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## Building trust in AI: A landscape analysis of government AI programs

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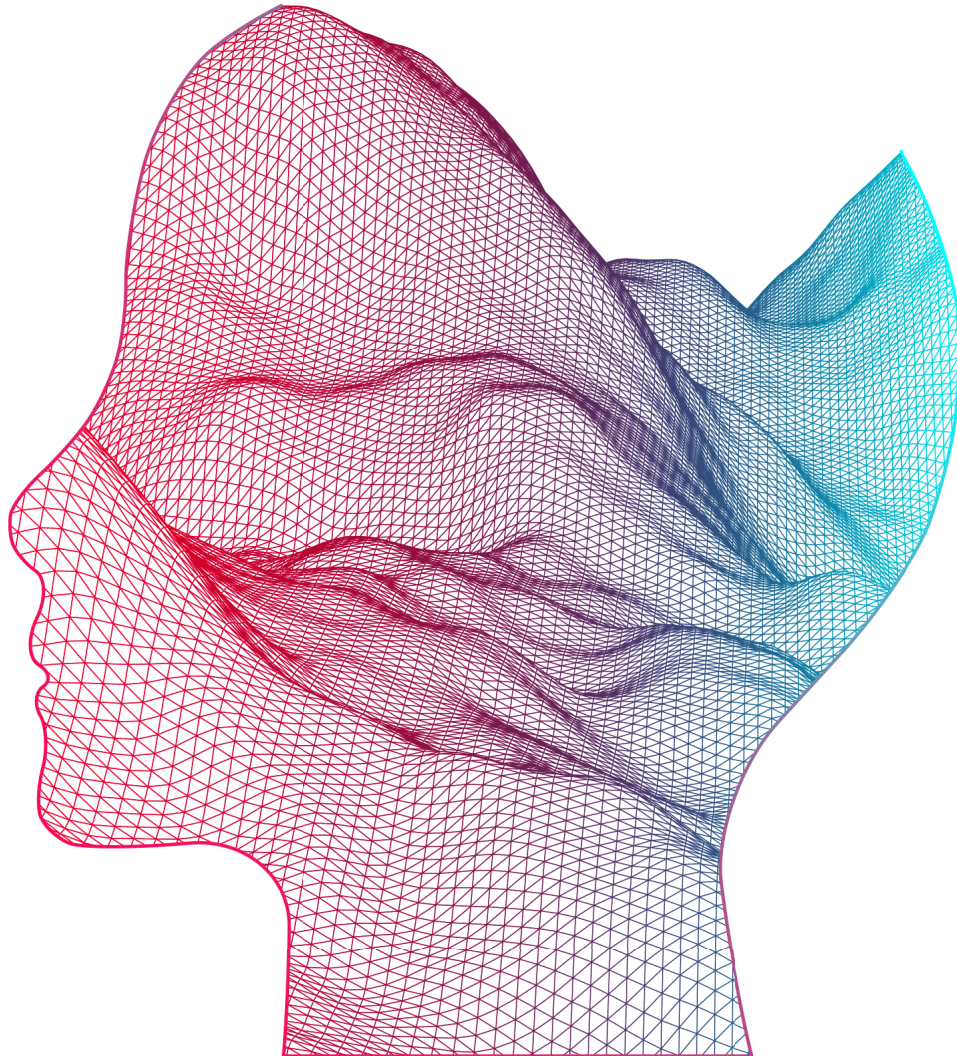
Centre for International  
Governance Innovation

CIGI Papers No. 272 – March 2023

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## A Landscape Analysis of Government AI Programs

Susan Ariel Aaronson





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## About the Author

**Susan Ariel Aaronson** is a CIGI senior fellow. She is an expert in international trade, digital trade, artificial intelligence (AI) governance and human rights. She is currently writing on public participation in the governance of AI, comparative advantage in extended reality (XR) and the future of data governance.

Susan is also a research professor of international affairs and a cross-disciplinary fellow at George Washington University's Elliott School of International Affairs, where she directs the Digital Trade and Data Governance Hub. The Hub educates policy makers and the public on domestic and international data governance. The Hub also maps the governance of personal, public and proprietary data around the world to illuminate the state of data governance.

Susan is the former Minerva Chair at the National War College. She is the author of six books and more than 70 scholarly articles. Her work has been funded by major international foundations including the MacArthur, Minderoo, Hewlett and Ford Foundations; governments such as the Netherlands, the United States and Canada; international organizations such as the United Nations, International Labour Organization and the World Bank; and US corporations including Google, Ford Motor and Levi Strauss. She loves to do triathlons and study ballet.

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## Acronyms and Abbreviations

<b>AEB</b>	Audit and Evaluation Branch
<b>AI</b>	artificial intelligence
<b>CIFAR</b>	Canadian Institute for Advanced Research
<b>CSET</b>	Center for Security and Emerging Technology
<b>Difi</b>	Norwegian Agency for Public Management and eGovernment
<b>G20</b>	Group of Twenty
<b>GDPR</b>	General Data Protection Regulation
<b>GE<sup>3</sup>LS</b>	ethical, environmental, economic, legal and social issues of genomics
<b>IFD</b>	Innovation Fund Denmark
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PIs</b>	principal investigators
<b>R&amp;D</b>	research and development
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization

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## Executive Summary

The Organisation for Economic Co-operation and Development's (OECD's) website on artificial intelligence (AI) policy (the OECD.AI Policy Observatory) is the world's best source for information on public policies dedicated to AI, trustworthy AI and international efforts to advance cooperation in AI. Using the site as a source, the author sought to answer four questions:

- What are governments doing to advance AI and trustworthy AI in their respective countries and internationally?
- Do these governments evaluate or report on what they are doing?
- Were the evaluations useful, credible and independent?
- Did these evaluations inform best practice and trustworthy AI at the OECD?

The author's review of the information contained on the site reveals that governments have yet to effectively evaluate their efforts. The 62 nations that reported to the OECD as of August 2022 generally reported initiatives designed to build domestic AI capacity and a supportive governance context for AI. This is understandable, as policy makers must show their constituents that they will deliver programs designed to meet their needs. Yet the author found few of these initiatives were evaluated or reported on. Consequently, policy makers were not effectively learning from their programs, as the author found only four out of 814 programs or 0.49 percent were evaluated.

In reviewing an early iteration of this paper, the OECD noted that most of the national AI initiatives were launched in 2019 and 2020, and it may be too early to effectively evaluate them. OECD staff also stressed that they encourage countries to evaluate their own initiatives. Finally, OECD commentators stated that they recommend that these governments think about which data they should gather to evaluate these programs in the future. But some of the programs funded by governments started decades ago. These governments have had years to develop a methodology to assess long-standing problems that is useful, credible and independent. Why have they not made such evaluations a priority?

The research also uncovered gaps between what governments said they were doing on the OECD website and what was reported on national websites. In some cases, the author did not find evidence of governmental action (for example, public consultations). In other cases, the links provided by governments to the OECD did not work. In addition, the author was surprised to find that only a small percentage of initiatives listed by governments included the keywords "trustworthy/trust," "responsible," "inclusive" or "ethical" in their titles, which may indicate that few initiatives pertained directly to building trust in AI or building trustworthy AI globally. The author's research also found relatively few efforts to build international cooperation on AI, or to help other nations build capacity in AI.

In actuality, no one knows how to build trust in AI or whether efforts to promote trustworthy AI will be effective. Ultimately, this responsibility falls on the developers and deployers of AI and the policy makers who govern AI. But more understanding is needed to sustain trust in AI. Hence, nations that conduct evaluations of AI efforts are likely to build trust in both AI and AI governance. These nations are signalling that policy makers are competent and accountable and care about their fellow citizens who rely on AI.

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## Overview

Netizens today are dependent on services built on AI. They rely on digital assistants to check their schedules, use AI to avoid traffic jams and accept Netflix's AI-determined recommendations for their next must-watch TV show. These individuals recognize that firms and governments utilize AI to make decisions for and about them. At the same time, they do not understand how AI works and whether their reliance on AI could harm them or their family over time (Hoff and Bashir 2015; Rainie et al. 2022). As a result, many netizens are both receptive to and distrustful of AI.

But these netizens expect government officials to design public policies that allow society to reap the benefits and minimize the costs of AI deployment. As with any taxpayer-funded initiative, they also want to know if programs designed to



encourage AI and ensure that AI is trustworthy are effective (Tschopp and Quadroni 2022).

These users are not alone — the world needs a better understanding of how policy makers can simultaneously and effectively encourage AI innovation and adoption, while mitigating potential AI risks (Littman et al. 2021). Not surprisingly, some governments are starting to develop guidelines for regulating various AI sectors (for example, the United States) while others, such as Canada, China and the European Union, are debating regulation of risky types of AI.<sup>1</sup> Meanwhile, various think tanks and scholars have published reports or assessments of government programs or overall efforts.<sup>2</sup>

Members of the OECD decided they could help policy makers simultaneously build trust in and encourage AI. The OECD is essentially a “think and do” tank for governments and their constituents.<sup>3</sup> To that end, it publishes cutting-edge research reports and engages with a wide range of stakeholders online and in person to improve governance.

The OECD has made encouraging responsible, trustworthy AI a top priority. In 2018–2019, representatives from 37 OECD member countries agreed to create a set of principles to govern the creation and dissemination of what the OECD called “trustworthy AI.” The OECD defines trustworthy AI as “AI systems that respect human rights and privacy; are fair, transparent, explainable, robust, secure and safe; and the actors involved in their development and use remain

accountable” (OECD 2021b, 6–7). Trustworthy AI systems are supposed to build trust in both AI systems and governance of such systems.

The OECD Secretariat worked with member states to draft the OECD AI Principles, the first AI standard at the intergovernmental level. The principles were adopted in May 2019 by the 37 OECD member countries and five non-member countries, and later endorsed by members of the world’s 20 largest economies, the Group of Twenty (G20), in June 2019 (ibid.). The OECD AI Principles focus on efforts to build trust in AI and on strategies to create trustworthy AI systems. They also contain five recommendations for national policies and international cooperation:

- investing in AI research and development;
- fostering a digital ecosystem for AI;
- shaping an enabling policy environment for AI;
- building human capacity and preparing for labor market transformation; and
- international cooperation for trustworthy AI. (OECD 2021b, 7)

As these principles gained traction, the OECD began to help policy makers and other stakeholders with implementation. The OECD convened a network of experts, which, in turn, set up a working group on national AI policies in June 2020. The working group discussed case studies at some 10 meetings and gave practical advice for implementing the OECD AI Principles (OECD 2021a, 9).

The OECD also created a website in February 2020 called the OECD.AI Policy Observatory. It aims to help policy makers implement the AI principles. The website not only shares the latest information and insights on tools and methods for implementing trustworthy AI (OECD 2021b, 7), but it also includes a wide range of interesting international statistics on AI.<sup>4</sup> In addition, the website contains country dashboards that “allow you to browse and compare hundreds of AI policy initiatives in over 60 countries and territories.”<sup>5</sup> This plethora of information allows OECD staff to help countries identify best practices and ascertain

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1 For the United States, see Executive Office of the President (2020a); for the European Union, see <https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence>; and for Canada, see Bill C-27, *An Act to enact the Consumer Privacy Protection Act, the Personal Information and Data Protection Tribunal Act and the Artificial Intelligence and Data Act and to make consequential and related amendments to other Acts*, 1st Sess, 44th Parl, 2022 (first reading 16 June 2022), online: <[www.parl.ca/DocumentViewer/en/44-1/bill/C-27/first-reading](http://www.parl.ca/DocumentViewer/en/44-1/bill/C-27/first-reading)>. Bill C-27 aims to mitigate risks of harm and discrimination related to AI use and development. The act also establishes prohibitions related to the possession or use of illegally obtained personal information for the purpose of designing, developing, using or making available for use an AI system and making available for use an AI system if its use causes serious harm to individuals.

2 For example, the Center for Security and Emerging Technology (CSET) examined comparative advantage in AI. The authors compared AI capabilities (the state of AI research, large data pools, semiconductor capacity and enablers, such as workforce development and research funding) in China and the United States (Imbrie, Kania and Laskai 2020). CSET has also examined responsible and ethical military AI, comparing government actions and policies (Stanley-Lockman 2021). In addition, the Center for Data Innovation has issued a report card for US AI policies (Omaar 2022a).

3 See [www.oecd.org/about/](http://www.oecd.org/about/).

4 See <https://oecd.ai/en/>.

5 See [www.oecd.org/digital/artificial-intelligence/](http://www.oecd.org/digital/artificial-intelligence/).

how limited taxpayer funds could achieve better outcomes as society increasingly turns to AI.<sup>6</sup>

If the OECD and its government participants could identify best practices, it would help to build trust in both AI and the governance of AI. National policy makers could use such evaluations to signal to their constituents that they care about ensuring that AI is trustworthy, and they could work with their counterparts at the OECD to learn from what other nations are doing. Hence, the author sought to answer four questions:

- Using OECD.AI as a source, what are governments doing to advance AI and trustworthy AI in their respective countries and internationally?
- Do these governments evaluate or report on what they are doing?
- Were the evaluations useful, credible and independent?
- Did these evaluations inform best practice and trustworthy AI at the OECD?

As of August 2022, 61 countries and the European Union reported to the OECD on their AI initiatives (for a total of 62).<sup>7</sup> Although the members of the OECD are generally high- and high-middle-income nations, the 62 governments providing information to OECD.AI represent a mix of AI capacity, income level, economic systems and locations.<sup>8</sup> Most of the documentation at OECD.AI is built on surveys where OECD staff ask their national contact points (local representatives) to report on what these 61 nations and the European Union are doing to build domestic AI capacity and a supportive, trustworthy governance context in which AI can flourish.<sup>9</sup>

The author found that although 814 initiatives were described on the website as of August 2022, four were duplicative and some 30 were blank,

leaving 780. Of these 780, countries claimed that 48 of these initiatives were evaluated. However, the author found only four evaluations.<sup>10</sup> Three other initiatives were labelled as evaluations but did not include a methodology; hence, they were labelled as evaluations in progress. Among the other 41 initiatives that claimed to be evaluated, 27 lacked any link to an evaluation, eight provided reports instead of evaluations, three provided links that led to error pages, two provided evaluation links that led to government websites without the evaluation, and one provided a document that could not be translated. All the evaluations were useful and credible, but they were not completely independent. Finally, the author could not find evidence that the OECD has thus far used these four evaluations to better understand best practice in trustworthy AI. However, that does not mean that the OECD did not have discussions about the evaluations.

The author utilized the following methodology to answer these four questions. To answer the first question, the author and research assistant Emily Tyler developed a landscape analysis of all the initiatives recorded on OECD.AI. A landscape analysis essentially surveys the collective group of actions and actors: it identifies the key players (countries and the OECD) and classifies them by type of activity. The author found that she needed to create her own classification as some initiatives consisted of more than one type and the types were not clearly defined (see Box 1).

The author then checked and double-checked every piece of evidence on the OECD site with national country information. Her comparison found that some of the information on the website is inaccurate or out of date. OECD staff explained that national contact points may not have complete or up-to-date information from the panoply of government agencies working on AI. The staff also stressed that every country is different. The national contact points from different countries have different approaches; some report on everything they are doing — others report less. In general, these officials do not list every initiative their country implements to foster

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6 Ibid.

7 Although Russia has supposedly endorsed the OECD AI Principles through the G20, it has not reported any programs to the OECD. The author's analysis is current as of August 25, 2022.

8 See <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>.

9 See, for example, the United Kingdom (<https://oecd.ai/en/dashboards/policy-initiatives?conceptUris=http:%2F%2Fkim.oecd.org%2FTaxonomy%2FGeographicalAreas%23UnitedKingdom>) or Brazil (<https://oecd.ai/en/dashboards/policy-initiatives?conceptUris=http:%2F%2Fkim.oecd.org%2FTaxonomy%2FGeographicalAreas%23Brazil>).

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10 The author could not effectively translate Japan's evaluation of its Advanced Integrated Intelligence Platform Project ([www.mext.go.jp/content/20200729-mxt\\_jyohoka01-00009044\\_02.pdf](http://www.mext.go.jp/content/20200729-mxt_jyohoka01-00009044_02.pdf)). The project promotes unique research activities leading to new innovations in big data, cybersecurity and the Internet of Things, utilizing the framework of Japan's Strategic Basic Research Programs.

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### Box 1: Author's Typology of AI Initiatives as of August 25, 2022

**Blank initiatives:** The website provided no details on the initiative.

**Double counted initiatives:** The initiatives had more than one web link.

**Regulations and legislation:** These govern AI or the data underpinning it.

**Reports:** These are publications produced by government entities.

**Dialogues:** These are government initiatives listed as dialogues between stakeholders.

**Strategies:** These are planning documents produced by governmental entities.

**Funded initiatives:** These are grants or programs funded by taxpayers.

**Principles/guidance:** These are non-binding measures for AI deployers.

**Platforms/infrastructure:** These are taxpayer-funded mechanisms that facilitate AI development (for example, a cloud contract).

**Regulatory sandbox:** This is a published regulatory approach that allows for live, time-bound testing of innovations under a regulator's oversight.

**Advisory bodies:** These are government-created entities that advise the government.

**New government bodies:** These are new government-created structures to address AI.

**Miscellaneous:** These initiatives did not fit into any of the other categories (for example, data-sharing incentives or other complementary policies).

**Irrelevant:** These initiatives had little to do with AI as far as the author could tell.

AI.<sup>11</sup> But their choices reveal what governments think is important when they try to advance AI both at the national and international levels.

To answer the second question, the author examined whether the government-issued evaluations or reports provided insights about best practices, trust in AI and/or trustworthy AI. Policy makers use evaluations to learn from their initiatives and revise, reform, complete or end them. To answer the third question, the author reviewed each evaluation to ascertain its utility, credibility and independence based on the evaluative methodology. To answer the fourth question, the author looked to the OECD.AI website to see if there was any analysis, formal discussion or peer review of the evaluations that was made public. The author did not find any such evidence, but that does not mean that these evaluations were not discussed formally or informally.

Many of the other so-called evaluations were actually reports, which are different from evaluations.<sup>12</sup> Policy makers use reports to gain greater understanding of a situation, problem or initiative.<sup>13</sup> In contrast, they use evaluations to examine if a program has attained its objectives (Rogers 2014).<sup>14</sup> Taxpayers and policy makers want to know what policies work to build trust in AI and to govern AI.

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11 From comments on an earlier draft by OECD staff.

12 Three other initiatives were labelled as evaluations but did not include a methodology; hence, they were labelled as evaluations in progress. Among the other 41 initiatives that claimed to be evaluated, 27 lacked any link to an evaluation, eight provided reports instead of evaluations, three provided links that led to error pages, two provided evaluation links that led to government websites without the evaluation, and one provided a document that could not be translated (see Table 4).

13 See [www.merriam-webster.com/dictionary/report](http://www.merriam-webster.com/dictionary/report).

14 See <https://icc.edu/faculty-staff/files/Difference-between-Assessment-and-Evaluation.pdf>; [www.differencebetween.net/business/planning-activities/difference-between-analyzing-and-evaluating/](http://www.differencebetween.net/business/planning-activities/difference-between-analyzing-and-evaluating/).

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## What Is the Relationship between Trust and AI?

AI can be opaque, complex and unpredictable (Acemoglu 2021; Li et al. 2022).<sup>15</sup> To convince AI users that AI is safe and predictable, creators and deployers of AI must find ways to engender trust (Stanton and Jensen 2021). Because data-driven systems are built by humans, these systems reflect values that may be biased or discriminatory. Thus, it is understandable that some people distrust these systems (Kennedy 2020).

Moreover, computer scientist Joanna Bryson argues that no one should trust AI: “Trust is a relationship between peers in which the trusting party, while not knowing for certain what the trusted party will do, believes any promises being made. AI is a set of system development techniques that allow machines to compute actions or knowledge from a set of data. Only other software development techniques can be peers with AI, and since these do not ‘trust’, no one actually *can* trust AI” (Bryson 2018).

Despite these differences in opinion about whether people should trust AI, a wide range of policy makers have decided that they need to build trust in AI by designing initiatives for ethical, responsible, human-centric and/ or trustworthy AI. Officials have turned to both soft (standards and principles) and hard law (laws, regulations and directives) to ensure that the design and deployment of AI is responsible, ethical and trustworthy (Dwivedi et al. 2021; United Nations Educational, Scientific and Cultural Organization [UNESCO] 2022; Shang and Du 2021). Yet these initiatives are relatively new, and no one knows if they really establish or sustain trust. For this reason, evaluations that establish whether an initiative really builds trust in AI or is effective at encouraging trustworthy AI are important. But no one has yet established a methodology for either task.

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15 See [www2.deloitte.com/us/en/pages/deloitte-analytics/solutions/ethics-of-ai-framework.html](http://www2.deloitte.com/us/en/pages/deloitte-analytics/solutions/ethics-of-ai-framework.html).

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## Why Are Evaluations Important for Government AI Efforts?

Many of the world’s people are experiencing high inflation, and money is tight for consumers and many governments (Gourinchas 2022). Taxpayers want and deserve to know that their taxes are going to programs that are effective (Pew Research Centre 2022; Burstein 2003). Officials conduct reports, assessments and evaluations to provide taxpayers with further information about what the government is doing and how it is doing it (Dube 2018; Katz 2021).

The OECD defines evaluation as “the systematic and objective assessment of an ongoing or completed project, programme or policy, its design, implementation and results.”<sup>16</sup> Evaluations are designed to determine the relevance and fulfillment of objectives, development efficiency, effectiveness, impact and sustainability. Evaluations should also provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process (SECO/WE, n.d., 4). The World Bank builds on this concept, noting that evaluations should be useful, credible and independent. *Utility* refers to the relevance and timeliness of evaluation processes and findings to organizational learning, decision making and accountability for results. However, evaluations can only be useful if they are credible. *Credibility* means that the evaluation is grounded in expertise, objectivity, transparency and rigorous methodology. Finally, evaluations are not credible unless they are *independent*. An independent evaluation ensures that the evaluation process is free from undue political influence and organizational pressure (The World Bank 2019, 4–5).

Policy makers and citizens rely on evaluations for learning, improvement and accountability purposes (Executive Office of the President 2020b, Appendix A). According to a recent study of evaluations, evidence can “shed light on the causal pathways through which a policy or program affects outcomes. This information

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16 See [www.oecd-ilibrary.org/governance/government-at-a-glance-2017/monitoring-and-evaluation-of-open-government-strategies\\_gov\\_glance-2017-66-en#](http://www.oecd-ilibrary.org/governance/government-at-a-glance-2017/monitoring-and-evaluation-of-open-government-strategies_gov_glance-2017-66-en#).

helps generate hypotheses and inform decisions about adjustments, improvements, and future implementation strategies. As a complement, impact evaluation detects whether a specific policy or program leads to an observable change in outcomes and if it works better than an alternative approach or *counterfactual*<sup>17</sup> (Kaufman et al. 2022, 1).

Evaluations may be particularly useful in building trust in policy makers' actions related to AI because of AI's unique nature. Specifically, here are some examples:

- **There are many different types of AI as well as uses:** For example, AI can perform tasks replacing or supplementing human analysis. Policy makers could use evaluations to show that certain types of evaluations are effective for particular types of programs.<sup>17</sup>
- **Although market actors are increasingly relying on AI to make decisions, in many countries, individuals are leery of the growing use of AI:** In 2019, Ipsos surveyed 20,107 adults from 27 countries and found that 41 percent agreed that they are worried about the use of AI, while 27 percent disagreed and 32 percent neither agreed nor disagreed (Ipsos 2019). In 2021, the Pew Research Center polled a random sample of 10,260 US adults on AI. Some 37 percent said they were more concerned than excited by the increased use of AI in daily life, while 45 percent said they were equally concerned and excited. Only 18 percent were more excited than concerned. Those who expressed concern cited worries about potential job losses, privacy considerations and the prospect that AI's ascent might surpass human skills (Rainie et al. 2022). With evaluations,

policy makers can directly assess whether these concerns are based in fact.

- **Some people are particularly concerned about policy makers using AI to provide services or to regulate:** In 2019, the Boston Consulting Group surveyed more than 14,000 internet users around the world as part of its biannual Digital Government Benchmarking study.<sup>18</sup> It found that citizens were most supportive of using AI for tasks such as transport and traffic optimization, predictive maintenance of public infrastructure and customer service activities. The majority did not support AI for sensitive decision making associated with the justice system, such as parole board and sentencing recommendations (Carrasco et al. 2019). Evaluations of AI might help users feel more comfortable with government use of AI.
- **No one really knows how to govern AI:** National and international policies designed to govern AI are relatively new (OECD 2021a, 9). However, policy makers cannot govern AI in a hands-off fashion, waiting for problems to develop and then trying to fix them after the fact. Instead, regulators should make governance fit the rapidly changing nature of AI (MacCarthy 2020). The Alan Turing Institute, a leading British think tank on AI, recently stressed that regulators need to understand the nature and implications of AI uses that fall within their regulatory remit and to assess the adequacy of regulatory arrangements in relation to AI (Aitkin et al. 2022). But without evaluations, no one knows if regulation can mitigate the problems directly or indirectly associated with the use of AI. Policy makers also do not know how to design these regulations or how to prevent conflict among different approaches to AI governance (Fletcher 2022).

- **These evaluations can help policy makers build trust in their efforts to govern AI:** Policy makers can utilize these evaluations to show their results are consistent, predictable and reduce opportunistic behaviour (Cerna 2014). These evaluations can demonstrate that policy makers are competent at governing AI and, finally, they signal that the government cares about its constituents (Eggers et al. 2021).

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17 As an example of the many different types of AI, section 238(g) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub L No 115-232, 132 Stat 1636, 1695 (August 13, 2018) defined AI to include the following:

(1) Any artificial system that performs tasks under varying and unpredictable circumstances without significant human oversight, or that can learn from experience and improve performance when exposed to data sets. (2) An artificial system developed in computer software, physical hardware, or other context that solves tasks requiring human-like perception, cognition, planning, learning, communication, or physical action. (3) An artificial system designed to think or act like a human, including cognitive architectures and neural networks. (4) A set of techniques, including machine learning, that is designed to approximate a cognitive task. (5) An artificial system designed to act rationally, including an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communicating, decision making, and acting.

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18 See [www.bcg.com/en-ca/industries/public-sector/digital-government](http://www.bcg.com/en-ca/industries/public-sector/digital-government).

**Table 1: Initiatives by 62 Governments According to the OECD.AI Website**

Total number of governments reporting to the OECD*	62
Total number of initiatives in the OECD.AI Policy Observatory	814
Number of recorded initiatives**	780
Number of initiatives left completely blank	30
Number of double counted initiatives***	4

Source: <https://oecd.ai/en/>. Emily Tyler, research assistant at The George Washington University, designed the table.

Notes: \*On August 25, 2022, the site included information from 62 countries: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Latvia, Lithuania, Luxembourg, Malta, Mexico, Morocco, Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Romania, Saudi Arabia, Serbia, Singapore, Slovak Republic, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, Tunisia, Turkey, United Arab Emirates, United Kingdom, United States, Uruguay, Vietnam and the European Union. \*\*Recorded initiatives are those that were not blank or double counted. Since then, the repository now has information from Armenia, Mauritius, Nigeria, Rwanda, Uganda, Ukraine and Uzbekistan. Data from these countries is not included. \*\*\*Double counted initiatives were those that were duplicated within the same country. These include Argentina's Artificial Intelligence National Plan (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26935>) and Artificial Intelligence National Plan (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-24309>); Germany's Competence Centres for AI Research (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26754>) and Competence Centres for AI Research (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26895>); Australia's Artificial Intelligence Technology Roadmap (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-27167>) and AI Technology Roadmap (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-24476>); and Australia's AI PHD Scholarships (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-24378>) and AI PHD Scholarships (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-27166>). The first two sets of initiatives had the exact same descriptions and titles. The third set of initiatives, however, had different titles but the same descriptions. The last set of initiatives had different titles and descriptions but mentioned the same program.

## Findings

The author sought to answer the following four questions:

- Using OECD.AI as a source, what are governments doing to advance AI and trustworthy AI in their countries and internationally?
- Do these governments evaluate or report on what they are doing?
- Were the evaluations useful, credible and independent?
- Did these evaluations inform best practice and trustworthy AI at the OECD?

Table 1 provides a summary of the initiatives that governments reported to the OECD.

The author and her research assistant next created their own typology to characterize the government programs. The author did not use the OECD's assessment of types of initiatives because it did not fully clarify all the types of initiatives, and she also found that the terminologies used were not always clearly defined.

The author's characterizations may appear arbitrary, as many of these initiatives fit into two or more of the types mentioned above (for example, a funded initiative may support research as well as cloud infrastructure). Moreover, the author found double reporting at times. For example, Australia has an excellent website summarizing the various types of initiatives that it has developed both to nurture AI and to mitigate possible negative spillovers. It

lists one program for “Artificial Intelligence Ph.D. Scholarships.”<sup>19</sup> However, on the OECD.AI website, the author found two initiatives sharing that name: the “Artificial Intelligence PhD Scholarships,” which began in 2019 and ended in 2021,<sup>20</sup> and the “AI PhD Scholarships,” which ended in 2022 (ibid.), but they do not appear on the Australian Industry website. Poland also put forward two initiatives with the same name. The Policy for AI Development in Poland was published in January 2021 with no end date. It is supervised by several ministries and the Prime Minister’s Office. It is designed to “highlight the opportunities that AI offers to Poland’s economy.” The policy also lays down the framework and basic principles for the deployment of AI technologies in Poland.<sup>21</sup> It has no evaluation and no end date.<sup>22</sup> The second Policy for AI Development in Poland from 2020 starts in 2020 and ends in 2030, and it aims to support AI science, research and development (R&D), the AI ecosystem, Polish society and the Polish economy.<sup>23</sup> The author was unable to review one link reported as evaluated from Japan.<sup>24</sup>

Some of the initiatives listed on the website include start dates before AI was widely commercialized. Clearly, policy makers have revamped a wide range of existing government structures, policies and programs to address AI. For example, Italy cited a program that began in 1969.<sup>25</sup> Moreover, Belgium listed the Interuniversity Microelectronics

Centre, which, in 1984, began world-leading research in the field of nanoelectronics and nanotechnology. This research includes digital components, organic electronics or scaling-driven nanoelectronics and is applied in health care, smart electronics, sustainable energy and transport.<sup>26</sup> Belgium also listed an R&D program begun in 1986, which aims to produce research that can be commercialized.<sup>27</sup> Australia listed an initiative that began in 1991, providing financial support for collaborations between researchers and industry in specific fields.<sup>28</sup>

Table 2 delineates the number and diversity of initiatives reported on the OECD.AI site. The largest groups were strategies, followed by funded initiatives, new governance bodies, platforms and infrastructure, and principles/guidance.

Figure 1 illuminates the countries reporting the most activity, excluding initiatives that were blank or double counted. Most of these countries (and the European Union) are highly competitive in producing AI research and services (Colombia and Turkey are exceptions<sup>29</sup>) (Savage 2020).

Table 3 focuses on initiatives posted on the site where “trust,” “responsible,” “inclusive” and/or “ethical” were part of a title and likely a key objective. Only five percent (or 41 initiatives) mentioned these descriptors despite their emphasis in the OECD AI Principles.<sup>30</sup> Most of the initiatives listed are domestic, but Egypt listed its participation in UNESCO’s efforts to develop an agreement on ethical AI. This listing does not cover all such initiatives because they do not use ethical/trustworthy terminology. For example, the United States put forward guidance on products or services with surveillance capabilities (an initiative designed to encourage responsible behaviour<sup>31</sup>), and Australia listed a human rights discussion paper

19 See [www.industry.gov.au/data-and-publications/australias-tech-future/government-initiatives](http://www.industry.gov.au/data-and-publications/australias-tech-future/government-initiatives).

20 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-24378>.

21 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-24268>.

22 Ibid.

23 Among its goals, this initiative aims:

- to foster a culture of cooperation between the public and private sectors in the area of innovation;
- to promote the development of citizens’ creativity by strengthening the labour market;
- to support and promote AI solutions created by Polish companies;
- to create an effective and agile central mechanism for coordinating public initiatives in AI and technology;
- to enhance cooperation between academic centres and business entities; and
- to develop digital competencies and skills (ibid.).

24 See note 12.

25 The initiative with the earliest origin date was Italy’s Cineca Supercomputing Centre (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-26826>). Although the research consortium began in 1969, the supercomputing centre likely did not.

26 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-15194>.

27 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-25360>.

28 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-3720>.

29 See <https://aiindex.stanford.edu/vibrancy/>; <https://macropolo.org/digital-projects/the-global-ai-talent-tracker/>.

30 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-24955>.

31 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policyInitiatives-26986>.

**Table 2: Initiatives by Type, Number and Evaluations as of August 25, 2022**

Initiative Type	Number of Initiatives	Described as Evaluated with No Link	Described as Evaluated with Link
Blank initiatives	30	0	0
Double counted initiatives	4	0	0
Regulations and legislation	56	2	2
Reports	31	0	0
Dialogues	1	0	0
Strategies	174	6	7
Funded initiatives	134	13	6
Principles/guidance	73	1	3
Platforms and infrastructure	79	2	1
Regulatory sandboxes	11	0	0
Advisory bodies	31	0	0
New government bodies	82	0	2
Standards	7	0	0
Miscellaneous	100	3	0
Irrelevant*	1	0	0
<b>Totals:</b>	<b>814</b>	<b>27</b>	<b>21</b>

Source: Data tabulated from <https://oecd.ai/en/>. Table by Emily Tyler.

Notes: \*Irrelevant initiatives were those that had nothing to do with AI and did not fit within any existing category. The author could not figure out how Simplex was related to AI. Simplex is a program that attempts to facilitate administrative procedures through increased use of information and communications technology, but the author saw no mention of AI. See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-25703> and the Portuguese site ([www.simplex.gov.pt/](http://www.simplex.gov.pt/)).

key to ethical practice.<sup>32</sup> In contrast, the OECD considers all initiatives reported by countries under the theme “value-based principles for trustworthy AI.”<sup>33</sup> The OECD reported 170 such initiatives, which include regulations that could build trust, such as Canada’s Directive on Automated Decision-Making.

Next, the author turned to initiatives focusing on international cooperation. Many AI systems are sold globally, and not all nations have initiatives to ensure that AI and the data underpinning AI are trustworthy. However, the author found

significantly fewer initiatives than anticipated. For example, only two nations (Argentina and Egypt) listed their participation in UNESCO efforts to create an agreement on ethical AI.<sup>34</sup> The author also found efforts to build shared standards on AI, such as the Quad Principles on Technology Design, Development, Governance, and Use

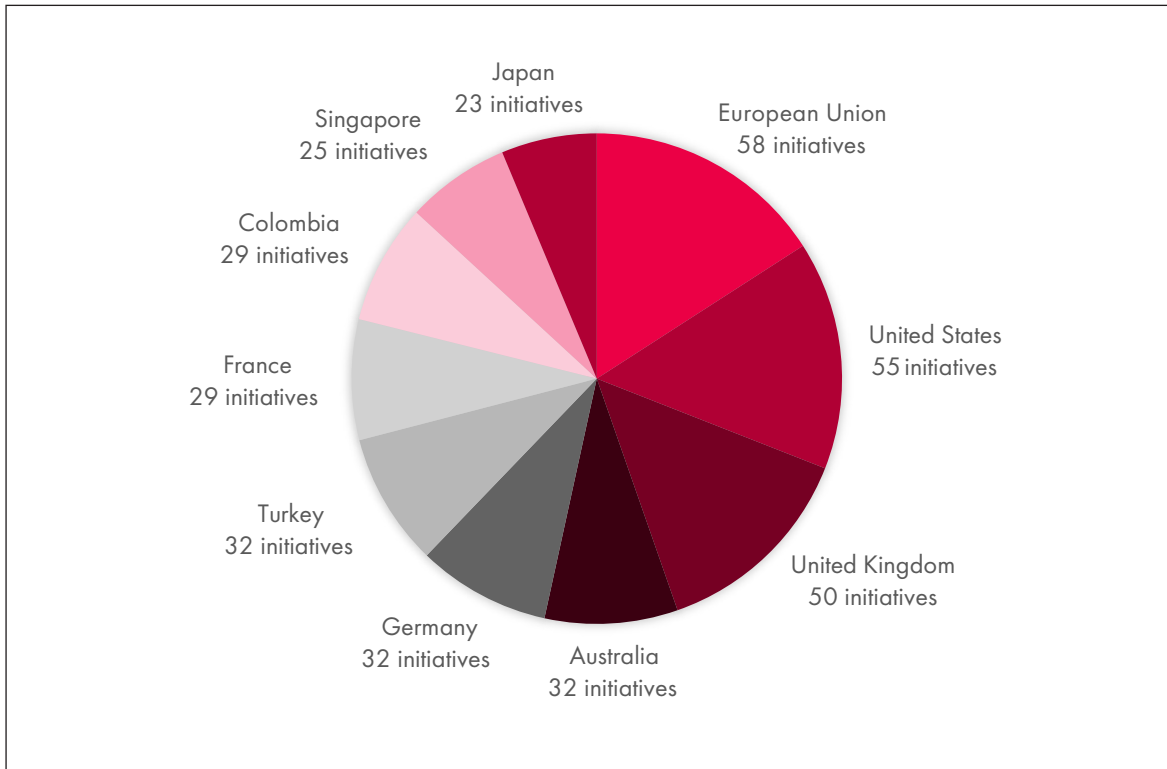
<sup>32</sup> See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26833>.

<sup>33</sup> See <https://oecd.ai/en/ai-principles>.

<sup>34</sup> For example, see Argentina (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26894>) and Egypt (<https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-26897>). See Ad Hoc Expert Group for the preparation of a draft text of a recommendation on the ethics of artificial intelligence, *Outcome Document: First Draft of the Recommendation on the Ethics of Artificial Intelligence*, UNESCO, 2020, UN Doc SHS/BIO/AHEG-AI/2020/4 Rev. 2, online: <<https://unesdoc.unesco.org/ark:/48223/pf0000373434>>.



Figure 1: Countries Reporting the Most Initiatives to the OECD



Source: <https://oecd.ai/en/>. Figure by Emily Tyler.

(Australia, India, Japan and the United States);<sup>35</sup> Canada's involvement in the Global Partnership on Artificial Intelligence; the Declaration of U.S.-UK Co-operation in AI R&D;<sup>36</sup> and the Declaration on AI in the Nordic-Baltic Region listed by Denmark.<sup>37</sup> Germany listed cooperative AI research with France and its EU-wide cloud platform GAIA-X.<sup>38</sup> Many other countries participate in these activities, but they did not report on them to OECD.AI.

The author found it surprising that only Chile, New Zealand and Singapore listed their involvement in trade agreements with language governing AI, and one other nation (the United States) listed

export controls on geospatial technologies.<sup>39</sup> Trade agreements are an essential element of data governance, and recent agreements include provisions that can facilitate international cooperation, trust in AI and data sharing or bolster trustworthy AI. For example, the UK-Singapore Digital Economy Agreement has language encouraging cooperation on standards, and it also discusses cooperation on data mobility and data trusts.<sup>40</sup> Recent US digital trade agreements include language encouraging access to public data and making such data

35 See The White House (2021).

36 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policy%2Finitiatives-26717>.

37 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policy%2Finitiatives-24254>.

38 On research, see <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policy%2Finitiatives-26502>; on GAIA-X, see <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policy%2Finitiatives-26762>.

39 The Export Administration Regulations impose a licence requirement for the export and re-export of those items to all destinations, except Canada. See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faiipo.oecd.org%2F2021-data-policy%2Finitiatives-27241>.

40 See [www.gov.uk/government/publications/uk-singapore-digital-economy-agreement-explainer/uk-singapore-digital-economy-agreement-final-agreement-explainer](http://www.gov.uk/government/publications/uk-singapore-digital-economy-agreement-explainer/uk-singapore-digital-economy-agreement-final-agreement-explainer).

**Table 3: Initiatives Using “Trust,” “Responsible,” “Inclusive” or “Ethical” in Their Title as of August 25, 2022**

Country	Included “Trust”/ “Trustworthy” in Initiative Title	Included “Responsible” in Initiative Title	Included “Ethical”/“Ethics” in Initiative Title	Included “Inclusive” in Title
Australia		Australian Code for the Responsible Conduct of Research*		
Belgium			Framework on Ethical Guidelines	
China	Trustworthy Facial Recognition Applications and Protections Plan	Governance Principles for New Generation AI — Developing Responsible AI	Ethical Norms for New Generation AI	
	Whitepaper on Trustworthy AI		Guiding Opinions on Strengthening Ethical Governance of Science and Technology	
Colombia	Guidelines for the Implementation of Data Trust and Data Commons Models		Dashboard for the Implementation of AI Ethical Principles	Standards for the Implementation of Inclusive AI Systems (in progress)
			Ethical Framework for Artificial Intelligence in Colombia	
Denmark			Danish Data Ethics Council	
Egypt			Participation in UNESCO Initiatives for Ethical Standards	
European Union	Policy and Investment Recommendations for Trustworthy Artificial Intelligence		Ethics Guidelines on Artificial Intelligence	
			European Group on Ethics in Science and New Technologies	
			Framework of Ethical Aspects of Artificial Intelligence, Robots and Related Technologies	

**Table 3: Initiatives Using “Trust,” “Responsible,” “Inclusive” or “Ethical” in Their Title as of August 25, 2022 (continued)**

Country	Included “Trust”/ “Trustworthy” in Initiative Title	Included “Responsible” in Initiative Title	Included “Ethical”/“Ethics” in Initiative Title	Included “Inclusive” in Title
France			National Consultative Committee on Digital Ethics and AI	
Germany			Data Ethics Commission	
			Ethical Guidelines for Self-Driving Cars	
Hungary			AI Ethical Guidelines	
India		Approach Document for India: Part 1 — Principles for Responsible AI	National Ethical Guidelines for Biomedical and Health Research Involving Human Participants	
		Approach Document for India: Part 2 — Operationalizing Principles for Responsible AI		
		National Programme for Government Schools: Responsible AI for Youth		
Korea	Implementation Strategy for Trustworthy AI		Human-Centered National Guidelines for AI Ethics	
			Ethics Guidelines for Intelligent Information Society	
Lithuania			Lithuanian Bioethics Committee*	

**Table 3: Initiatives Using “Trust,” “Responsible,” “Inclusive” or “Ethical” in Their Title as of August 25, 2022 (continued)**

Country	Included “Trust”/ “Trustworthy” in Initiative Title	Included “Responsible” in Initiative Title	Included “Ethical”/“Ethics” in Initiative Title	Included “Inclusive” in Title
Malta	Towards Trustworthy AI: Malta’s Ethical AI Framework 2019**		Towards Trustworthy AI: Malta’s Ethical AI Framework 2019**	
Singapore			Advisory Council on the Ethical Use of AI and Data	
			AI Ethics and Governance Body of Knowledge	
South Africa			Consensus Study on the Ethical, Legal, and Social Implications of Genetics and Genomics in South Africa	
Thailand			National Ethics Committee of Science and Technology	
Turkey	Trustworthy AI Trust Stamp			
United Arab Emirates			AI Principles and Ethics for the Emirate of Dubai	
United Kingdom	Report on Addressing Trust in Public Sector Data Use		Data Ethics and AI Guidance Landscape	
			Centre for Data Ethics and Innovation	
United States	Executive Order on Promoting the Use of Trustworthy AI in Federal Government			
United States	Executive Order on Promoting the Use of Trustworthy AI in Federal Government			

Source: Table by Emily Tyler.

Notes: \*These initiatives are no longer on the OECD.AI website. \*\*This initiative contains two keywords in its title, so it appears in two categories; its double is denoted by an asterisk.

easily downloadable for analysis.<sup>41</sup> However, only Chile posted its involvement in the Digital Economy Partnership Agreement.<sup>42</sup> Perhaps this is understandable because these agreements contain provisions that can build cooperation and trust in AI as well as provisions that may undermine trust in AI, such as those that bolster protection of algorithms and source code (Irion 2021; Dorobantu, Ostmann and Hitrova 2021).

Only two nations discussed their involvement in data governance or AI capacity building in the developing world. Australia developed a program to build Vietnamese capability in areas such as strategic foresight, scenario planning, commercialization and innovation policy.<sup>43</sup> Germany listed its efforts to link AI expertise, governance and understanding in the developing world (its FAIR Forward — AI for All program<sup>44</sup>). Germany is working with six partner countries (Ghana, India, Kenya, Rwanda, South Africa and Uganda) to share open, non-discriminatory and inclusive training data, models and open-source AI applications, and digital learning and training for the development and use of AI. Germany also advocates for value-based AI that is rooted in human rights and international norms, such as accountability, transparency of decision making and privacy, and draws on European laws or proposals on AI and data governance regulation.<sup>45</sup>

While some countries listed their data protection law and bodies, several countries provided extensive detail on the relationship between data governance and AI. The United Kingdom is among the most active, with initiatives on:

→ data governance and AI guidance,<sup>46</sup>

- creation of a centre advising the government on data ethics;<sup>47</sup>
- a landscape analysis of data ethics guidance;<sup>48</sup>
- a meetup on natural language processing and data;<sup>49</sup>
- information on data trusts;<sup>50</sup>
- guidance on AI and data protection;<sup>51</sup>
- Project Explain<sup>52</sup> (explaining how algorithms work);
- a report on addressing trust in public sector data reuse;<sup>53</sup> and
- the National Data Strategy.<sup>54</sup>

The OECD's network of experts had a slightly different impression of the initiatives described on the site. They, too, noted the diversity of programs and approaches, reflecting different phases of AI development and implementation (OECD 2021a, 10). The network of experts also reported that complementary initiatives, such as data-sharing strategies, investments in high-performance computing and cloud computing infrastructure, were growing priorities (OECD 2021, 11–13). This project found quite a few complementary initiatives but cannot address whether these initiatives are proliferating, because the author's research focused only on data on the site from April to August 2022. The researcher also could not fully corroborate the network's assertion that governments were holding dialogues to encourage and build understanding of trustworthy AI (OECD 2021a, 10). The Digital Trade and Data Governance

41 See *Agreement between the United States of America, the United Mexican States, and Canada*, 30 September 2018, c 19 (entered into force 1 July 2020), online: <<https://ustr.gov/sites/default/files/files/agreements/FTA/USMCA/Text/19-Digital-Trade.pdf>>. Article 19.18(2) states, “to the extent that a Party chooses to make government information, including data, available to the public, it shall endeavor to ensure that the information is in a machine-readable and open format and can be searched, retrieved, used, reused, and redistributed.”

42 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26800>.

43 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26842>.

44 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26742>.

45 See [www.bmz-digital.global/en/overview-of-initiatives/fair-forward/](http://www.bmz-digital.global/en/overview-of-initiatives/fair-forward/).

46 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26960>.

47 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-24196>.

48 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26960>.

49 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26974>.

50 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-24318>.

51 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26821>.

52 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-27026>.

53 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-26713>.

54 See <https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Fai.oecd.org%2F2021-data-policyInitiatives-27018>.

**Table 4: Evaluated Initiatives as of August 25, 2022**

	Number of Initiatives	Percentage of 780 Recorded Initiatives
Total number of initiatives labelled “evaluated”	48	6.15%
Number of initiatives without evaluation links on OECD.AI website	27	3.46%
Number of initiatives with evaluation links	21	2.69%
Number of initiatives whose links led to actual evaluations	4	0.51%
Number of initiatives whose links led to evaluations in progress	3	0.38%
Number of initiatives whose links led to websites without evaluations	2	0.26%
Number of initiatives whose links led to error pages	3	0.38%
Number of initiatives whose links led to documents that could not be translated	1	0.13%
Initiatives labelled as “evaluations” that were reports	8	1.03%

Source: <https://oecd.ai/en/>. Table by Emily Tyler.

Hub recently did an analysis of public participation in AI strategies and found very little public participation in the development of such strategies. Governments issued calls for public comments but did not make much effort to ensure that a diversity of individuals responded and had sufficient understanding to provide feedback on such public policies.<sup>55</sup> The author argues that informing, engaging and collaborating with the public can build and sustain trust in AI and AI governance.

Next, the author examined whether and how nations evaluated their initiatives.

Eleven countries (Canada, Czech Republic, Denmark, Germany, India, Japan, Lithuania, Norway, Poland, Sweden and Turkey) and the European Union presented evaluation

links. Of these 11, three countries (Canada, Denmark and Norway) put forward completed evaluations with a clear methodology. One of the links led to a document that the author could not translate and hence review.<sup>56</sup>

Canada provided two evaluations: one on the Pan-Canadian AI Strategy and one on Genome Canada. In 2017, the Canadian Institute for Advanced Research (CIFAR) received \$125 million in federal funding to support the Pan-Canadian AI Strategy. The strategy aimed to further AI research and training, increase productivity in AI academic research and enhance capacity to generate world-class research and innovation, increase collaboration across institutes and strengthen relationships with receptors of innovation across sectors. Other strategic goals included attracting and retaining AI talent in Canadian universities and industry; developing AI research capabilities through a palette of training opportunities; and translating AI research discoveries into applications

<sup>55</sup> The Digital Trade and Data Governance Hub assessed public participation in data governance, including AI governance, for two years and found that in its sample of 68 countries and the European Union, most countries seek public comment on proposed laws and regulations related to data, but the dialogue is generally confined to elites in academia, business, government and civil society. For example, see the Hub’s work on AI strategies (Zable and Aaronson 2022).

<sup>56</sup> See note 12.

for the public and private sectors, leading to socioeconomic benefits (Accenture and CIFAR 2020, 5–6). In 2020, CIFAR worked with Accenture to use qualitative and quantitative methods to assess the impact of Canada’s strategy. Accenture mapped the key objectives that CIFAR set out to achieve and conducted a quantitative and qualitative analysis. The evaluators used discovery sessions to identify key questions, which were shared in an appendix (ibid., 30). The evaluators concluded that “thanks to the Strategy, AI centres across Canada have evolved into a coordinated and flourishing ecosystem. The ecosystem serves to translate AI research discoveries into applications for use in both the public and private sectors” (ibid., 3). But “there is still much work to be done. While other countries increasingly invest in both research and commercialization, Canada must continue to build on its strengths” (ibid., 5).

Industry Canada’s Audit and Evaluation Branch (AEB) evaluated Genome Canada in 2015 (Industry Canada 2015). “Genome Canada is a not-for-profit organization, created and incorporated in 2000 under the *Canada Corporations Act* with a mandate to develop and implement a national strategy in genomics research for the benefit of all Canadians” (ibid., i). Industry Canada evaluated the program, building on a 2014 evaluation by Science Metric, which reviewed Genome Canada’s activities from 2009 to 2014. The evaluators used document, file and literature reviews; interviews with key stakeholders; a survey of the Canadian genomics research community; a bibliometric review; an international comparative review; and case studies of eight projects. In addition, Industry Canada performed a further document review, literature review, and interviews with Industry Canada and Genome Canada representatives (ibid.). The evaluation found “evidence suggests that Genome Canada is achieving its expected results. The organization has been successful in increasing the breadth and depth of knowledge in genomics, as well as knowledge specifically related to the ethical, environmental, economic, legal and social issues of genomics (GE<sup>3</sup>LS)” (ibid., ii). The report suggested specific areas for improvement include “the need for more coordinated communication efforts across the Genome Centres and between Genome Canada and Centres, as well as ongoing improvements in performance measurement” (ibid.).

Denmark submitted an evaluation of its Innovation Fund Denmark (IFD), which was done by an

international peer-review panel in March 2019 under the aegis of the European Commission. It aimed to “examine the Danish knowledge-based innovation system as a whole...[drawing] upon the conclusions of the parallel evaluation of the Innovation Fund Denmark and the review of the universities’ technology transfer activities — both of which are initiatives reflecting the government’s research and innovation strategy.”<sup>57</sup> The evaluators relied on data collected by the ministry, a self-assessment by the IFD and written contributions from stakeholders (Ministry of Higher Education and Science Denmark 2019, 13). The evaluators found that the IFD had successfully created a well-functioning addition to Denmark’s innovation system that is fast, simple and unbureaucratic (ibid., 29–30). However, the evaluators also recommended that the IFD should revise its strategy, operations and communications to increase accountability, do more internationally and benchmark its efforts to other nations (ibid., 36–40, 50–52).

Norway provided an evaluation of the Norwegian Data Protection Authority (Datatilsynet) that was conducted by Difi (2021), the Norwegian Agency for Public Management and eGovernment, in October 2011. The Norwegian Data Protection Act of 2000 designated this body to protect the privacy of Norwegian citizens under the aegis of the Personal Data Act of 2000. The evaluators examined whether the agency had the staff and expertise to fulfill its roles and tasks. They also studied relevant bills, laws and regulations in addition to conducting informant interviews with the director, other management figures and select employees of the Danish Data Protection Agency. They found the agency was, at times, overwhelmed and lagged in meeting its responsibilities.

Table 5 contains the author’s assessment of the evaluations, whereas the Appendix contains more detail on each evaluation.

The author also found three evaluations in progress. Turkey put forward an evaluation of its Safe Schooling and Distance Education Project conducted by the World Bank, which utilized project development indicators and intermediate results indicators to measure the project’s progress.

57 See <https://ec.europa.eu/research-and-innovation/sites/default/files/rio/report/PR%2520Denmark%2520Factsheet%2520.pdf>; <https://ufm.dk/en/newsroom/news/2018/open-call-for-written-contributions-to-the-evaluation-of-the-innovation-fund-denmark>.

**Table 5: Assessments of the Evaluations**

Evaluation Name	Was It Useful?	Was It Credible?	Was It Independent?
<i>Pan-Canadian AI Strategy Impact Assessment Report</i>	Yes	Yes, but authors could have elaborated more about their methodology, which combined qualitative and quantitative analysis, interviews and discovery sessions.	Not clear, as CIFAR worked very closely on the evaluation with Accenture.
<i>Evaluation of Industry Canada's Contribution to Genome Canada</i>	Yes	Generally credible, but unclear if evaluation was rigorous enough because it mainly focused on Science-Metrix's contribution.	Unclear how independent.
<i>Innovation Fund Denmark — Report of the International Evaluation Panel 2019</i>	Yes	Generally credible, but includes self-assessment, data provided by the IFD.	Yes, as done by the European Union.
<i>Evaluation of the Norwegian Data Protection Authority</i>	Yes	Yes	This was more an evaluation of whether the body established by the law met the parameters of the law. It is unclear how independent it was.

It has not yet been assessed by an independent evaluation, and there is no information about how the above indicators were chosen and measured.<sup>58</sup>

The Czech Republic listed an evaluation of its Digital Education Strategy, which aims to implement digital education. The evaluation defined digital education as education that uses digital technologies to support teaching and learning, develop students' digital literacy and prepare them for employment and the labour market (Ministry of Education, Youth and Sports 2021, 2, 4). The document had no description of evaluation methodology, and the government admitted in the document that several aspects of the program were not evaluated. Nonetheless, the authors concluded that the program significantly contributed to the development of digital education in the Czech Republic, even though

all measures and activities were not always implemented smoothly and consistently.<sup>59</sup>

Lastly, Japan listed an interim evaluation of its High-Performance Computing Infrastructure project. The evaluation was based on a previous interim evaluation done in 2015. The document contained no description of the methodology used. The only information mentioned was: "As shown below, it can be evaluated that steady progress has been made overall toward the achievement targets shown in the perspective of the mid-term evaluation" (Council for Science and Technology Research Planning and Evaluation Subcommittee 2021, 8). Although the document lists criteria to guide the evaluation (*ibid.*, 12), the author's review found the document is closer to a progress report.

The Czech Republic, the European Union, Germany, India, Japan, Lithuania and Poland also stated that they provided links to evaluations. The Czech

<sup>58</sup> See <https://projects.worldbank.org/en/projects-operations/project-detail/P173997>.

<sup>59</sup> *Ibid.*, 30.



Republic provided a formal evaluation, but the author could not count it as it did not delineate clear methodologies, so it was counted as a report.<sup>60</sup> The author briefly discusses these reports because they can also provide insights into best practice.

The Czech Republic's report on the Digital Czech Republic describes the state of the digital single market in the European Union, and the country's goals and visions for a digital Europe. The document briefly mentions the Czech Republic's adherence to some of the goals, but that adherence was not evaluated.

The European Union's report on its General Data Protection Regulation (GDPR) describes the rationale and status of the GDPR and acknowledges its limitations. The report does not contain a thorough and independent evaluation of the GDPR's impact (Kritikos 2020).

Germany's report on its Artificial Intelligence Strategy includes a two-page "progress to date" section that summarizes various measures that have been established to foster AI since the strategy's implementation and several indicators that were created to monitor the German, European and international AI landscape (The Federal Government of Germany 2020, 4–6).

Japan's report on its AI Strategy includes a background on this strategy and future standards. The report identifies strategic goals and notes that Japan has met some of them, but it provides little insight into how Japanese officials came to that conclusion (Integrated Innovation Strategy Promotion Council 2020, 6–9).<sup>61</sup>

India provided two reports. The Biological Data Storage, Access and Sharing Policy defined "guidelines for sharing of data generated by

scientists in India using modern biotechnological tools and methods" (Government of India 2019, 3). The National Guidelines for Gene Therapy, Product Development and Clinical Trials initiative is a guide to the regulatory requirements for R&D of gene therapy products in India, as well as to establish guidelines for safe, humanitarian research (Indian Council of Medical Research 2019, 7).

Lithuania's report on Fostering AI and the Creation of Lithuanian Language Technological Resources for AI (Neliupšytė and Šerkšnas, n.d.)<sup>62</sup> was described as an evaluation, but it did not clearly delineate the methodology for the evaluation or who ordered it. The document assessed the initiative's compliance with general requirements of the DNA Plan and its estimated financial and economic sustainability. Although two individuals signed the document, it did not state their titles and affiliations, which meant the author could not assess the independence of the analysis.<sup>63</sup>

Poland provided a link to its Policy for the Development of Artificial Intelligence in Poland from 2020 (OECD 2020, 4–5). The document contained some information about Poland's AI achievements and a strategy, but it is not a report, an assessment or an evaluation (ibid., 11–12). India provided a link to its National Strategy on Artificial Intelligence but did not provide a report, evaluation or assessment.<sup>64</sup> The country also linked to its DNA Technology (Use and Application) Regulation Bill.<sup>65</sup>

Some of the evaluation links on the OECD.AI website did not work. Norway's Horizon 2020,<sup>66</sup> Sweden's Government Offices for Digitization,<sup>67</sup> and India's National Ethical Guidelines for Biomedical and Health Research Involving Human Participants all led to error pages.<sup>68</sup>

60 The reports include the Czech Republic's Digital Czech Republic (Dzurilla 2020); the European Union's General Data Protection Regulation (European Parliament 2020); Germany's Artificial Intelligence Strategy ([www.ki-strategie-deutschland.de/home.html](http://www.ki-strategie-deutschland.de/home.html)); Japan's AI Strategy ([www8.cao.go.jp/cstp/ai/aistrategy2021\\_honbun.pdf](http://www8.cao.go.jp/cstp/ai/aistrategy2021_honbun.pdf)); India's Biological Data Storage, Access and Sharing Policy of India (Government of India 2019) and National Guidelines for Gene Therapy, Product Development and Clinical Trials (Indian Council of Medical Research 2019); Poland's Policy for the Development of Artificial Intelligence in Poland from 2020 (OECD 2020); and Lithuania's Fostering AI and the Creation of Lithuanian Language Technological Resources for AI ([https://finmin.lrv.lt/uploads/finmin/documents/files/LT\\_ver/DNR%20plano%20dokumentai/ISVADOS/40\\_%20išvada%20Sąsaja%20Žmogus-Mašina\\_final\(1\).docx?\\_\\_cf\\_chl\\_tk=txjnxGazCeh.jHsWx7Ykcut6ZQIX9TG1cWhQil0Yyjc-1676574645-0-gaNycGzNCrs](https://finmin.lrv.lt/uploads/finmin/documents/files/LT_ver/DNR%20plano%20dokumentai/ISVADOS/40_%20išvada%20Sąsaja%20Žmogus-Mašina_final(1).docx?__cf_chl_tk=txjnxGazCeh.jHsWx7Ykcut6ZQIX9TG1cWhQil0Yyjc-1676574645-0-gaNycGzNCrs)).

61 See also [www8.cao.go.jp/cstp/ai/aistrategy2021\\_gaiyo.pdf](http://www8.cao.go.jp/cstp/ai/aistrategy2021_gaiyo.pdf).

62 The authors signed the assessment.

63 The only information about the creation of the report was the digital signatures on page 7 of the experts that conducted the evaluation.

64 The link for the National Strategy on Artificial Intelligence is [www.niti.gov.in](http://www.niti.gov.in). The author found the strategy at <https://indiaai.gov.in/research-reports/national-strategy-for-artificial-intelligence> but no evidence of an evaluation.

65 See <https://dbtindia.gov.in/regulations-guidelines/regulations/dna-profiling-bill>.

66 See [www.forskingsradet.no/indikatorrapporten/indikatorrapporten-dokument/virkemidler-og-resultater/norsk-deltakelse-i-eus-forskningsprogrammer/](http://www.forskingsradet.no/indikatorrapporten/indikatorrapporten-dokument/virkemidler-og-resultater/norsk-deltakelse-i-eus-forskningsprogrammer/).

67 See <https://oecd.ai/en/riksdagen.se>.

68 See [www.icmr.gov.in/sites/default/files/guidelines/ICMR\\_Ethical\\_Guidelines\\_2017.pdf](http://www.icmr.gov.in/sites/default/files/guidelines/ICMR_Ethical_Guidelines_2017.pdf).

Two evaluation links led to Government of India websites without an evaluation, for its National Strategy for Artificial Intelligence<sup>69</sup> and DNA Technology (Use and Application) Regulation Bill.<sup>70</sup> The author was unable to get copies of these evaluations. In contrast, Norway's evaluation link did not include the evaluation, but after emailing the source, the author received a copy.<sup>71</sup>

The author also sought to determine if the website contained evidence that these evaluations were discussed and served as tools to better understand how to build trust in AI and in programs to establish trustworthy AI. However, the author could not find such evidence. As noted earlier, this does not mean that such discussions did not happen.

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## Conclusion

The OECD.AI website is the world's best source for information on public policies dedicated to AI, trustworthy AI and international efforts to advance cooperation in AI. However, the author's review of the information contained on the site reveals that governments have yet to effectively evaluate their efforts.

The 62 nations that reported to the OECD as of August 2022 generally reported initiatives designed to build domestic AI capacity and a supportive governance context for AI. This is understandable, as policy makers must show their constituents that they will deliver programs designed to meet their needs. Yet governments were not effectively learning from their programs, as the author found few of these initiatives were evaluated or reported on.

In reviewing an early iteration of this paper, the OECD noted that most of the national AI initiatives were launched in 2019 and 2020, and it may be too early to effectively evaluate them. OECD staff also stressed that they encourage countries to evaluate their own initiatives. Finally, OECD commentators stated that they recommend that

these governments think about which data they should gather to evaluate these programs in the future. But some of the programs funded by governments started decades ago (for example, Italy reported on an initiative established in 1969, and Belgium reported on one created in 1984). These governments have had years to develop a methodology to assess long-standing problems that is useful, credible and independent. Why have they not made such evaluations a priority?

The research uncovered gaps between what governments said they were doing on the OECD website and what was reported on national websites. In some cases, the author did not find evidence of governmental action (for example, public consultations). In other cases, the links provided by governments to the OECD did not work. In addition, the author was surprised to find that only a small percentage of initiatives listed by governments included the keywords "trustworthy/trust," "responsible," "inclusive" or "ethical" in their titles, which may indicate that few initiatives pertained directly to building trust in AI or building trustworthy AI globally. The author notes that this research strategy does not reveal all such initiatives designed to promote trustworthy AI, such as Canada's Directive on Automated Decision-Making. The author's research also found relatively few efforts to build international cooperation on AI, or to help other nations build capacity in AI.

The OECD is a venue where policy makers from around the world can learn from the experiences of other policy makers. Given the global nature of AI, the OECD Secretariat could encourage participating countries to do more to build AI understanding and capacity in the developing world. Moreover, the OECD could encourage more reporting on what member states are doing, not just regarding principles and guidelines, but on capacity building for data governance, on data sharing among different sectors of society, and on using data to solve "wicked problems" and foster development.

In addition, the OECD could encourage peer review of major programs such as AI strategies or trustworthy AI initiatives. The OECD uses peer reviews to analyze development assistance programs and could adopt a similar tactic regarding AI initiatives.<sup>72</sup> Alternatively, member states could agree to adopt a strategy required under US law. The

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69 See <https://niti.gov.in/national-strategy-artificial-intelligence>.

70 See [www.dbtindia.gov.in/regulations-guidelines/regulations/dna-profiling-bill](http://www.dbtindia.gov.in/regulations-guidelines/regulations/dna-profiling-bill).

71 See [www.difi.no/rapport/2011/10/evaluering-av-datatilsynet](http://www.difi.no/rapport/2011/10/evaluering-av-datatilsynet).

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72 See [www.oecd.org/dac/peer-reviews/whatisapeerreview.htm](http://www.oecd.org/dac/peer-reviews/whatisapeerreview.htm).

Foundations for Evidence-Based Policymaking Act of 2018 (“Evidence Act”)<sup>73</sup> emphasizes collaboration and coordination to advance data and evidence-building functions in the US government. The act requires that federal agencies appoint evaluation, statistical and chief data officers, and develop an evidence-building plan (more commonly known as a learning agenda) every four years, as well as an annual evaluation plan. These officers must engage with and be responsive to stakeholders.<sup>74</sup> The OECD could encourage the nations reporting these policies to set up similar learning and annual evaluation plans, an important complement to the network of experts’ work on best practices.

The author was heartened to see that the OECD AI community created a new OECD Working Party on Artificial Intelligence Governance: “It will oversee and give direction to the activities of the programme on AI policy and governance. This includes analysis of the design, implementation, monitoring and evaluation of national AI policies and action plans; AI impact assessment; approaches for trustworthy and accountable AI; supervising measurement and data efforts as part of the OECD.AI Observatory’s pillar on trends & data; and conducting foresight work on AI and on related emerging technologies.”<sup>75</sup> This group is supposed to serve as a “forum for exchanging experience and documenting approaches for advancing trustworthy AI that benefits people and planet; [and to] develop tools, methods and guidance to advance the responsible stewardship of trustworthy AI, including the OECD.AI Policy Observatory and Globalpolicy.AI platforms.”<sup>76</sup> The author hopes this paper may contribute to such discussions and evaluations.

In actuality, no one knows how to build trust in AI or whether efforts to promote trustworthy AI will be effective. Ultimately, this responsibility falls on the developers and deployers of AI and the policy makers who govern AI. But we need to have more understanding if we want

to sustain trust in AI (Evgeniou and Primmer 2022). Nations that conduct evaluations of AI efforts are likely to build trust in both AI and AI governance. These nations are signalling that policy makers are competent, accountable and care about their fellow citizens (Eggers et al. 2021).

## Author’s Note

The data analyzing the initiatives on the OECD website will be placed in an open and accessible appendix at the Digital Trade and Data Governance Hub (<https://datagovhub.elliott.gwu.edu>).

## Acknowledgement

Emily Tyler helped with the background research and created the tables for this analysis. This paper would not have been possible without her assistance. The OECD and CIGI provided valuable feedback on this paper.

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73 See Foundations for Evidence-Based Policymaking Act of 2018, Pub L No 115–435, 132 Stat 5529 [Evidence Act], online: <[www.congress.gov/115/plaws/publ435/PLAW-115publ435.pdf](http://www.congress.gov/115/plaws/publ435/PLAW-115publ435.pdf)>.

74 See [www.justice.gov/open/roles-and-responsibilities-under-foundations-evidence-based-policymaking-act](http://www.justice.gov/open/roles-and-responsibilities-under-foundations-evidence-based-policymaking-act); Evidence Act, supra note 74, § 312, c (3), § 315. The Advisory Committee on Data for Evidence Building must include stakeholders and others.

75 See <https://oecdgroups.oecd.org/Bodies/ShowBodyView.aspx?BodyID=7755&Lang=en&Book=False>.

76 Ibid.

# Appendix

## A More In-Depth Look into the Completed Evaluations

Document title	<i>Pan-Canadian AI Strategy Impact Assessment Report</i>
Link to document	<a href="https://cifar.ca/wp-content/uploads/2020/11/Pan-Canadian-AI-Strategy-Impact-Assessment-Report.pdf">https://cifar.ca/wp-content/uploads/2020/11/Pan-Canadian-AI-Strategy-Impact-Assessment-Report.pdf</a>
Date of publication	October 2020
Who conducted the evaluation	<p>Conducted by Accenture and CIFAR</p> <ul style="list-style-type: none"> <li>→ CIFAR was appointed by the Canadian government to develop and lead the strategy in 2017.</li> <li>→ Accenture is an Irish-American professional services company that specializes in information technology and consulting.</li> </ul>
What is being assessed	<p>This document evaluates the impact of the strategy since its inception: “The evaluation is intended as an initial discovery exercise to understand the high-level impact of the Pan-Canadian AI Strategy Program” (Accenture and CIFAR 2020, 29).</p> <p>Six domains, as listed below, were identified as guides for this evaluation (ibid.). These domains were selected using the following resources as a guideline, from which the goals were chosen and adapted as needed to fit Canada’s strategy: Germany’s “Comparison of National Strategies to Promote Artificial Intelligence” (Groth, Nitzberg and Zehr 2019) and the United Kingdom’s “AI Sector Deal — One Year On” (Department for Business, Energy &amp; Industrial Strategy and Department for Digital, Culture, Media &amp; Sport 2019).</p> <ul style="list-style-type: none"> <li>→ <b>Talent:</b> Determine the impact on Canada’s ability to attract and retain AI talent, while ensuring adequate skill penetration.</li> <li>→ <b>R&amp;D:</b> Measure the scientific and academic impact of investment into AI research.</li> <li>→ <b>Education:</b> Score the ability to provide world-class education and develop global partnerships with leading institutions.</li> <li>→ <b>Commercialization and adoption:</b> Determine the impact on local and global inflow of private and public investment.</li> <li>→ <b>Responsible AI:</b> Illustrate the impact on the development of ethical, explainable and fair AI solutions while identifying regulatory AI requirements and legislation for compliance.</li> <li>→ <b>Social:</b> Measure the cultural, social and environmental impact of AI and the current public perception.</li> </ul>

Criteria/methodology	<ul style="list-style-type: none"> <li>→ Each domain was mapped to objectives that CIFAR set out to accomplish.</li> <li>→ Domain questions were created to further guide analysis.</li> <li>→ Qualitative and quantitative analysis was conducted to provide “top-down” evaluation of strategy.</li> <li>→ Discovery sessions drove analysis of more than 50 key performance indicators mapped to domains.</li> <li>→ Data was pulled from public sources in addition to available CIFAR data.</li> </ul>
Strengths	<ul style="list-style-type: none"> <li>→ The evaluation was very clear about what it attempted to measure through the definition of its domains and the use of domain questions.</li> <li>→ The evaluation was independent (outside of the Canadian government).</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>→ The evaluators could have elaborated more on the process of their qualitative and quantitative analysis. All they mentioned in their methodology is that “a quantitative and qualitative analysis was conducted to provide an initial ‘top-down’ evaluation of the strategy” (ibid.). <ul style="list-style-type: none"> <li>- Did this include surveys?</li> <li>- What was the process of their data collection?</li> <li>- Other questions.</li> </ul> </li> <li>→ The document could have elaborated on the discovery sessions: <ul style="list-style-type: none"> <li>- Who attended?</li> <li>- How many sessions were there?</li> <li>- How often did they occur?</li> </ul> </li> <li>→ The evaluation did not specify what key performance indicators were utilized, only that they were created and used to collect data.</li> </ul>

<b>Document title</b>	<i>Evaluation of Industry Canada’s Contribution to Genome Canada</i>
Link to document	<a href="http://www.ic.gc.ca/eic/site/ae-ve.nsf/eng/h_03768.html">www.ic.gc.ca/eic/site/ae-ve.nsf/eng/h_03768.html</a>
Date of publication	April 14, 2015
Who conducted the evaluation	Industry Canada’s AEB

<p>What is being assessed</p>	<p>This evaluation is “assessing Genome Canada’s performance based on the expected results outlined in Industry Canada’s funding agreement with Genome Canada” (Industry Canada 2015, i).</p> <p>Specific questions regarding relevance:</p> <ul style="list-style-type: none"> <li>→ Is there a continued need for large-scale genomics research as supported by Genome Canada?</li> <li>→ To what extent is the support for Genome Canada aligned with the priorities of the federal government and the strategic outcomes of Industry Canada?</li> <li>→ Does support for Genome Canada align with federal roles and responsibilities?</li> </ul> <p>Specific questions regarding performance:</p> <ul style="list-style-type: none"> <li>→ To what extent has Genome Canada contributed to increasing the breadth and depth of knowledge in genomics, including knowledge related to GE<sup>3</sup>LS?</li> <li>→ How effective was Genome Canada in developing a solid base of researchers who are trained to undertake future genomics research?</li> <li>→ To what extent has the provision of enabling technologies contributed to enhancing the quality of Canadian genomics research?</li> <li>→ To what extent has Genome Canada contributed to enhancing Canada’s international profile and visibility in genomics research?</li> <li>→ To what extent has Genome Canada contributed to translating genomics research discoveries into applications leading to socioeconomic benefits for Canadians?</li> <li>→ How efficiently and economically is the program being delivered?</li> </ul>
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Criteria/methodology	<p>This evaluation builds on a previous evaluation done by Science-Metrix in March 2014.</p> <p>The data collection and analysis conducted by Science-Metrix focused on core issues of performance and employed five methods:</p> <ul style="list-style-type: none"> <li>→ document, file and literature reviews;</li> <li>→ interviews with key stakeholders;</li> <li>→ a survey of the principal investigators (PIs), co-PIs, GE<sup>3</sup>LS PIs and leaders, highly qualified personnel and other stakeholders;</li> <li>→ a bibliometric review, an international comparative review and case studies of eight projects. (Ibid.)</li> </ul> <p>The current data collection and analysis by the AEB focused on core issues of relevance and used three methods:</p> <ul style="list-style-type: none"> <li>→ Document review: <ul style="list-style-type: none"> <li>- “The review included the Science-Metrix evaluation report, federal budgets and Speeches from the Throne, Treasury Board Submissions and other relevant policy documents, departmental Reports on Plans and Priorities, Departmental Performance Reports, as well as Genome Canada Strategic Plans and Annual Reports.” (Industry Canada 2015, 6)</li> </ul> </li> <li>→ Literature review: <ul style="list-style-type: none"> <li>- “The literature review examined the continued need to increase research and innovation capacity and the role of federal funding in supporting R&amp;D in Canada and other jurisdictions.” (Ibid.)</li> </ul> </li> <li>→ Interviews: <ul style="list-style-type: none"> <li>- “A total of six interviews were conducted, four with Genome Canada representatives, and two with Industry Canada representatives.” (Industry Canada 2015, 7)</li> <li>- The purpose was to obtain information that addressed evaluation questions and other information related to or that clarified the evaluation by Science-Metrix.</li> </ul> </li> </ul>
Strengths	<ul style="list-style-type: none"> <li>→ The evaluation is clear in its objectives and methodology.</li> </ul>

Weaknesses	<ul style="list-style-type: none"> <li>→ Since the valuation relied primarily on Science-Metrix’s evaluation for performance findings, this evaluation faces the same data limitations as Science-Metrix’s assessment. These are outlined in detail in Appendix D (ibid., 30).</li> <li>→ The document is very detailed about Science-Metrix’s collection methods but not for the current procedures taken by Industry Canada.</li> <li>→ No information was given about interviews beyond what they intended to find, how many there were and a general description of who they interviewed.</li> <li>→ The evaluation has limited information about the literature it reviewed (it may be similar or the same as Science-Metrix’s but did not specify).</li> <li>→ The document mentioned using the 2009 OECD report (ibid., 8) and science and technology policy-related documents (ibid., 12).</li> </ul>
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Document title	<i>Innovation Fund Denmark – Report of the International Evaluation Panel 2019</i>
Link to document	<a href="https://ufm.dk/publikationer/2019/innovation-fund-denmark-report-of-the-international-evaluation-panel-2019">https://ufm.dk/publikationer/2019/innovation-fund-denmark-report-of-the-international-evaluation-panel-2019</a>
Date of publication	March 2019
Who conducted the evaluation	<p>An International Evaluation Panel conducted the evaluation:</p> <ul style="list-style-type: none"> <li>→ five members from Austria, Finland, Ireland, Sweden and the United Kingdom; and</li> <li>→ the academic secretary from Denmark.</li> </ul>
What is being assessed	<p>The panel looked into the following:</p> <ul style="list-style-type: none"> <li>→ Whether IFD bases its allocation of grants on societal challenges and needs as well as needs of enterprises.</li> <li>→ Whether IFD meets the criteria in their stated purpose regarding the distribution of funding.</li> <li>→ Whether the instruments of IFD are coherent and coordinated with relevant funding instruments in the Danish research and innovation system (for example, the Danish Growth Fund).</li> <li>→ Whether IFD contributes to international collaboration, international co-publications or in other ways supports the internationalization of Danish research (Ministry of Higher Education and Science Denmark 2019, 13).</li> </ul>



Criteria/methodology	<p>Evidence of the evaluation comes in three forms:</p> <ul style="list-style-type: none"> <li>→ “Reports and data analysis made for the panel by the Ministry of Higher Education or IFD.” <ul style="list-style-type: none"> <li>- “Reports to support the evaluation include; a self-evaluation made by IFD (Report D), a register-based analysis made for the Ministry of Science and Higher Education (Report A) and two supplementary data reports, one made for the Ministry of Higher Education and Science (Report B), and another for IFD (Report C). The two supplementary reports were made after the panel asked for more data to supplement the already commissioned data in the register-base analysis (Report A).”</li> <li>- Other reports made available are listed in Appendix 2.</li> </ul> </li> <li>→ “Interviews with IFD users and stakeholders conducted by the panel”: <ul style="list-style-type: none"> <li>- All potential stakeholders and those invited to be interviewed were asked “what IFD does well and what could be improved.”</li> <li>- Interview partners are listed on pages 70–74.</li> </ul> </li> <li>→ “Written statements from users and stakeholders evaluating IFD”: <ul style="list-style-type: none"> <li>- Authors of 21 written statements are listed in Appendix 3 on pages 74–75.</li> </ul> </li> </ul>
Strengths	<ul style="list-style-type: none"> <li>→ The evaluation is clear about the members and purpose of the panel.</li> <li>→ It is also clear about the resources available to the panel and those that were requested.</li> <li>→ The authors provided substantial information about interview partners and the content of interviews.</li> <li>→ The evaluation was independent and transparent.</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>→ The analysis is out of date. The IFD has only been in operation since 2014, and the latest data available is from 2016. <ul style="list-style-type: none"> <li>- An impact evaluation could not be conducted in its entirety for individual programs.</li> </ul> </li> <li>→ Not all data that the panel requested from the IFD has been delivered. <ul style="list-style-type: none"> <li>- Requested documents are listed in a “wish list” in Appendix 4 on pages 76–79.</li> </ul> </li> <li>→ Certain discrepancies in success rate data affected evaluation.</li> </ul>

Document title	<i>Evaluation of the Norwegian Data Protection Authority</i>
Link to document	This document was not publicly available and had to be sent by the Norwegian Data Protection Authority.
Date of publication	2011
Who conducted the evaluation	The Ministry of Church Affairs asked Difi for assistance in carrying out this evaluation.

What is being assessed	<p>The purpose was “to assess whether the privacy authorities, and the Data Inspectorate as the main actor, have the necessary prerequisites to be able to fulfill their roles and tasks in accordance with the requirements of the Personal Data Act.”</p> <p>Four analysis elements drove the evaluation:</p> <ul style="list-style-type: none"><li>→ What are the Data Inspectorate’s tasks, resources and goals?</li><li>→ What results does the Data Inspectorate achieve?</li><li>→ How do internal and external factors affect the results?</li><li>→ What challenges and development needs will be particularly important for the Data Inspectorate’s activities in the future?</li></ul>
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<p>Criteria/methodology</p>	<p>Document studies:</p> <ul style="list-style-type: none"> <li>→ These documents were used to assess attitudes toward privacy issues among the population: <ul style="list-style-type: none"> <li>- “In consultation with the client, it was decided that Difi should not conduct a separate survey to map attitudes to privacy issues in the population, but instead draw on existing studies.”</li> </ul> </li> <li>→ A wide array of documentation was used: <ul style="list-style-type: none"> <li>- The authors noted that they used “various public documents; relevant bills, laws and regulations that regulate the Data Inspectorate’s and the Privacy Board’s activities, annual reports, allocation letters..., the Privacy Commission’s report... and internal documents such as business plans etc.</li> <li>- In addition, we have used previous reports from Difi / Statskonsult and relevant R&amp;D.</li> <li>- Surveys conducted by the Department of Transport Economics and Fafo, as well as studies conducted at universities and colleges.</li> <li>- The Office of the Auditor General has conducted a review of the Data Inspectorate’s supervisory activities, and this has also been used.”</li> </ul> </li> <li>→ Informant reviews: <ul style="list-style-type: none"> <li>- There were 44 in total.</li> <li>- Along with an interview request, a short description of the assignment and an indicative interview guide were sent.</li> <li>- It was up to companies to decide who and how many could be interviewed.</li> <li>- The timeframe for each interview was between 1.5 and two hours.</li> <li>- Most interviewees conferred with others (managers and/or colleagues) prior to the meeting.</li> <li>- If the company lined up more than one informant, the interview was conducted as a group discussion.</li> <li>- Each interview had a slightly different focus.</li> </ul> </li> </ul>
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<p>Criteria/methodology (continued)</p>	<ul style="list-style-type: none"> <li>→ Interviews were conducted internally in the Norwegian Data Protection Authority with: <ul style="list-style-type: none"> <li>- the director and other management figures in the Norwegian Data Protection Agency; and</li> <li>- a selection of employees in the Norwegian Data Protection Authority, including civil servant organizations. A list of these informants appears on page 66.</li> </ul> </li> <li>→ Interviews were also conducted with a limited number of “external informants” who have knowledge regarding the virtue of the Norwegian Data Protection Authority due to the business position they held. A list of these informants appears on pages 65–66. <ul style="list-style-type: none"> <li>- “Informants were selected in consultation with the client and the Norwegian Data Protection Authority.”</li> </ul> </li> <li>→ The interview was held with the data inspectorate in Sweden.</li> </ul>
<p>Strengths</p>	<ul style="list-style-type: none"> <li>→ Objectives of the evaluation are clear.</li> <li>→ The evaluation is very comprehensive about methodology. <ul style="list-style-type: none"> <li>- A thorough description is provided of the documents used and why they were used.</li> <li>- Highly detailed information is provided about the structure of interviews and the process of setting them up.</li> <li>- The contact list is especially helpful.</li> </ul> </li> </ul>
<p>Weaknesses</p>	<ul style="list-style-type: none"> <li>→ Evaluation does not seem to be completely independent from government agencies.</li> <li>→ Informants were selected with input from the Norwegian Data Protection Authority, and hence the informants may not represent a generalizable sample or may present bias.</li> </ul>

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