific laws or regulations governing civil liability regarding AI.⁹⁸⁶

Use of AI for digital democracy

For the last few years, Taiwan has organized public debates via the citizen-run vTaiwan platform.⁹⁸⁷ vTaiwan’s (for Virtual Taiwan) algorithms highlight where there is consensus in a debate while minimizing the voices at the most extreme ends.⁹⁸⁸ This system, is officially and routinely part of the law-making process of Taiwanese institutions, involving thousands of citizens in varying degrees.⁹⁸⁹

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](https://github.com/pol-is),⁹⁹⁰ an open-source self-learning algorithm; (3) deliberating; and (4) observing decision-making.⁹⁹¹

⁹⁸⁵ Laws and Regulations Database of the Republic of China, *Personal Data Protection Act*. <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=I0050021>

⁹⁸⁶ 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>

⁹⁸⁷ vTaiwan, *About*, <https://info.vtaiwan.tw/>

⁹⁸⁸ 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/>

⁹⁸⁹ 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/>

⁹⁹⁰ <https://github.com/pol-is/polis-documentation/blob/master/README.md>

⁹⁹¹ 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/>

“When people started using Polis, we found that it became a consensus-generating mechanism,” McGill said to Wired.⁹⁹² 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.

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.⁹⁹³ It is supplemented by the 2016 Enforcement Rules of the Personal Data Protection Act.⁹⁹⁴ 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.⁹⁹⁵ In July 2020, Taiwan’s digital minister said that she supported

⁹⁹² 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>

⁹⁹³ 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.>

⁹⁹⁴ Taiwan, *Enforcement Rules of the Personal Data Protection Act* (March 2, 2016), <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=I0050022>

⁹⁹⁵ OneTrust, *Taiwan - Data Protection Overview* (July 2020), <https://www.dataguidance.com/notes/taiwan-data-protection-overview>

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the idea of establishing a dedicated agency for personal data protection before the electronic identification cards (eID) are rolled out next year.⁹⁹⁶

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.”⁹⁹⁷ 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.

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.⁹⁹⁸ 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

⁹⁹⁶ 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>

⁹⁹⁷ Digitimes, *MOST announces AI R&D guidelines* (Sept. 24, 2019), <https://www.digitimes.com/news/a20190923PD209.html>.

⁹⁹⁸ *Freedom House Report: Taiwan* (2020), <https://freedomhouse.org/country/taiwan>

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independent data protection agency that could oversee AI applications from a privacy perspective.

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.”⁹⁹⁹
- **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.”¹⁰⁰⁰ 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 transparency¹⁰⁰¹. One of the goals of the plan is to enable people to access accurate public information conveniently, to

⁹⁹⁹ 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

¹⁰⁰⁰ https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Documents/Events/2016/Apr-Digital2016/S2_Present_Pansak_Siriruchatapong.pdf

¹⁰⁰¹ <http://jfcct.bypronto.com/wp-content/uploads/sites/1871/2018/05/Digital-Government-Development-Plan-2017-2021-executive-version.pdf>

enhance transparency, people’s confidence and trust in the government, and the successful participation of civil society.

- **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.”¹⁰⁰²
- **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.¹⁰⁰³ 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”¹⁰⁰⁴ 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 document¹⁰⁰⁵. 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.¹⁰⁰⁶

¹⁰⁰² Government of Thailand,

https://www.nesdc.go.th/nesdb_en/ewt_dl_link.php?nid=4345

¹⁰⁰³ Royal Thai Embassy, *Thailand 4.0*, <https://thaiembdc.org/thailand-4-0->

¹⁰⁰⁴ https://www.nesdc.go.th/nesdb_en/ewt_dl_link.php?nid=4345

¹⁰⁰⁵ Digital Government Development Agency, *How Government is Transforming with AI*.

https://www.dga.or.th/upload/download/file_310433b825a546dcfd59203b423ca175.pdf

¹⁰⁰⁶ Digital Government Development Agency, *DGA Core Value*,

<https://www.dga.or.th/en/profile/2110/>

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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 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.¹⁰⁰⁷ 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.¹⁰⁰⁸ One of the recent outcomes is Bangkok Statement on the Ethics of Science and Technology and Sustainable Development¹⁰⁰⁹, 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.¹⁰¹⁰ Thai government positions the pilot program as a public safety tool under its wider Thailand 4.0 and

¹⁰⁰⁷ National News Bureau of Thailand, *Digital Ministry outlines AI ethics* (Oct. 24, 2019), <https://thainews.prd.go.th/en/news/detail/TCATG191024113200588>

¹⁰⁰⁸ NXPO, *Sandbox Act and Guidelines* (2020), <https://www.nxpo.or.th/th/en/sandbox-act-and-guideline/>

¹⁰⁰⁹ *Bangkok Statement on the Ethics of Science and Technology and Sustainable Development*, <http://www.stethicsconference2019.net/bkk-statements>

¹⁰¹⁰ The Nation Thailand, *Bangkok police to pilot AI surveillance system* (July 25, 2019), <https://www.nationthailand.com/news/30373672>

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 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”¹⁰¹¹ 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.¹⁰¹² 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.¹⁰¹³ 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.

¹⁰¹¹ Reuters, *Thailand unveils 'anti-fake news' centre to police the internet* (Nov. 1, 2019), <https://fr.reuters.com/article/governmentFilingsNews/idUKL3N27G4KR>

¹⁰¹² Thailand, *Digital Identity for All*, <https://www.ndid.co.th/>

¹⁰¹³ *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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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.¹⁰¹⁴ 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, Thai government has extended 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.¹⁰¹⁵ 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.¹⁰¹⁶ 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.¹⁰¹⁷

¹⁰¹⁴ 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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https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CPR/C/THA/CO/2&Lang=En

¹⁰¹⁶ 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>

¹⁰¹⁷ 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>

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Freedom House gives Thailand low marks for political and civil liberties (32/100).¹⁰¹⁸ 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.¹⁰¹⁹

Thailand has endorsed Universal Declaration of Human Rights in 1948. Thailand has not signed the OECD AI Principles, Universal Guidelines for AI or the Social Contract for AI. However, Thailand is the only country from Southeast Asia to 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.¹⁰²⁰

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.¹⁰²¹ The Act came into force in part on May 28, 2019 but two successive grace periods, the last one from July 2020,

¹⁰¹⁸ Freedom House, *Freedom in the World 2020 – Thailand* (2020), <https://freedomhouse.org/country/thailand/freedom-world/2020>

¹⁰¹⁹ United National, *Human Rights Treaties*, https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CPR/C/THA/CO/2&Lang=En

¹⁰²⁰ OECD, *A Solid Partnership between Thailand and the OECD*, <http://www.oecd.org/southeast-asia/countries/thailand/>

¹⁰²¹ 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>

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postponed full implementation to give time to a broad range of government agencies and businesses time to prepare for compliance.¹⁰²²

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.¹⁰²³ 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.¹⁰²⁴

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 under the strict supervision of the regulators to safeguard public safety and privacy, without being required to abide by full regulatory requirements.¹⁰²⁵

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.

¹⁰²² 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>

¹⁰²³ OneTrust, *Thailand-Data Protection Overview* (Nov. 2020), <https://www.huntonprivacyblog.com/2020/05/29/delayed-implementation-of-thailands-personal-data-protection-act/>

¹⁰²⁴ NXPO, *Sandbox Act and Guideline* (2020), <https://www.nxpo.or.th/th/en/sandbox-act-and-guideline/>

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.

Turkey

National AI Strategy

In 2020, the Digital Transformation Office (DTO) of the Turkish government outlined a National Artificial Intelligence Strategy.¹⁰²⁶ 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. However, there is at this time no final announcement.”¹⁰²⁷

The DTO 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. The National Artificial Intelligence Strategy will also set out a roadmap and priority steps for AI technologies.

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).¹⁰²⁸ 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

¹⁰²⁶ Presidency of the Republic of Turkey, Digital Transformation Office, *Artificial Intelligence*, <https://cbddo.gov.tr/en/artificial-intelligence>

¹⁰²⁷ Tuba Şahin, *Turkey to launch national AI strategy: Action plan to focus on human capital, research, entrepreneurship, infrastructure and data quality, says tech minister, Anadolu Agency* (Dec. 1, 2020), <https://www.aa.com.tr/en/economy/turkey-to-launch-national-ai-strategy/2062061>

¹⁰²⁸ 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>

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.”¹⁰²⁹ In December 2020, Mr. Varank noted at the TRT World Forum 2020 that the six priorities in the Strategy include “human capital, research, entrepreneurship, infrastructure and data quality.” To date, however, no official Strategy has been published.

Turkey is currently preparing an AI Technology Roadmap to identify scientific themes, sub-technology areas and sectoral applications on which Turkey will focus its research, technological development and innovation for the next 5-10 years. This multistakeholder effort particularly supports implementation of the G20 AI Principles on inclusive growth, robustness and accountability.

Public Participation

In January 2020, to develop the AI Technology Roadmap, Turkey established a stakeholder Working Group, comprised of academia, private sector and major umbrella NGOs.¹⁰³⁰ 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. The exercise aims to benefit the

¹⁰²⁹ Daily News, *Turkey to reveal artificial intelligence strategy* (Oct. 16, 2020), <https://www.hurriyetdailynews.com/turkey-to-reveal-artificial-intelligence-strategy-159189>

¹⁰³⁰ 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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broad AI community in Turkey, and will be implemented through direct financial support, incentives and infrastructure.

The Assembly of Turkish Scientists Abroad brings together the members of the Turkish science diaspora and the researchers working in Turkey. During the 2019 Assembly in Istanbul, current global trends and international collaboration models in artificial intelligence were discussed among Turkish scientists.

In 2019, Turkey hosted the proceedings of the 2019 3rd International Conference on Advances in Artificial Intelligence¹⁰³¹ 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.¹⁰³² 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. In 2020 a sectoral road map will be developed in cooperation with the sectoral actors, consisting of product-oriented targets in areas such as software, aviation and space. In addition, studies are ongoing for the establishment of an AI Research Institute that would act as a bridge between the public and private sectors

¹⁰³¹ 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>

¹⁰³² Turkey's Ministry of Industry and Technology, *2023 Sanayi ve Teknoloji Stratejisi* (Sept. 18, 2019), <https://www.sanayi.gov.tr/strateji2023/sts-ktp.pdf>

by developing key technologies and providing academic results to industry for innovative implementation.¹⁰³³ The Institute held a stakeholder workshop in February 2020.

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."¹⁰³⁴ 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 in 2020. 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. The Open Data Project will provide a distributed and scalable data management system for AI research that requires cleaned, labelled, classified and stored datasets. Initial action will establish the infrastructure required for the open data portal and raise awareness among the institutions and organisations within the digital ecosystem. In the next phase, open data collected from all public institutions and organisations will be uploaded to the portal in appropriate formats and the portal will be made available for usage. 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.

¹⁰³³ Daily News, *Turkey to reveal artificial intelligence strategy* (Oct. 16, 2020), <https://www.hurriyetdailynews.com/turkey-to-reveal-artificial-intelligence-strategy-159189>

¹⁰³⁴ British Embassy Ankara, *Open Data in Turkey* (March 2020), http://www.novusens.com/s/2462/i/UK-Turkey_Open_Data_Writeup_ENG.pdf

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Data Protection

The Law on the Protection of Personal Data was published in April 2016.¹⁰³⁵ 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. 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.

OECD AI Principles

Turkey is signatory to the OECD AI Principles. According to the OECD, Turkey has only addressed a few of the OECD AI principles in the AI Technology Roadmap.¹⁰³⁶ The OECD anticipates that there will be progress in the National AI Strategy.

¹⁰³⁵ KVKK, *Data Protection in Turkey*,

<https://www.kvkk.gov.tr/SharedFolderServer/CMSFiles/5c02cb3c-7cc0-4fb0-b0a7-85cb90899df8.pdf>

¹⁰³⁶ 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>

Human Rights

According to Freedom House, Turkey is “not free.”¹⁰³⁷ 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.”

Algorithmic Transparency

While no official action has been taken in regard to algorithmic transparency, Dr. Ali Taha Koç, president of DTO, acknowledged the importance of transparency, security, and accountability for AI in February 2020. 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 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.”¹⁰³⁸

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

¹⁰³⁷ Freedom House, *Freedom in the World 2020 – Turkey* (2020), <https://freedomhouse.org/country/turkey/freedom-world/2020>

¹⁰³⁸ 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>

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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.

United Kingdom

National AI Strategy

The cornerstone for the development of AI policy in the UK is the 2017 independent AI review, *Growing the AI industry in the UK*, led by Professor Dame Wendy Hall and Jérôme Pesenti, and commissioned by the UK government to seek ways for growing the AI industry in the UK.¹⁰³⁹ Hall-Presenti recommended that the UK promote access to data in a wide range of sectors. In particular, the Report recommended the development of data trusts, as well as making more research data machine readable and “supporting text and data mining as a standard and essential tool for research.” Importantly, the authors discuss the development of skilled expertise on AI through industry-funded Master programs, credit-bearing AI online courses and opening PhD positions in AI at leading UK universities that should attract, among others, greater diversity in the AI workforce. Among the recommendations was also that the “Alan Turing Institute should become the national institute for artificial intelligence and data science,” acquiring a coordinating role country-wise; and an independent agency should promote uses of AI in the public sector.

Delivering on the recommendations of the Hall-Presenti report, the UK government published in 2018 their *Industrial Strategy: Artificial Intelligence Sector Deal*,¹⁰⁴⁰ and updated it in 2019.¹⁰⁴¹ The AI Sector Deal aims to prepare the economy and society for the transformations brought by AI and to position the UK as a leader in developing AI technologies. The strategy is the first commitment from government and industry to realize AI’s potential, outlining a package of up to £0.95 billion of support for the

¹⁰³⁹ Gov.UK, *Growing the artificial intelligence industry in the UK* (Oct 15, 2017) (the Hall-Presenti report) <https://www.gov.uk/government/publications/growing-the-artificial-intelligence-industry-in-the-uk>.

¹⁰⁴⁰ HM Government, *Industrial Strategy: Artificial Intelligence Sector Deal* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/702810/180425_BEIS_AI_Sector_Deal__4_.pdf

¹⁰⁴¹ Gov.UK, *AI Sector Deal* (May 21, 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>

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sector. The Strategy focuses on improving UK's position in five key areas: 1) Ideas - the world's most innovative economy; 2) People - good jobs and greater earning power for all; 3) Infrastructure - a major upgrade to the UK's infrastructure; 4) Business environment - the best place to start and grow a business; and 5) Places - prosperous communities across the UK. The government's earmarked budget of £0.95 billion is supplemented with £1.7 billion stemming from the Industrial Strategy Challenge Fund.¹⁰⁴² The OECD noted that, in the AI UK Sector Deal (2018-2027), "Priority areas include use of data and AI for prevention, early diagnosis and treatment of chronic diseases by the year 2030; using automation to do extreme jobs which endanger human life; and helping people develop the skills needed for the future jobs."¹⁰⁴³

The UK also established the Office for Artificial Intelligence (OAI) to coordinate the implementation efforts set out in the AI Sector Deal.¹⁰⁴⁴ OAI also issued a guide to using artificial intelligence in the public sector,¹⁰⁴⁵ including Guidance on artificial intelligence ethics and safety.¹⁰⁴⁶

Interestingly, the UK government has since 2018 set up yet another agency – the Centre for Data Ethics and Innovation (CDEI) to provide recommendations for a sustainable, safe, and ethical use of AI.¹⁰⁴⁷

The CDEI is currently promoting AI-driven testing for Covid-19 and containing Covid-19 repository of local governments' "novel use-cases

¹⁰⁴² European Commission, *United Kingdom AI Strategy Report* (Feb. 2020), https://knowledge4policy.ec.europa.eu/ai-watch/united-kingdom-ai-strategy-report_en

¹⁰⁴³ 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>

¹⁰⁴⁴ Gov.UK, *UK Office for AI*, <https://www.gov.uk/government/organisations/office-for-artificial-intelligence>.

¹⁰⁴⁵ Gov.UK, *UK Guidance on Ethics and Safety* (June 10, 2019), <https://www.gov.uk/guidance/understanding-artificial-intelligence-ethics-and-safety>.

¹⁰⁴⁶ Gov.UK, *UK Guidance on Ethics and Safety* (June 10, 2019), <https://www.gov.uk/guidance/understanding-artificial-intelligence-ethics-and-safety>.

¹⁰⁴⁷ Gov.UK, *UK Centre for Data Ethics and Innovation*, <https://www.gov.uk/government/organisations/centre-for-data-ethics-and-innovation>.

of artificial intelligence and data specifically being used to counter and mitigate the effects of COVID-19 around the world. The current edition zooms in and identifies ways in which UK local authorities have used data-driven technology in their response to the pandemic.” Finally, a recent parliamentary hearing mentions the uptake of AI in public health where a potential is seen for the future. The expert testimonies also mention the fact that the UK is third in the global index on AI next to only the USA and China, revealing further UK’s ambitions to play an even bigger role on a global scale.

With respect to AI regulation and oversight, the Committee on Standards in Public Life concluded in a February 2020 report that the UK does not need a new AI regulator, but that all regulators must adapt to the challenges that AI poses to their sectors.¹⁰⁴⁸

On 25 September 2020, the UK and the USA signed a joint Declaration on Cooperation in Artificial Intelligence Research and Development 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.”¹⁰⁴⁹

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

¹⁰⁴⁸ Gov.UK, Committee on Standards in Public Life, *Artificial Intelligence and Public Standards* (Feb. 2020), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868284/Web_Version_AI_and_Public_Standards.PDF

¹⁰⁴⁹ 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-kingdom-of-great-britain-and-northern-ireland-on-cooperation-in-artificial-intelligence-re>

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to provide on how the guidance can be implemented in practice. Parliamentary hearings on AI are regularly being held, as mentioned above, and are accessible to watch online. One thing that is still not made public is the Roadmap on AI developed by the Office for Artificial Intelligence, summarizing the efforts of the government for the past 3 years across sectors and looking at milestones ahead; the Roadmap is expected to be published soon.

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.¹⁰⁵⁰) Earlier this year, London's Met 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."¹⁰⁵¹ 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". Noel Sharkey, a leading human rights campaigner, tweeted "FACE RECOGNITION - After 2yrs trials which an independent review showed 9% accuracy, the Met police start live facial recognition in London. This is a shameful disrespect of the British people & we know it's racially biased. STOP IT."¹⁰⁵² Privacy International recently

¹⁰⁵⁰ 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>.

¹⁰⁵¹ 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>

¹⁰⁵² @NoelSharkey (Jan. 24, 2020), <https://twitter.com/NoelSharkey/status/1220722848337211394>

urged regulatory authorities to investigate Facewatch, a company that specializes in facial recognition analysis and biometric watchlists.¹⁰⁵³

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.”¹⁰⁵⁴ The software model incorporated school’s past results and student’s earlier results on mock exams. The calculations favored elites.¹⁰⁵⁵ 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-achieving school, or the school that is rapidly improving, could be delivered an injustice.”¹⁰⁵⁶

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.¹⁰⁵⁷ 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

¹⁰⁵³ Privacy International, *Authorities Must Act on Police Face Surveillance Network by the Backdoor* (Oct. 15, 2020), <https://privacyinternational.org/news-analysis/4218/authorities-must-act-police-face-surveillance-network-backdoor>

¹⁰⁵⁴ 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>

¹⁰⁵⁵ 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>

¹⁰⁵⁶ Sean Coughlan, *Why did the A-level algorithm say no?*, BBC (Aug. 14, 2020), <https://www.bbc.com/news/education-53787203>

¹⁰⁵⁷ 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/>

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wrong algorithm.”¹⁰⁵⁸ 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.¹⁰⁵⁹

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.”¹⁰⁶⁰

NGO Perspectives on AI in the UK

NGO perspectives on the use of AI in the UK deal with 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 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

¹⁰⁵⁸ 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>

¹⁰⁵⁹ 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/>

¹⁰⁶⁰ 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/>

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 adheres to the OECD/G20 AI Principles. Having said that, it is interesting to observe that the OECD/G20 AI Principles are not referred to in the documents discussed above. The UK is one of the founding members of the GPAI.¹⁰⁶¹

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.¹⁰⁶² 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 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.

¹⁰⁶¹ 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>.

¹⁰⁶² 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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Algorithmic Transparency

The UK Data Protection Act 2018¹⁰⁶³ includes specific provisions on the right for individuals to intervene in automated decision-making.¹⁰⁶⁴ The concept of Algorithmic Transparency derived from UK's data protection framework is addressed in some detail in the updated AI Guidance published by the Information Commissioner's Office.

Transparency is mentioned, albeit only in passing, also in the AI Ethics & Safety Framework issued by the Office for Artificial Intelligence. As a part of OAI's recommendation on integrating "responsible innovation" into AI projects, the 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."

At the end of November, the CDEI published the final report of its review into bias in algorithmic decision-making.¹⁰⁶⁵ 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).

¹⁰⁶³ Legislation.gov.uk, *Data Protection Act 2018*,
<https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>

¹⁰⁶⁴ 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>

¹⁰⁶⁵ 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>

Human Rights

All UK AI initiatives need to comply with the UK Human Rights Act of 1998. To be sure, even 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. 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 on AI, including the Office for Artificial Intelligence. 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 the development of AI-related workforce and the growth of the education sector, 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 or the Social Contract for the Age of 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 OECD in May, U.S. Chief Technology Officer Michael Kratsios said the OECD AI Principles, “reaffirms a commitment to strengthen public trust, protect civil liberties, and remain true to democratic principles—the principles of freedom, the rule of law, privacy, respect for intellectual property, free, fair, and reciprocal markets, and the inherent dignity of the individual.”¹⁰⁶⁶

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, and the recommendations of a National Security Commission on AI. 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.¹⁰⁶⁷ 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 rights, the rule of law, and respect for intellectual property.¹⁰⁶⁸ The Agency Guidance outlines 10 principles, including Fairness and Non-Discrimination, Disclosure and Transparency, to promote innovation and growth for AI.

On December 3, 2020 President Donald Trump issued an Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government.¹⁰⁶⁹ The 2020 Executive Order reflects earlier goals set

¹⁰⁶⁶ U.S. 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/>

¹⁰⁶⁷ 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/>

¹⁰⁶⁸ 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>

¹⁰⁶⁹ The White House, *Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government* (Dec. 3, 2020),

in the 2019 Executive Order and established common guidance to encourage federal agencies to use AI, consistent with nine principles. 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 Resolution calling for the creation of a US National AI Strategy.¹⁰⁷⁰ 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

<https://www.whitehouse.gov/presidential-actions/executive-order-maintaining-american-leadership-artificial-intelligence/>

¹⁰⁷⁰ 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>

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consistent with core United States values.”¹⁰⁷¹ 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.”¹⁰⁷²

The US AI National AI Resolution, a proposal before Congress, 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.

OMB AI Guidance for Agencies

In November 2020, the US Office of Management and Budget issued *Guidance for Regulation of Artificial Intelligence Applications*.¹⁰⁷³ 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.

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

¹⁰⁷¹

https://hurd.house.gov/sites/hurd.house.gov/files/Resolution%20Text%20HURDTX_030.xml.pdf

¹⁰⁷² 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/>

¹⁰⁷³ 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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- 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.

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.¹⁰⁷⁴ The city supervisor said, “It’s psychologically unhealthy when people know they’re being watched in 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.¹⁰⁷⁵ 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

¹⁰⁷⁴ 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>

¹⁰⁷⁵ California Legislative Information, *AB-1215 Law enforcement: facial recognition and other biometric surveillance* (Oct. 9, 2019),

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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.¹⁰⁷⁶

A bill introduced in the United States Congress would ban the use of facial recognition by law enforcement agencies.¹⁰⁷⁷ The Facial Recognition and Biometric Technology Moratorium Act 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 local law enforcement to bring in similar bans in order to receive federal funding.¹⁰⁷⁸ The bill was introduced by Senators Ed Markey Jeff Merkley, and Representatives Pramila Jayapal and Ayanna Pressley.

National Security Commission on AI

The US Congress established the National Security on AI in 2018.¹⁰⁷⁹ 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.¹⁰⁸⁰ 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.”¹⁰⁸¹

¹⁰⁷⁶ 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>

¹⁰⁷⁷ 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>

¹⁰⁷⁸ 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/>

¹⁰⁷⁹ *National Security Commission on AI*, Home, <https://www.nscai.gov/home>

¹⁰⁸⁰ 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>

¹⁰⁸¹ 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

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.¹⁰⁸² 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.”¹⁰⁸³ 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. There are several laws and legal principles that provide a basis in practices to access algorithms. There are also several laws pending in Congress that would establish a right of algorithmic transparency. For example, the Online Privacy Act requires human review of an automated decision. Another bill in the Senate, the Algorithmic Accountability Act of 2019, directs the Federal Trade Commission to require companies to conduct AI impact assessments to determine if their algorithms are “inaccurate, unfair, biased, or discriminatory.”

At the state level, the recently enacted 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.¹⁰⁸⁴ A former U.S. federal official said the CPRA would impose “new requirements for businesses to protect personal

¹⁰⁸² U.S. Department of Defense, Chief Information Officer, *Vision: Transform the DoD Through Artificial Intelligence*. <https://dodcio.defense.gov/About-DoD-CIO/Organization/JAIC/>

¹⁰⁸³ 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/>

¹⁰⁸⁴ 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/>

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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.’”¹⁰⁸⁵

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 25.¹⁰⁸⁶ 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 Rights Act, Huffman stated, “Prop. 24 allows consumers to stop companies from using online racial profiling to discriminate against them.”

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.

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

¹⁰⁸⁵ 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/>

¹⁰⁸⁶ <https://vig.cdn.sos.ca.gov/2020/general/pdf/complete-vig.pdf>

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court later determined that the AI Commission had violated US open government laws and was required to make both its records and its meetings open to the public.¹⁰⁸⁷ Oddly, the AI Commission makes agency documents available on a proprietary platform rather than an agency website.¹⁰⁸⁸

Human Rights

The United States endorsed the Universal Declaration for Human Rights, published a detailed annual report on human rights, and generally ranks highly for the protection of human rights. Freedom House scored the United States at 86/100, raising concerns about the integrity of the political process and the functioning of government.¹⁰⁸⁹ On transparency, Freedom House noted, “The administration also operates 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,¹⁰⁹⁰ 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.

Evaluation

The United States 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, and the US Chief Technology officer has underscored US commitment to democratic values. The most recent Executive Order also establishes a process for public participation in agency rulemaking on AI through the Office of Management and Budget. But the overall US policy-making

¹⁰⁸⁷ *EPIC v. AI Commission, Seeking Public Access to the records and meetings of the NSCAI*, <https://www.epic.org/foia/epic-v-ai-commission/>

¹⁰⁸⁸ 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

¹⁰⁸⁹ Freedom House, *Freedom in the World 2020 – United States* (2020), <https://freedomhouse.org/country/united-states/freedom-world/2020>

¹⁰⁹⁰ 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>

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process has been opaque, the National Security Commission on AI has resisted public participation, and the Federal Trade Commission has failed to act on several pending complaints concerning the deployment of AI techniques in the commercial sector. Concerns have been raised about the export of facial surveillance technology 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.

COUNTRY EVALUATIONS

Evaluation Grid

Country	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Score
Australia	Y	P	Y	Y	Y	Y	Y	P	P	P	P	N	8.5
Belgium	Y	P	Y	Y	P	P	P	P	Y	P	N	P	7.5
Brazil	Y	P	Y	Y	P	P	P	P	P	P	N	N	6.5
Canada	Y	P	Y	Y	Y	P	Y	Y	P	P	P	Y	9.5
China	Y	P	Y	P	P	P	N	Y	N	N	N	N	5.0
Estonia	Y	P	Y	Y	Y	Y	P	N	Y	P	N	N	7.5
France	Y	P	Y	Y	P	P	Y	Y	Y	P	P	P	9.0
Germany	Y	P	Y	Y	Y	Y	Y	Y	Y	P	P	Y	10.5
India	Y	P	Y	Y	Y	Y	N	P	N	N	P	N	6.5
Indonesia	Y	P	Y	P	Y	Y	N	P	N	N	N	N	5.5
Israel	Y	P	Y	Y	P	P	P	P	P	N	N	N	6.0
Italy	Y	P	Y	Y	P	Y	Y	Y	Y	P	N	Y	9.0
Japan	Y	P	Y	Y	Y	Y	P	Y	P	P	P	N	8.5
Kazakhstan	N	N	Y	P	N	N	P	N	P	N	N	N	2.5
Korea	Y	P	Y	Y	Y	Y	P	Y	P	P	P	N	8.5
Mexico	Y	P	Y	P	N	N	P	P	N	N	N	Y	5.0
Netherlands	Y	P	Y	Y	N	Y	P	Y	Y	P	N	N	7.5
Poland	Y	P	Y	Y	P	P	P	N	Y	N	N	Y	7.0
Russia	Y	P	Y	P	N	Y	P	Y	P	N	N	N	5.0
Rwanda	N	P	Y	Y	P	N	P	N	N	N	N	N	3.5

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Saudi Arabia	Y	P	P	P	Y	Y	P	P	N	N	P	N	6.0
Singapore	N	P	Y	P	Y	Y	P	P	Y	N	N	N	6.0
Spain	Y	P	Y	Y	Y	P	Y	Y	Y	P	P	N	9.0
Sweden	Y	P	Y	Y	P	Y	Y	P	Y	N	N	N	7.5
Switzerland	Y	P	Y	Y	Y	Y	P	Y	Y	N	N	P	8.5
Taiwan	N	P	Y	Y	P	P	P	Y	N	N	P	N	5.5
Thailand	N	P	Y	P	N	P	P	P	N	N	N	N	3.5
Turkey	Y	P	Y	P	P	P	N	Y	N	N	N	N	5.0
U.K.	Y	P	Y	Y	N	Y	Y	Y	Y	N	N	Y	8.5
U.S.	Y	P	Y	Y	P	Y	P	Y	P	P	N	N	7.5

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Country Rankings

Tier I

Germany (10.5)

Tier II

Canada (9.5)

France (9.0)

Italy (9.0)

Spain (9.0)

Australia (8.5)

Japan (8.5)

Korea (8.5)

Switzerland (8.5)

UK (8.5)

Tier III

Belgium (7.5)

Estonia (7.5)

Sweden (7.5)

US (7.5)

Netherlands (7.5)

Brazil (6.5)

India (6.5)

Poland (6.5)

Israel (6.0)

Saudi Arabia (6.0)

Singapore (6.0)

Tier IV

Indonesia (5.5)

Taiwan (5.5)

Turkey (5.5)

China (5.0)

Mexico (5.0)

Russia (5.0)

Tier V

Rwanda (3.5)

Thailand (3.5)

Kazakhstan (2.5)

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Country Distribution by Tier

TIER I (High)	TIER 2	TIER 3 (Middle)	TIER 4	TIER 5 (Low)
Germany	Australia Canada France Italy Japan Korea Spain Switzerland UK	Belgium Brazil Estonia India Israel Netherlands Poland Saudi Arabia Singapore Sweden US	China Indonesia Mexico Russia Taiwan Turkey	Kazakhstan Rwanda Thailand

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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 supported the Social Contract for AI?
- 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

METHODOLOGY

Scope

We assessed the AI policies and practices of the top 25 countries by GDP. We also looked at several 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 was undertaken in late 2020, anticipating publication in mid-December 2020.

Annual Review

We anticipate that the report will be updated and published annually, in conjunction the Cybersecurity Day of the Boston Global Forum (December 12).

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 and the Social Contract for the Age of AI.

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

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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 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. 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 Questions

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.¹⁰⁹¹

Determinations in this category are essentially binary: a country has either endorsed the OECD/G20 AI Principles or it has not.

¹⁰⁹¹ The G20 AI Principles directly restate the value-based principles in Part I of the OECD AI Principles

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, but information is often difficult to find. In some instances, were able to acknowledge partial implementation (P). If implementation was unclear, then the determination was U. No country has fully implemented the OECD/G20 AI Principles and therefore no country received a Y determination.

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

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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 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.

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.

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

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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 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 supported the Social Contract for AI?

Similar to the Universal Guidelines for AI, the Social Contract for the Age of AI (SCAAI) is not subject to formal endorsement by countries. The Social Contract sets out aspirational goals for the Age of AI that go beyond the OECD/G20 AI Principles. Members of the Boston Global Forum and the World Leadership Alliance, including former Prime Ministers, have endorsed the Social Contract and we anticipate, over time, countries will follow. We therefore looked for early indicators that countries have adopted policies that reflect these broader social goals.

Determinations in this category were similar to those in response to the question on the Universal Guidelines. We could not assign a Y to any country, but we did assign a P for countries that have adopted policies and practices similar to those in the SCAAI. Countries that have done little to develop AI policies likely received a N determination.

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.¹⁰⁹² 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.¹⁰⁹³ 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

¹⁰⁹² 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

¹⁰⁹³ 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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concerning AI in subsequent years. We will update country ratings accordingly.

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 country's 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 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 Social Contract Index 2020*, 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 Social Contract Index* (Q1, Q2, Q7, Q9, Q10, Q11, Q12) make these factors key metrics for the evaluation of a nation’s AI policies.

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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.¹⁰⁹⁴

Private Sector Practices

We did not attempt to review or evaluate the practices of private firms or organizations. The *AI Social Contract Index 2020* 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.¹⁰⁹⁵

¹⁰⁹⁴ Max Weber, *Objectivity of Social Science and Science Policy* (1904).

¹⁰⁹⁵ Further discussion of the methodology underlying the *AI Social Contract Index 2020* 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)
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)
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)

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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)
DDFT	Data Free Flows with Trust
DIGG	Agency for Data Administration (SWE)
DPIA	Data Protection Impact Assessments
DPA	Data Protection Agency
DT	DeepL Translate
DTO	Digital Transformation Office (TUR)
EAD	Ethically Aligned Designed
EDPS	European Data Protection Supervisor (EU)

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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

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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)
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)

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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)

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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;

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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;

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 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

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, including interdisciplinary efforts, to spur innovation in trustworthy

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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 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. INSTRUCES 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

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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

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United States

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.

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

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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.
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.

Explanatory Memorandum and References
October 2018

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

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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 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. 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

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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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Social Contract for the Age of AI

A New Social Contract for the Age of Artificial Intelligence

Original Signatories

Governor Michael Dukakis, Boston Global Forum and
President Vaira Vīķe-Freiberga, Latvia and World Leadership Alliance-
Club de Madrid

Additional Signatories

Vint Cerf, Father of Internet, Google, Nazli Choucri, MIT,
Prime Minister Zlatko Lagumdžija, Bosnia and Herzegovina,
Tuan Anh Nguyen, Boston Global Forum, Thomas Patterson, Harvard
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Silbersweig, Harvard University

The term “artificial intelligence” refers to the development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, language translation, and self-driving cars. Advances in AI have already altered conventional ways of seeing the world around us. This is creating new realities for everyone – as well as new possibilities.

These advances in AI are powerful in many ways. They have created a new global ecology and yet remain opaque and need to be better understood. Advances in AI raise policy issues that must be assessed. We must now focus through dialogue, tolerance, learning and understanding on key principles and practices for an agreement among members of society for shared social benefit that we call the Social Contract for the AI Age.

The expansion of Artificial Intelligence is widely recognized and could change our lives in ways yet unimagined. At the same time, without guidelines or directives, the undisciplined use of AI poses risks to the wellbeing of individuals and creates possibilities for economic, political, social, and criminal exploitation.

The international community recognizes the challenges and opportunities, as well as the problems and perils, of AI. Many countries have announced national strategies to promote the proper use and development of AI. These strategies set out common goals such as:

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- Scientific research, funding and culture,
- Sustainable development, and inclusive growth
- Skills, education, and talent development
- Public and private sector adoption,
- Fairness, transparency, and accountability
- Ethics, values and inclusion,
- Reliability, security and privacy,
- Science-policy links,
- Standards, human control and regulations
- Data and digital infrastructure.

AI is also the focus of foreign policy and international cooperation. There is a shared view that no country will be able to compete or meet the needs of its citizens without increasing its AI capacity. As well, many countries are now engaged in technology leapfrogging. It is no longer expected, nor necessary, to replicate the stages of economic development of the West—one phase at a time.

In a world as diverse as the one today, there are few mechanisms for responding to such possibilities on a global scale. Social Contract for the AI Age is designed to establish a common understanding for policy and practices, anchored in general principles to help maximise the “good” and minimise the “bad” associated with AI. Derived from the 18th century concept of a social contract—an agreement among the members of society to cooperate for social benefits—Social Contract for the AI Age is focuses on the conditions of the 21st century. It is a response to artificial intelligence, big data, the Internet of Things, and high-speed computation.

Foundations

Just as earlier social contracts helped shape societies for a common purpose, the Social Contract for the AI Age has a transformative vision, one that transcends the technological features of artificial intelligence and seeks to provide foundations for a new society. Consider, for example, how the Covid-19 pandemic urgently requires a new society with new structure and order, approach — new ways to share data and coordinate action, accelerated social reliance on digital service across businesses, education, and government services. The Social Contract for the AI Age would create standards for a new international system. It focuses on the conduct of each nation, relations with international business and not for profit entities, and the cooperation of nations. Just as TCP / IP is the platform for

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communication among internet users, the Social Contract for AI Age is a platform for connection among governments, stakeholders, and private and public institutions.

Objectives

The Social Contract for the AI Age seeks to build a multi-stakeholder, inclusive society in all aspects of life across politics, government, economics, business, and industry. The Social Contract for the AI Age values creation, innovation, philanthropy, and mutual respect. It seeks the right of freedom on, and access to, the Internet worldwide. The Social Contract for the AI Age seeks to make the world a locus of responsible interaction—a place where every person's contribution is recognized and everyone has a right to knowledge and access to information, where no one is above the law, where money cannot be used to subvert political process, and where integrity, knowledge, creativity, honesty, and tolerance shape decisions and guide policy.

In short, the Social Contract for the AI Age seeks to build a world where all are recognized and valued, and all forms of governance adhere to a set of values and are accountable and transparent. It is a world where global challenges are met by collective action and responsibility.

Principles

Extensive and appropriate AI application to politics, governments, society, and businesses can create a Smart Democracy. The Social Contract for the AI Age creates a platform for a Smart Democracy society, and a new global supply chain, named Supply Chain 2020. As a framework for society in the AI age, the Social Contract 2020 is based on balancing power among governments, businesses, civil society, individuals, and AI assistants. The Social Contract for the AI Age is a commitment to protect property, common values, and collective norms.

- AI must respect fundamental human rights such as human dignity, rule of law, and privacy protection.
- AI systems must be considered from a multi-stakeholder perspective — for the individual and for society as a whole
- The Social Contract for the AI Age is a basis to achieve sustainable and inclusive development for a global community that is fair, equitable, and prosperous. It is designed to apply

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the concept of a people-centered economy and to create a trustworthy AI, data, and Internet ecosystem for work and life.

- The Social Contract for the AI Age should be transparent and accountable, and follow standards based on policies driven by trustworthy data. The UN Sustainable Development Goals data metrics and the World Economic Forum Environmental, Social, and Governance (ESG) metrics, should provide citizens and organizations with reliable data that enables well-informed policy choices.
- Communities must have control over their data. Data is the basis of self-determination and provides the ability to measure the impact of actions and policy in the AI realm.
- Data literacy at all levels of society, together with open, trustworthy information, is the basis for an intelligent, thoughtful society.
- Commitments of Stakeholders/ Power Centers
- Individuals, Citizens, Groups:
- Everyone is entitled to basic rights and dignity that are enhanced/promoted by AI

Data Rights and Responsibilities:

- Each individual has the right to privacy and is entitled to access and control over their own data. Individuals have a right to manage their data, individually or collectively, and the right to withhold their data from businesses.
- Each individual and each community must have access to a trustworthy AI, data, and Internet ecosystem to create an inclusive, fair, people-centered economy, and society.

Internet Rights

- Each individual has the right to access the Internet and any website or news system without restriction.
- Freedom of expression on the Internet is guaranteed.
- Secure digital identity allows the individual to know about, and control access to their data.

Education and Political Participation:

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- Each individual has the right to education through best available venues.
- Each individual must have access to education/knowledge/training about the use and impact of AI.
- Each individual has the right to unimpeded political participation.
- Everyone must have access to due process and fair trial, as well as remediation for injustice.

Responsibility

- Individuals is prohibited from exercising socially disruptive behaviors, such as hacking, disseminating disinformation or online hate.
- Individuals must contribute to the common good through appropriate taxes and provision of critical personal information (with appropriate data protection) as, for example, in the collection of census data and voting for public officials

Governments. *Governments have a leading role in the Social Contract for the AI Age.*

- All government should behave responsibly in the management of AI for governance and for interactions with individuals and such behavior must be easily auditable.
- All governments implement AI governance policies that respect honesty, transparency, fairness, and accountability. These standards and norms apply in every area of governance and are the basis for collaboration with international communities.
- All governments create incentives for citizens to use AI in ways that benefit society (for example each person does good work for society that will be recognized as value, and this value can be exchanged with other values such as financial value, products, services, etc.).
- All governments construct a secure, stable, and trustworthy AI, data, and Internet ecosystem for work and life to support the people-centered economy.
- All governments ensure that communities are able take control of their data and use AI with their data so that they can manage their community to suit their needs and to create prosperity for themselves and their family.

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- All governments establish norms, rules and pass laws to ensure AI benefits society.
- All governments create secure safety net for citizens in a trustworthy AI, data, and Internet ecosystem for work and life.
- All governments protect intellectual property rights without undermining free access to the information commons.

Collaborations between governments

- Norms, values and standards of the Social Contract for the AI Age are designed as connections among governments. To maintain the Social Contract for the AI Age, it is essential for countries to establish a Democratic Alliance for Digital Governance. All governments should work to promote the Democratic Alliance for Digital Governance.

United Nations and International Organizations:

- The United Nations should extend international human rights standards for AI, and create a UN Convention on AI and establish a specialized UN Agency on AI.

Business Entities. *Business operations and related rights come with accountability and responsibility – nationally and internationally. Business must:*

- Enable independent audits for transparency, fairness, accountability, and cybersecurity.
- Adopt common AI values, standards, norms, and data ownership rules with penalties for noncompliance.
- Companies will be incentivized to do business only with companies and countries that uphold the Social Contract for the AI Age and endorse Supply Chain 2020.
- Collaborate with governments and civil society to help create a people-centered AI, data, and Internet ecosystem, to create trustworthy and relevant data, and to use AI to share wealth with individuals and communities.

Civil Society Organizations & Community. *Rights and responsibilities of civil society organizations include:*

- Monitor governments and firms with respect to common values.

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- Promote common values, norms, standards, and laws.
- Support AI users and assist them to serve the broad interests of society.
- Collaborate with governments, business entities, and others to create a people-centered AI, data, and Internet ecosystem for work and life, enabling all people can create meaningful data, value, and create value-based wealth for their community.
- Enable data cooperatives—the voluntary collaborative pooling by individuals of their personal data for the benefit of the group or community.
- Participate in the making of AI rules and norms.
- Enhance civil society become an intelligent, thoughtful civil society based on knowledge, smart data, critical thinking and social responsibility; and through the achievement of data literacy, to become a trusted open-data system, with validated, predictive AI tools that communities to plan their future.

AI Assistants. *AI assistants provide an interface to facilitate compliance with established standards.*

- Support AI users and assist them to serve the broad interests of society.
- Engage with other power centers for mutual support and supervision.
- Community control: AI assistants should be governed by communities of users.

The Social Contract for the AI Age will be implemented as follows:

- The promulgation of a Code of Ethics for AI Developers and AI Users.
- The creation of a system to monitor and evaluate governments, companies, and individuals (based on their contribution to maintaining norms, standards, common values, and international laws for honesty, transparency, accountability, and responsibility).
- The recognition of the Social Contract for the AI Age by the United Nations, governments, companies, civil society and the international AI community.
- The establishment of a United Nations Convention on Artificial Intelligence to obligate governments and others to

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comply with international rules and norms to protect rights in AI age.

- The development of the Democratic Alliance for Digital Governance as the global authority to enforce the Social Contract for the AI Age.
- The creation of the “AIWS City”—an all-digital virtual city based on the standards and norms of “the Social Contract for the AI Age”, “People Centered Economy”, “Trustworthy Economy”, “AI-Government”, and “Intellectual Society-Thoughtful Civil Society”.

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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.

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

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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.

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.

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.
- (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 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

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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.

GPA Resolution on AI and Accountability

**RESOLUTION ON ACCOUNTABILITY
IN THE DEVELOPMENT AND USE OF ARTIFICIAL
INTELLIGENCE**

**Global Privacy Assembly
October 2020**

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Data Protection Authority, Republic of San Marino

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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,

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:

- (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;

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- (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;
 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

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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.]

ORGANIZATIONS

The Michael Dukakis Institute for Leadership and Innovation

The **Michael Dukakis Institute** was born in 2015 with the mission of generating ideas, creating solutions, and deploying initiatives to solve global issues, especially focused on Cybersecurity and Artificial Intelligence. Led by Chairman Michael Dukakis and Director Nguyen Anh Tuan, the Institute has emerged as a powerful voice in global policy, bringing together world leaders, scientists, thinkers, and innovators. The Michael Dukakis Institute is non-profit, educational organization, incorporated in Boston, Massachusetts

The Boston Global Forum

The **Boston Global Forum** is a Boston-based think tank focused on technology, security and international relations. Founded in 2012, the BGF brings together global leaders and policy experts to examine pressing global challenges and to develop solutions. Recent initiatives include Peace and Security in the Pacific; Peace, Security and Development; and the New Social Contract in the Age of AI.

The AI World Society

The **AI World Society** was founded in 2017 to promote ethical models for Artificial Intelligence. AIWS initiatives include AI-Government, AIWS-G7 Summit Initiative, the Government AIWS Ethics and Practices Index, AIWS Innovation Network (AIWS.net), the young leader program and a new AIWS Leadership master's program in cooperation with the Saint Petersburg Electrotechnical University. The AIWS also sponsors the AIWS Roundtable, the History of AI, AIWS Distinguished Lectures, and the World Leader in AIWS Award.

The Center for AI and Digital Policy

The **Center for AI and Digital Policy**, founded in 2020, aims to ensure that artificial intelligence promotes a better society, more fair, more just, and more accountable. Working under the auspices of the Michael Dukakis Institute, the **Center** promotes global frameworks for AI policy, and publishes the *CAIDP Update* (weekly) and the *AI Social Contract Index* (annually). Marc Rotenberg is the founding director.



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