The OECD.AI Index

Technical paper

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Note to Delegations:

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Foreword

This technical paper introduces the OECD.AI Index, a composite measurement framework designed to assess countries' implementation of the OECD Recommendation on Artificial Intelligence. The Index is structured around the five policy areas under the *National policies and international co-operation for trustworthy AI* and provides a comparable overview of national AI ecosystems across OECD Member countries. It integrates 28 AI-specific indicators drawn from official statistics, administrative records, surveys, and innovative data sources, organised into five components: AI Research and Development, AI Enabling Infrastructure, AI Policy Environment, Jobs and Skills, and International Co-operation.

The paper details the conceptual framework, indicators, data sources, and methodological choices underpinning the Index. It describes the procedures applied for data harmonisation, missing-value imputation, normalisation, weighting, and aggregation. In addition, it presents the robustness and sensitivity analyses conducted to ensure statistical integrity, accuracy, and reliability. It also presents results for 2023 and 2024.

The OECD.AI Index is intended as a policy-oriented tool to support evidence-based AI governance, facilitate international comparison, and guide future monitoring of progress toward trustworthy AI.

This technical paper and previous versions of it were discussed at the meetings of the Working Party on Artificial Intelligence Governance (AIGO) and of the Digital Policy Committee (DPC) and considers delegate feedback received. It also benefitted from inputs from the Working Party on Digital Economics, Measurement, and Analysis (DEMA).

Acknowledgements

This technical paper on the OECD.AI Index is based on the work of the OECD.AI Expert Group on the OECD AI Index (hereafter the “Expert Group”) and was prepared by the OECD Secretariat in consultation with an OECD Internal Steering Group including representatives from OECD Directorates working on artificial intelligence. It was prepared under the aegis of the OECD Working Party on AI Governance (AIGO). Lucia Russo, Jeff Mollins, (OECD Division on AI and Emerging Digital Technologies, AIEDT) and Sara Marchi (Consultant to AIEDT) led the paper development and drafting under the guidance of Karine Perset (Deputy Head of AIEDT) and Luis Aranda (AIEDT). The team gratefully thanks Julia Schmidt (formerly member of AIEDT) and Angélina Gentaz (formerly consultant to AIEDT) for their contributions.

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Executive summary

Artificial intelligence (AI) features prominently on national policy agendas around the world, prompting governments to seek robust, comparable metrics to assess national AI ecosystems' strengths and weaknesses. As AI advances rapidly, there is an urgent need for an authoritative measurement framework to inform and guide policy decisions, evaluate AI's contributions to innovation and diffusion, and support responsible stewardship of trustworthy AI.

The OECD.AI Index responds to this need by providing a tool to monitor progress in implementing the OECD Recommendation on AI, adopted in 2019 and revised in 2024. The current scope covers OECD Members, however the Secretariat is undertaking efforts to extend coverage to all Adherents to the Recommendation and to members of the Global Partnership on AI (GPAI), where sufficient data is available.

Leveraging a composite measurement framework, the Index combines existing AI-specific indicators from the OECD.AI Policy Observatory with newly developed metrics to provide a holistic view of national AI ecosystems. Developed in collaboration with AI experts and statistical bodies, the Index is modular, enabling the integration of new metrics as they become available. The focus of this Index is on the five policy recommendations for governments for trustworthy AI set out in the OECD AI Recommendation.

This paper describes the Index's conceptual framework, methodology, and findings for 2023 and 2024 based on available indicators. Rigorous robustness and sensitivity checks were conducted to ensure statistical integrity, accuracy, and reliability. As the Index evolves, it will incorporate additional indicators and refine components through iterative calibration.

The results display large variations across countries and components, with final values ranging from 0.17 to 0.66. While the Index is meant to be a snapshot in time for each year, between 2023 and 2024, small changes in the relative rankings can be observed, particularly as some countries adopt new policies or are impacted by changes in other indicators. As such, the Index can provide countries with evidence on areas of comparative improvement. The online interface, to be launched on OECD.AI, will provide users with interactive visualisations and resources for further investigation.

Designed primarily for policymakers, the Index will also serve researchers and other stakeholders. Both high-level country comparisons and detailed national profiles will offer the opportunity to navigate the complex landscape of AI policy and implementation.

1 Towards a comprehensive measurement framework for artificial intelligence

This paper outlines the OECD.AI Index, hereafter referred to as “the Index”. It details the Index's objectives, conceptual framework, methodology, and results for the years 2023 and 2024. The Index seeks to provide a composite indicator of countries’ implementation of the OECD Recommendation on Artificial Intelligence (hereafter, “the Recommendation”) [OECD/LEGAL/0449], composed of five principles for all AI actors and five recommendations for governments. The Index covers the five national policy recommendations for trustworthy AI.

The development of this Index is the result of a collaborative effort led by the Working Party on Artificial Intelligence Governance (WPAIGO), with input from the Working Party on Digital Economics, Measurement, and Analysis (WPDEMA). The Expert Group on the OECD.AI Index, part of the GPAI community of Experts on AI, has significantly informed the process. An OECD Secretariat Internal Steering Group on the AI Index, with representatives from all relevant OECD Directorates working on AI, has also provided input and data.

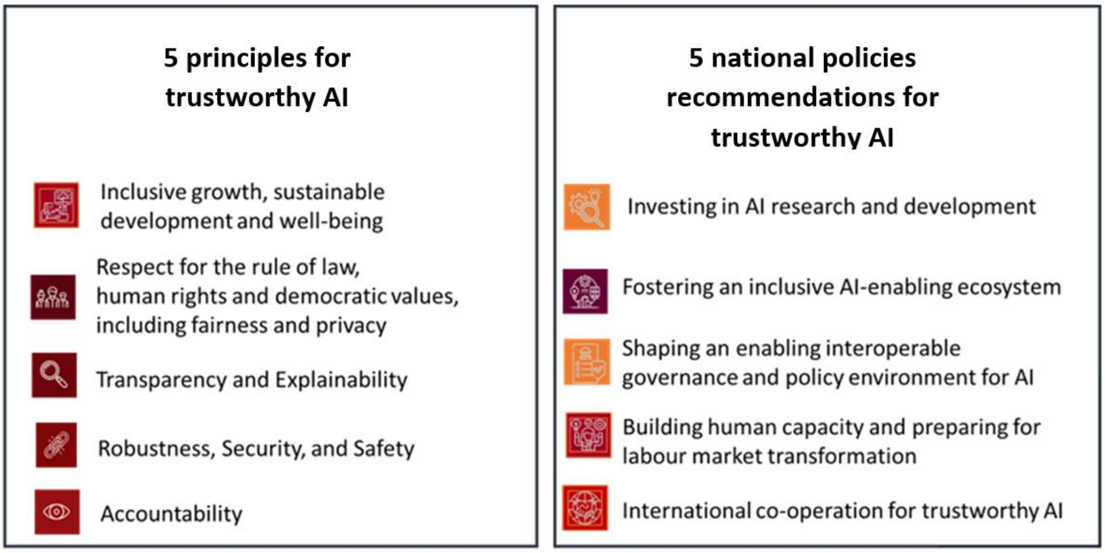
The paper is structured as follows: Chapter 1 provides context for this work, compares existing AI indices, and explains the unique objectives of the OECD.AI Index. Chapter 2 presents the conceptual framework underpinning the Index. Chapter 3 describes the data sources used in the Index's construction. Chapter 4 details the Index’s methodology, and Chapter 5 presents the results of the Index for 2023 and 2024. Finally, Chapter 6 details the timeline and possible next steps.

Background

In May 2019, the OECD Council adopted the OECD AI Recommendation to promote the development and use of AI that is innovative and trustworthy and that respects human rights and democratic values [OECD/LEGAL/0449]. This Recommendation sets out five principles for trustworthy AI and five national policy recommendations for trustworthy AI (Figure 1.1) for Adherents to promote responsible AI stewardship. The Recommendation was revised in 2023 to update the AI System definition. In 2024, five years after its adoption, in line with the conclusions of the 2024 Report to Council [C/MIN(2024)17], the Recommendation was further revised to maintain its relevance and facilitate implementation.

This paper uses the OECD definition of an AI system, where "an AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment" (OECD, 2024[1]).

Figure 1.1. The OECD AI principles



In the Recommendation, the Council instructs the Digital Policy Committee (DPC), through its Working Party on Artificial Intelligence (AIGO), to develop a measurement framework for evidence-based AI policies.

In early 2020, the OECD launched the OECD.AI Policy Observatory (OECD, 2025[2]). This online platform offers data, analysis and guidance on AI metrics, policies, and practices to support the implementation of the OECD AI Principles. It provides real or near-real-time indicators on AI trends, such as research, jobs, skills, and investment. The Observatory also serves as a hub for countries to share their AI initiatives and policies.

Policymakers use OECD.AI data to monitor national AI developments, make international comparisons, and find guidance on implementing the AI Principles. The Secretariat also uses the database of national AI policies (the OECD.AI "Policy Navigator") to analyse progress in implementing the Recommendation and conducts regular stocktakes of its state of implementation (OECD, 2021[3]; OECD, 2023[4]).

While OECD.AI provides valuable insights into AI trends across jurisdictions, assessing a country's overall AI ecosystem and progress in implementing the OECD AI Recommendation remains challenging. There is growing demand for authoritative evidence on countries' performance in supporting AI development and use, to inform policy priorities focus and evaluate results at a higher level.

To address this need, in October 2023, the Secretariat convened the OECD.AI Index Expert Group. This group, comprising representatives from the AI policy community (AIGO), national statistical offices (DEMA), academia, civil society, industry, and the technical community, has provided input to the develop a composite measurement framework for AI that would be based and serve as a tool to monitor the implementation of the OECD Recommendation on AI. The Expert Group's primary objective was to support the design and validation of the Index's methodology throughout its development stages. Between October 2023 and October 2025, the group held nine meetings to advance this work. An OECD Secretariat Internal Steering

Group on the OECD.AI Index has also been established, and two meetings have been held between December 2024 and October 2025.

One technology, different angles: an overview of existing AI Indices

Various institutions have developed a range of AI indices. They reflect the growing importance of AI in numerous domains, the need for robust governance frameworks, and the demand for transparent and accountable AI practices. These indices play an important role in guiding policymakers, businesses, and other stakeholders in navigating the complexities of AI development and implementation. As of October 2025, eight existing indices were analysed (see Table 1.1 for an overview and Table A 1 for details).

These indices are compiled by different types of organisations, including public institutions, academia, consultancies, and media companies. Specifically, these indices seek to evaluate countries on the following aspects:

- "AI preparedness," i.e., countries' preparedness to adopt AI: AI Preparedness Index by the International Monetary Fund (2024[5]),
- "AI readiness" to implement AI in public services: AI Readiness Index by Oxford Insights (2024[6]),
- "AI capacity," i.e. the ability to produce AI now and in the future: Global AI Index by Tortoise Media (2024[7]),
- "Responsible AI" measures government commitment and country capacities towards the responsible development of AI: Global Index on Responsible AI by the Global Center on AI Governance (2024[8]),
- "AI policies and practices respecting democratic values": AI and Democratic Values Index by the Center for AI and Digital Policy (CAIDP) (2025[9]).
- "AI vibrancy", i.e. the overall dynamism of a country's AI ecosystem: Global AI Vibrancy Tool by the Stanford University (Stanford Institute for Human-Centered Artificial Intelligence, 2025[10]; Fattorini et al., 2024[11]).

The Stanford's AI Index annual report takes a broader approach, using data to present the current state of AI, tracking advancements in AI technologies, and assessing the societal and economic impacts of AI (Stanford Institute for Human-Centered Artificial Intelligence, 2025[12]). At a regional level, the European Commission's Joint Research Centre (JRC) developed the AI Watch Index in 2021 to benchmark the EU's AI capacity, uptake, and impact (European Commission, 2021[13]). Similarly, Chile's National Center for Artificial Intelligence (CENIA) and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) released the Latin America Artificial Intelligence Index, focusing on the status of AI across 19 Latin American countries (CENIA and ECLAC, 2025[14]).

Where do existing indices converge? Where do they differ?

These indices can be grouped based on their primary measurement focus and key components into the following three categories: performance indices, thematic indices, and regional indices.

Performance indices, such as the Global AI Index by Tortoise (2024[7]), the AI Readiness Index by Oxford Insights (2024[6]), the AI Index (2025[12]) and Global AI Vibrancy Tool by Stanford University (2025[10]) measure the capability or readiness of countries to adopt and advance AI technologies. *Thematic* indices, including the AI and Democratic Values Index by the Center for AI and Digital Policy (2025[9]), focus on specific aspects of AI governance and ethics. *Regional* indices, such as the AI Watch Index by the European Commission (2021[13]), provide assessments of AI development within specific geographic areas.

Table 1.1. Overview of existing AI indices

Cluster	Name	Developed by	Focus
AI performance	Global AI Index	Tortoise Media	AI capacity
	AI Index and Global AI Vibrancy Tool	Stanford Institute for Human-Centered Artificial Intelligence	AI advancements and AI vibrancy
	AI Preparedness Index	International Monetary Fund	Countries' preparedness to adopt AI
	AI Readiness Index	Oxford Insights	Public sector readiness
Regional focus	AI Watch Index	Joint Research Centre of the European Commission	AI capabilities in the European Union
	Latin America AI Index	CENIA and ECLAC	AI development in 19 Latin American countries
Thematic focus (AI governance and ethics)	Global Index on Responsible AI	Global Center for AI Governance	Progress towards responsible AI
	AI and Democratic Values Index	Center on AI and Digital Policy	Alignment of AI policies with democratic values

Although these indices overlap in certain areas, they primarily differ in two key dimensions: *geographic coverage* and the proportion of *AI-specific indicators* included in their scope. AI-specific indicators measure the actual usage, development, and societal or economic impact of AI technologies. Examples include "The cumulative number of AI-related research articles and papers per country" (Tortoise, 2024[7]), or "Does the country have a technology sector capable of supplying governments with AI technologies?" (Oxford Insights, 2024[6]). These indicators contrast with broader ones that evaluate a country's foundational capacity to adopt and benefit from digital technologies, including AI. While not exclusive to AI, such foundational indicators are intended as critical enablers for AI to develop and diffuse. These aspects are explored, including detailed information on each index, in Table A 1.

The existing AI indices aim to assess the status of AI across different countries, providing measurements and comparisons that can guide policymakers, researchers, and the public. They typically evaluate factors such as AI research and development, Venture Capital investments, and infrastructure. Some indices include a reference to policy frameworks, mostly national AI strategies and legislation in adjacent areas to AI, such as privacy and data protection. Most indices consider the broader context of digital transformation, emphasising the importance of a supportive ecosystem for AI use, development, and growth.

With regards to coverage of the five principles for trustworthy AI and the five national policy recommendations for trustworthy AI, the picture is mixed. While some of the recommendations for policymakers are well-covered, like investing in AI R&D, others such as fostering an inclusive ecosystem and ensuring international co-operation for trustworthy AI, are underrepresented. There is also a notable gap when it comes to assessing the implementation of the principles for trustworthy AI, highlighting the potential for growth in measuring aspects such as inclusiveness, respect for human rights, transparency, robustness, and accountability. This presents opportunities to develop a more comprehensive and specific framework that incorporates considerations of progress towards trustworthy AI and democratic values alongside technical and economic metrics.

Objective and value added of the OECD.AI Index

The purpose of the OECD.AI Index

The OECD.AI Index is designed to support the ongoing monitoring of the implementation of the OECD AI Recommendation through a composite indicator that aggregates a set of quantitative and qualitative metrics, enabling systematic cross-country comparison and assessment of progress across the OECD AI principles and policy areas. Data currently cover OECD Member countries, with a view to expanding to include in the Index Adherents to the Recommendation and Global Partnership on AI (GPAI) members for which data are available.

Data included in the Index will be reviewed regularly, with the objective of updating the results annually. Additionally, to address the fast-paced advancements in the field of AI and maintain the Index's relevance and accuracy, it is envisioned that reviews of the Index's scope and indicators will be conducted every two years. While year-over-year comparisons should be interpreted with caution due to data limitations, these regular updates will provide helpful snapshots of countries' adherence to the OECD AI Recommendation.

Policymakers are expected to be the primary users of the OECD.AI Index. By calculating a score for each component as well as an aggregated score, the Index will allow countries to identify their relative strengths and areas for improvement. This quantitative analysis can serve as an initial step in a broader evaluative process. Following the use of the tool, deeper, qualitative country reviews can be conducted by the OECD Secretariat, to provide a more nuanced understanding of a country's strengths and weaknesses in AI implementation. Researchers, think tanks and other stakeholders may also be interested in the Index. Complementary to the OECD.AI Index, the AI Policy Toolkit currently under development [C/MIN(2025)8] will provide resources and best practices to support AI policy and strategy design, aligned with the OECD AI principles.

Value added of the OECD.AI Index

The OECD.AI Index is uniquely anchored in the OECD AI Recommendation, adopted by all OECD Members and adhered to by ten partner economies and the European Union as of January 2026. By translating these high-level, internationally adopted Principles into a set of indicators, the Index provides an authoritative measure for assessing and encouraging responsible AI development and use. To that end, the Index is calculated on a per-capita basis, and uses a scale that is relative to other countries rather than time, allowing for meaningful comparisons across countries. This approach ensures that the measurement of implementation of the OECD AI Recommendation is not skewed by inherent scale effects. Additionally, the OECD.AI Index is characterised by its high proportion of AI-specific indicators, which distinguishes it from other existing indices that typically blend AI metrics with broader technological assessments.

The development of the tool was informed by a collaborative effort, involving AI experts from diverse stakeholder groups and statistical bodies worldwide represented in the Expert Group on the OECD.AI Index, as well all relevant OECD Directorates working on AI, represented in the OECD Secretariat Internal Steering Group on the OECD.AI Index. This broad consultation ensured that the tool not only considers diverse perspectives and relevant dimensions but also gains widespread endorsement.

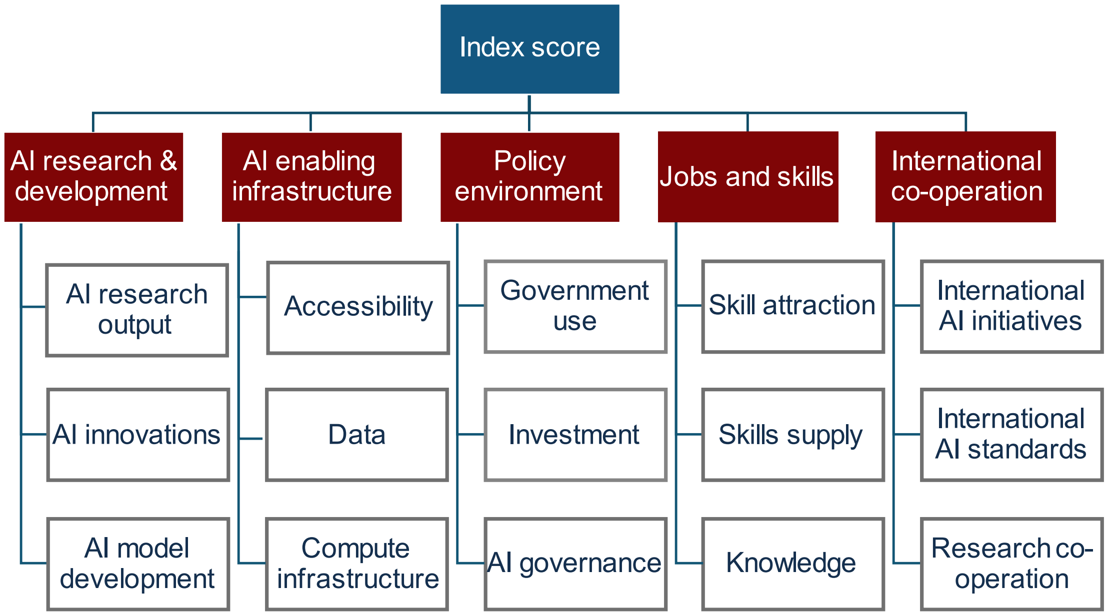
Finally, the tool will provide an intuitive online user interface, including high-level figures to facilitate country comparisons and deeper dives into specific national and sectoral data.

2 The conceptual framework

Components and sub-components currently in scope

The proposed conceptual framework for the OECD.AI Index adopts a composite indicator approach focusing on the five policy areas under the *National policies and international co-operation for trustworthy AI* from the OECD Recommendation on AI (Figure 2.1).

Figure 2.1. The conceptual framework



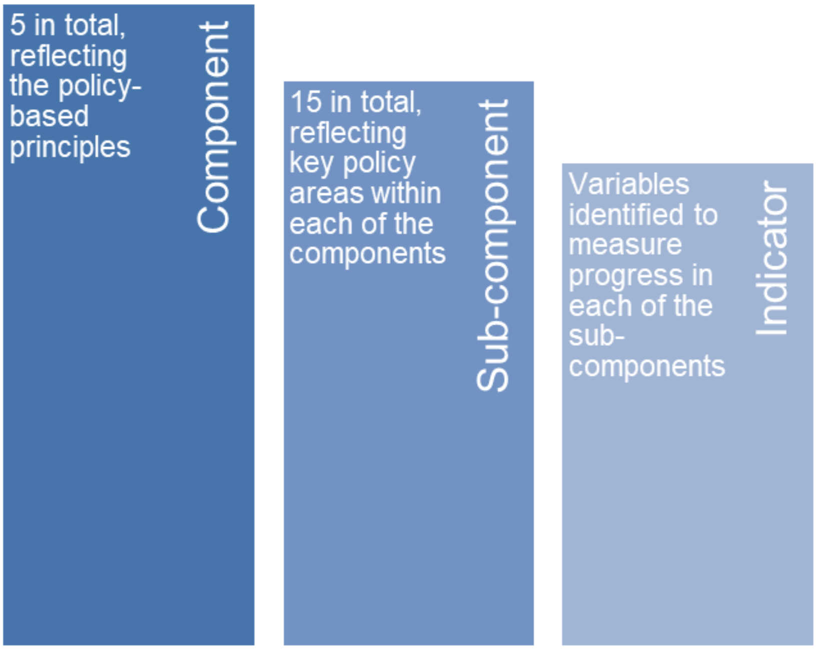
Note: The "components" in red reflect the headings of the recommendations for national policies and international co-operation for trustworthy AI, namely "Investing in AI research and development", "Fostering an inclusive AI-enabling ecosystem", "Shaping an enabling interoperable governance and policy environment for AI", "Building human capacity and preparing for labour market transformation", and "International co-operation for trustworthy AI".

The framework is structured around five components, each corresponding to the national policy recommendations for trustworthy AI. Each component is further broken down into sub-components that reflect its main tenets, as detailed in Figure 2.1. Finally, each sub-component can include one or more indicators - quantifiable metrics used to track and assess performance within that sub-component (Figure 2.2).

It is important to note that these high-level national policy recommendations are inherently challenging to measure. This is due to the limited availability of comparable and publicly available data across several policy areas, as well as the fast-paced changes in AI inputs, outputs, and targeted policy measures. The Index is therefore designed to measure successful implementation of the national policy recommendations along two complementary dimensions.

On the one hand, it captures policy actions and institutional measures that reflect governments' commitment and capacity to operationalise the national policy recommendations. On the other hand, implementation also manifests through observable outcomes in the AI ecosystem, such as research and investment, which can serve as outputs or proxies for the effectiveness of those policy actions or the broader policy environment. By combining these two dimensions, the index offers a comprehensive picture of countries' progress in implementing AI policies, in line with the OECD AI Recommendation. However, it is also important to note that the indicators chosen for the Index are subject to ongoing review and refinement.

Figure 2.2. The terminology of the OECD.AI Index



Note: This diagram illustrates the hierarchical structure of the OECD.AI Index and its associated terms.

Component 1 - AI Research and Development

This component of the Index measures Research and Development (R&D) related to AI that can be observed at a country level. In addition, it aims to assess the extent to which existing AI policy reflects commitments to AI R&D, in alignment with Principle 2.1, which emphasises the importance of long-term public and private investment in AI R&D. This measurement is relevant for identifying both the outputs of AI R&D, and the policy support that sustains them. Possible additional indicators may include private and public investment in AI R&D, based on the methodology developed in (Fonteneau et al., 2025[15]). Estimates are currently available for the EU27 members, Canada, Japan, the United Kingdom and the United States, and thus could not be included given the limited cross-country availability.

Sub-components:

1. *AI research output*: measures the quantity and quality of AI research publications.
2. *AI innovations*: measures the number of innovations specific to AI, including patents.
3. *AI model development*: measures the number of AI models developed by companies in each country.

Table 2.1. Selected indicators for component 1 "AI R&D"

Sub-component	Indicators	Data Source
AI research output	Number of high-quality AI research publications	OECD.AI: Scopus/Elsevier OECD.AI: OpenAlex
AI innovations	Number of AI patent applications	OECD (2025[16])
AI models development	Number of AI models developed Number of large-scale AI models developed	OECD.AI: AIKoD Epoch AI (2025[17])

Component 2 – AI Enabling Infrastructure

This component aims to measure the extent to which connectivity infrastructure, compute power and data - key enablers of advanced AI systems and algorithms - are available in a country. This component represents the foundational elements necessary for AI development and deployment and aligns with Principle 2.2, which stresses the importance of fostering an inclusive, dynamic, sustainable, and interoperable digital ecosystem for trustworthy AI.

Nonetheless, some aspects of Principle 2.2 are not currently captured by the indicators in scope. Notably, the indicator on compute only measures the commercially available HPC as measured by supercomputers. Therefore, a portion of the availability of compute infrastructure is not captured, as data for this dimension are not yet available. Further iterations may include data on domestic public cloud compute availability for AI, based on the methodology developed by Lehdonvirta et al. (2025[18]). Indicators on data availability remain limited, given the lack of comparable and publicly available information on the full range of data assets relevant for AI development. The indicators included in the data sub-component focus on the availability of open public datasets and high-value datasets (e.g. geospatial and mapping data) which, while providing only a partial view of the data landscape, are especially relevant due to their accessibility, reuse potential, and importance for training and deploying AI systems.

Sub-components:

1. *Accessibility*: assesses the quality and accessibility of digital infrastructure, including high-speed broadband networks and business use of AI.
2. *Data*: measures the availability and quality of data resources for AI development, including open datasets.
3. *Compute infrastructure*: evaluates the availability of high-performance computing resources.

Table 2.2. Selected indicators for component 2 "AI Enabling Infrastructure"

Sub-component	Indicators	Data Source
Accessibility	Fibre connections per 100 inhabitants[i] Fixed subscriptions above 100mbps over total advertised fixed broadband plans	OECD Broadband statistics
Data	Open datasets available by language Availability of high-value datasets Accessibility of high-value datasets Availability of an open data strategy	OECD.AI: Hugging Face OECD (2026[19])
Compute infrastructure	Capacity of supercomputers Strategic approach to cloud infrastructure GPU clusters	TOP500 list (2025[20]) OECD (2026[19]) Epoch AI (Pilz et al., n.d.[21])

Component 3 – AI Policy Environment

This component measures the extent to which the business and government environment is conducive to successful AI development and use as described in Principle 2.3. It thus measures to what extent governments have adopted AI technologies. It also assesses the level of financing available to businesses to develop AI technologies. Lastly, it assesses to what extent existing AI policies are conducive to AI uptake, including regulatory experimentation. A desired data series to further assess policy environments is the share of businesses using AI, currently available on the OECD ICT Access and Usage database. However, the country coverage was deemed insufficient for inclusion. Improvements in the geographical coverage of these surveys would strengthen the Index.

Sub-components:

1. *Government use*: assesses the use of AI in public services and government operations, indicating the public sector's role in driving AI adoption.
2. *Investment*: evaluates capital flows toward AI technologies, particularly venture capital (VC) investment in AI startups.
3. *AI governance structures*: examines the regulatory frameworks and governance mechanisms for AI, including experimentation initiatives like regulatory sandboxes.

Table 2.3. Selected indicators for component 3 "AI Policy Environment"

Sub-component	Indicators	Data Source
Government use	Use of AI by government bodies	OECD (2026[19])
Investment	Venture capital investments in AI	OECD.AI: Preqin
AI governance structures	AI regulatory sandboxes Membership to the International Network of AI Safety Institutes Existence of National Strategy on AI	OECD.AI OECD.AI OECD.AI

Notes: The International Network of AI Safety Institutes was established in 2024. Measurement in 2023 was conducted by manually assessing whether countries had an established AI Safety Institute. See Annex B for further details.

Component 4 – Jobs and Skills

In line with Principle 2.4, this component measures to what extent a country attracts and retains AI talent, has a workforce with relevant AI skills, and provides an environment where AI knowledge is available and multiplied. Overall, the Job and Skills component addresses the human capital aspect of AI development and adoption. However, Principle 2.4 also stresses the need for government-led measures that protect and support workers during the AI-driven transformation of labour markets—such as lifelong upskilling programmes, social-protection schemes, and targeted assistance for those displaced. While comparable, cross-country data on these policy interventions exist, they are often not AI-specific, or in some cases not updated regularly enough. Until such data emerge, the current metrics reflect only a subset of the actions envisioned under Principle 2.4, and results should be interpreted with that limitation in mind.

Sub-components:

1. *Skill attraction*: measures the ability to attract AI-related skills in the job market, reflecting the evolving needs of industries as AI adoption and application increase.
2. *Skill supply*: assesses the availability of AI skills in the workforce, indicating the readiness of the labour force to engage with AI technologies.
3. *Knowledge*: evaluates public awareness and understanding of AI.

Table 2.4. Selected indicators for component 4 "Jobs and Skills"

Sub-component	Indicators	Data Source
Skill attraction	Net AI talent migration	OECD.AI: LinkedIn
Skill supply	AI talent concentration	OECD.AI: LinkedIn
Knowledge	Number of high impact AI software projects	OECD.AI: GitHub
	Awareness of AI concepts	OECD.AI: Google Trends

Component 5 – International Co-operation

Corresponding to Principle 2.5, this component focuses on international collaboration in AI development and governance. The rationale is that AI development and its impacts cross borders and thus can benefit from co-ordinated international efforts to advance trustworthy AI. This component emphasises the need for collaborative efforts to address global opportunities and risks presented by AI. By including this component, the Index acknowledges that a country's AI progress is not limited solely to domestic development but also reflects its contribution to and engagement with the international AI community.

Sub-components:

1. *International AI initiatives*: measures participation in international AI projects and collaborations, reflecting a country's engagement in global AI development efforts.
2. *AI research co-operation*: measures the research collaborations in AI.
3. *International AI standards*: assesses country's participation in the development of global AI standards, indicating efforts toward creating interoperable and trustworthy AI systems across borders.

Table 2.5. Selected indicators for component 5 "International Co-operation"

Sub-component	Indicators	Data Source
International AI initiatives	Legally binding instruments Voluntary multilateral initiatives Non-binding declarations and political commitments	OECD.AI: Policy Navigator
AI research co-operation	Number of research papers in AI with cross-country collaboration	OECD.AI: Elsevier/Scopus
International AI standards	Participation in international standardisation committees for AI	ISO/IEC JTC 1/SC 42

3 Data sources

The Secretariat has conducted an in-depth review of the existing data sources suitable for the measurement of AI performance at the country level based on the recommendations for policymakers and the sub-components identified within each of them. Based on this review, the OECD.AI Index proposes a modular, data-driven conceptual framework, which integrates a diverse array of data sources, blending official statistics with innovative, experimental datasets to offer a comprehensive perspective on AI (Table 3.1).

At present, the OECD.AI Index uses the most recent data available, specifically for the years 2023 and 2024. Data will be refreshed regularly, with the objective of publishing annual updates of the results.

Overview of key data sources

The composite indicator includes four main categories of data:

- non-traditional data sources (e.g. VC investments in AI startups),
- official statistics and administrative records (e.g., share of fibre connections in total fixed broadband subscriptions),
- survey data (e.g. use of AI in government),
- qualitative indicators (e.g. membership to the International Network of AI Safety Institutes).

Non-traditional data sources encompass information not typically gathered through traditional methods such as official statistics or administrative records. In the context of the OECD.AI Index, a prime example of utilising such non-traditional sources is the data derived from a collaboration between the OECD.AI Policy Observatory (OECD, 2025[2]) and Preqin. Preqin, a private company specialising in private equity and other alternative assets, provides detailed data on VC investments.

An example of official-statistics data used in the Index includes the share of fibre subscriptions out of total fixed broadband subscriptions. Such data comes from the OECD Broadband and telecommunications databases and reflect information collected through standardised reporting, which allows for the comparison of technology adoption rates across different nations and industries.

Survey data coming from the OECD DGI and the OUR Data Index enriched the analysis by, for example, providing insights on the use of AI within the government and the availably and accessibility of high value datasets. This information was collected through questionnaires filled by national contact points and subsequently validated by the OECD.

Qualitative indicators are crucial in complementing quantitative ones as they provide context and information on policy initiatives. For instance, data on AI sandboxes reflect a country's efforts to promote regulatory experimentation.

Additional details on each of the indicators used in the Index can be found in Annex B, including information on calculation and collection.

Table 3.1. Overview of components, sub-components and indicators of the conceptual framework for the recommendations for policymakers

Component	Sub-component	Indicators	Data sources
AI Research & Development	**AI research output**	Number of high-quality AI research publications	Open Alex (OECD.AI) Elsevier/Scopus (OECD.AI)
	AI innovations	Number of AI patent applications	OECD
	AI model development	Number of AI models developed	OECD
		Number of large-scale AI models developed	Epoch AI
AI Enabling Infrastructure	**Accessibility**	Fibre connections per 100 inhabitants	OECD [Broadband Statistics]()
		Fixed subscriptions above 100mbps over total advertised fixed broadband plan	
	Data	Open datasets available by language	Hugging Face (OECD.AI)
		Availability of public high-value datasets	OECD (2026[19])
		Accessibility of public high-value datasets	
		Availability of an Open Data Strategy	
	Compute infrastructure	Number of supercomputers	TOP500
		Strategic approach to cloud infrastructure	OECD (2026[19])
		GPU clusters	Epoch AI
AI Policy Environment	**Investment**	Venture capital investments in AI	Preqin (OECD.AI)
	Government use	Use of AI by government bodies	OECD (2026[19])
	AI governance structures	Existence of a national AI strategy	OECD.AI
		AI regulatory sandboxes	OECD.AI
		Membership to the International Network of AI Safety Institutes	OECD.AI
Jobs and skills	**Skill attraction**	Net AI talent migration	LinkedIn (OECD.AI)
	Skill supply	AI talent concentration	LinkedIn (OECD.AI)
	Knowledge	Number of high-impact AI software projects	GitHub (OECD.AI)
		Awareness of AI concepts	Google Trends (OECD.AI)
International co-operation	**International AI initiatives**	Legally binding instruments	OECD.AI Policy Navigator
		Voluntary multilateral initiatives	
		Non-binding declarations and political commitments	
	International AI standards	National participation in AI standardisation committees	ISO/IEC JTC 1/SC 42
	International AI research collaboration	Number of AI research papers co-authored with international partners	Elsevier/Scopus (OECD.AI)

Notes: Detailed descriptions of each of the currently included indicators can be found in Annex B.

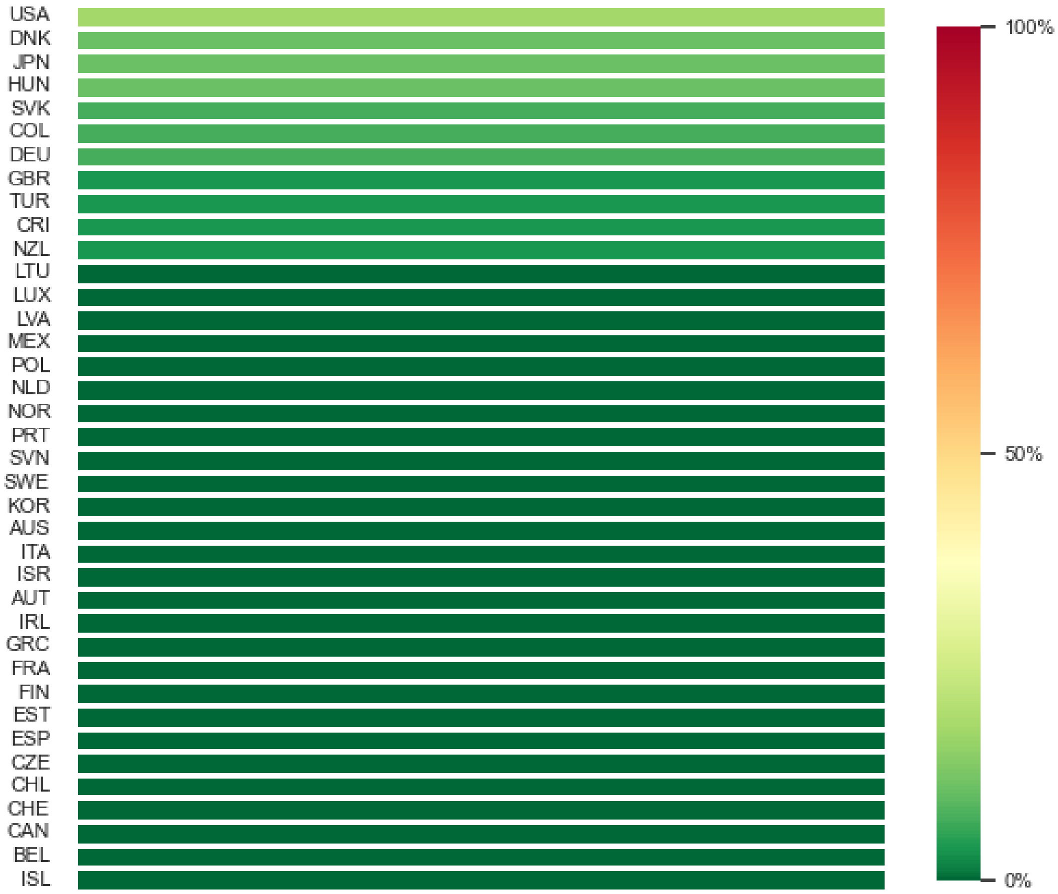
Country coverage and data gaps

The selection of indicators for inclusion in the Index followed the criteria of relevance and reliability. Indicators were chosen based on the availability of robust data, their ability to measure accurately and reliably what they are intended to assess, and logical coherence with the overarching aims of the Index. This process involved a thorough evaluation of potential data sources to guarantee that each indicator could be consistently updated and maintained over time, reflecting the latest developments and trends in AI governance. A key part of this assessment involved analysing data availability, using measures of data missingness by country and by indicator as fundamental criteria for evaluation.

The analysis of country coverage (Figure 3.1) helps identify which countries have more comprehensive data available for the 28 indicators selected, and which countries lack sufficient data. Countries at the bottom of the chart, such as Canada and Iceland, show complete or near-complete data availability with very low missingness, whereas those at the top, like the United States, exhibit higher levels of missing data. This visualisation helps identify which countries have more comprehensive data available for the indicators selected.

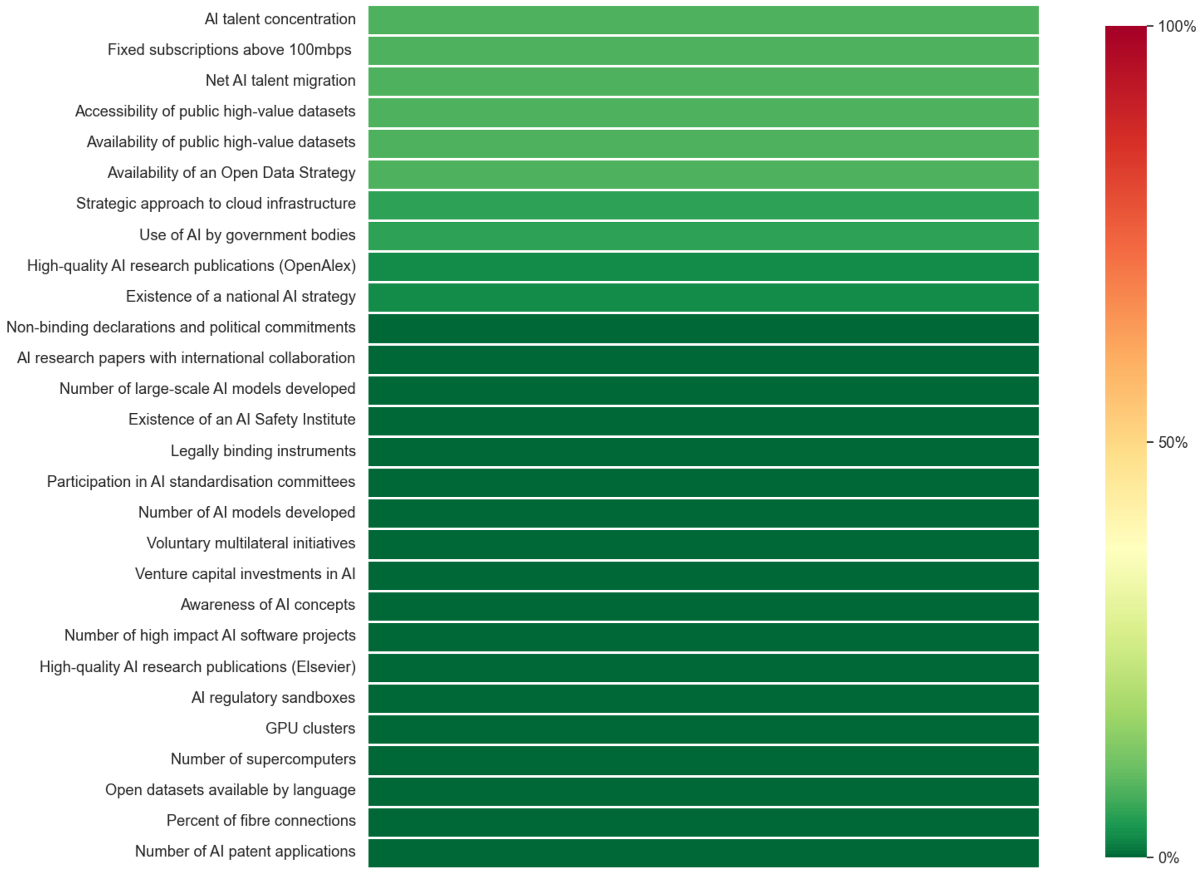
The visualisation for indicators' missingness (Figure 3.2) illustrates the percentage of missing data for each of the 28 indicators selected as suitable for the Index calculation, across OECD Member countries. Indicators at the bottom of the chart exhibit a lower percentage of missing values, suggesting more complete data availability. In contrast, indicators toward the top show higher levels of missing data, indicating that these areas are less consistently reported across the countries studied. This visual helps to identify which aspects of AI-related data are more robustly captured and which areas may need focused efforts to improve data collection and reporting. Descriptions of the selected indicators are detailed in Table A B.1.

Figure 3.1. Missingness by country for 2024



Note: The graph illustrates missingness at country level for OECD Member countries in 2024. Each horizontal bar represents a country, listed on the left, with the colour of the bar indicating the proportion of missing data for the indicators in that particular country. The colour scale on the right ranges from green (0% missingness, indicating complete data availability) to red (up to 100% missingness).
Source: OECD calculations based on data sources as listed in Table 3.1.

Figure 3.2. Missingness by indicator for 2024



Note: The graph illustrates missingness at indicator level in 2024. Each horizontal bar represents one indicator, labelled on the left. The colour of each bar indicates the proportion of missing data for that specific indicator. The colour scale on the right transitions from green (0% missingness, indicating full data availability) to red (up to 100% missingness). Descriptions of the indicators can be found in Table A B.1.
Source: OECD calculations based on data sources as listed in Table 3.1.

Data gaps and potential extensions

The Secretariat is continuing to review and explore the potential inclusion of additional indicators (Table 3.2), as recommended by experts, delegates and other OECD Directorates. However, integrating these indicators poses challenges, particularly due to the lack of robust and comprehensive data. As such, the Secretariat will continue to monitor data sources relevant to the OECD AI Recommendation, with several possible extensions under consideration for future updates.

Several indicators exist that were deemed appropriate for the Index, but did not have sufficient country coverage. These indicators are Adzuna's data on AI skill demand, data on AI adoption by businesses from the OECD's ICT Access and Usage surveys, and gross fixed capital formation estimates using National Accounts data. These indicators will be closely monitored for future updates, should they meet the Index's missing-data threshold.

Table 3.2. Potential additional indicators

Indicator	Indicator description	Reason for not including
Graduates in relevant AI fields	STEM graduates	No widespread indicator
International data and AI trade flows	Measure the extent to which AI services and/or data are being imported and exported.	No AI specific indicator
Data centres supporting AI workloads	Measure the number of data centres that are capable of handling AI training and inference	Possible extension
Domestic public cloud compute availability for AI	Measure the domestic availability of public cloud AI compute infrastructure (capacity rented on demand from commercial providers) based on the methodology presented in (Lehdonvirta et al., 2025[18])	Possible extension
Existence of GPU Computing Zones	Evaluate whether the country has GPU computing infrastructure	No reliable indicator
Availability of Incident Response Manuals for AI System Failures	Check whether the country has established manuals for responding to AI system malfunctions and incidents	Possible extension
Indicators on the environmental impact of AI	Measure the impact of AI compute on the environment, e.g. on energy and water consumption	No reliable and AI specific indicator
Total AI gross fixed capital formation	Using National Accounts data, measure the extent to which countries' gross fixed capital formation is being directed toward AI, with specific measurements at the asset and industry level. These estimates are provided in recent research (Fonteneau et al., 2025[15]), but do not have sufficient country coverage for the Index	Does not have sufficient country coverage
Mandatory Security and Safety Testing Policies for AI Development	Determine if there are policies in place that require security and safety testing during the AI system development process	Possible extension
Verification Systems for Dataset Bias and Privacy Violations	Examine the existence of systems to verify biases in AI datasets and ensure compliance with privacy standards	No reliable indicator
AI adoption by businesses	The ICT Access and Use Surveys are conducted by several OECD countries, and cover questions regarding whether businesses have incorporated some level of AI technology	Does not have sufficient country coverage
AI skills demand	Adzuna offers insights into labour market trends, including the demand for specific skills such as those related to AI	Does not have sufficient country coverage

4 Methodology

The methodology follows the OECD/JRC Handbook on Constructing Composite Indicators (OECD/European Union/EC-JRC, 2008[22]). A well-structured data pipeline is essential for constructing a robust and reliable composite indicator (Figure 4.1). This pipeline encompasses several critical stages, beginning with data collection and progressing through data processing, which includes cleaning and harmonisation. Statistical techniques are then employed to address data gaps. Imputation of missing values, and normalisation, involving transformation and scaling techniques, ensures comparability across datasets. Aggregation, which may apply weights to different subcomponents and components, is the final step in calculating a total score for each country. Finally, sensitivity checks are conducted to affirm the robustness of the Index.

Figure 4.1. Overview of the data pipeline

Data processing

The data processing stage of the pipeline is crucial for ensuring that data from various sources are uniformly structured and harmonised, facilitating seamless integration and analysis in subsequent steps. Given the diversity of the datasets, this phase involves tailoring individual datasets to extract multiple potential indicators. This harmonisation process accommodates the varying nature of the data, ranging from quantitative measures such as investment levels in AI start-ups to more qualitative assessments, like the content of national strategies. During this stage, initial data analyses are conducted, including simple descriptive statistics and data distribution plots, which provide a preliminary understanding of the data's central tendencies, variability, and presence of outliers.

Many of the indicators used for the Index are available directly in the OECD.AI Observatory live data section. There, detailed methodological notes are provided for each set of data including the methods of collection and transformations applied. For those datasets not hosted on this platform, links and notes will be made available through the OECD.AI Observatory website.

Missing value imputation and normalisation

Imputation

Two approaches are followed for imputing missing values:

- ***Forward filling***: Where feasible, missing values are imputed based on historical data to maintain continuity in time series (e.g. imputing the 2023 value based on the 2022 data).
- ***K-means clustering***: For the values that could not be forward filled, the k-means clustering algorithm is used to impute the data. Countries were grouped based on similarity across all available indicators, and then the average of the similar countries was used for the missing value. This method is applied selectively, based on a predefined *missingness threshold* of 15%, which specifies the *maximum allowable proportion of missing data for an indicator to be eligible for imputation*. Indicators that exceed this threshold are excluded from the dataset to maintain data quality and reliability. This pre-defined threshold is crucial as it balances the need to retain as much data as possible against the risk of relying too heavily on data imputation.

Note that for high impact forks from Github, 2023 data were used to forward fill 2024 for all countries, but these will be updated once 2024 values become readily available.

Normalisation

In the third step of the pipeline, data undergo normalisation to ensure comparability between indicators. First, indicators that are expressed in levels are divided by the working age population of the corresponding country. Currently, this calculation is applied to 7 of the selected indicators.[ii] The remaining indicators are either percentage-based or Boolean, such that this normalisation step is not needed. The exception is the number of TOP500 supercomputers, which is kept as a level to reflect the importance of AI hubs, and because the indicator is already a portion of the total number of supercomputers.

Secondly, a log transformation is applied for some indicators exhibiting high skewness (a skewness greater than 2 is chosen as a rule of thumb (JRC-COIN, 2023[23]), to manage the influence of outliers. Lastly, the pipeline applies min-max scaling, rescaling scores to be between 0 and 1 for easier interpretation and comparability. Additionally, the nature of the different indicators was taken into account during normalisation. For example, percentage-based indicators that are skewed were scaled using an arcsine transformation before applying min-max normalisation, ensuring that differences in units were appropriately addressed statistically.

Weighting and Aggregation

As a fourth step, the normalised data undergo an aggregation process based on predefined weights. By default, this involves mapping indicators into their corresponding subcomponents and components. Equal weights are applied, i.e. all subcomponents in a component have equal weight and all components have equal weight when computing the total average. Principal Component Analysis was used to test the validity of the equal weights assumption. The findings, detailed in Annex C, suggest that the first principal component aligns well with index construction using equal weighting at the component level.

Next, the indicators are aggregated using an arithmetic weighted average. The values of the indicators in each subcomponent are averaged, and then the subcomponents are averaged, and finally the weighted average of the components' scores is calculated. This implies that the subcomponents with a higher number of indicators have a lower weight per indicator. Arithmetic aggregation assumes compensability, meaning that a low score in one component can be balanced by a higher score in another.[iii]

Robustness and sensitivity

Additional robustness and sensitivity checks (e.g., Principal Component Analysis, Pearson correlations) were performed throughout the pipeline to ensure that the Index is statistically sound (Annex C). These checks help confirm the stability of the results.

5 Results

Employing the procedure outlined in Chapter 4, the Index provides a quantitative assessment of the policy recommendations for policymakers. The visualisation of that assessment, presented below for the purpose of illustration, will be made available on the OECD.AI Observatory.

The level of imputation was set at 15% and country coverage was limited to OECD Member countries. This imputation threshold, although somewhat arbitrary, was chosen to optimally capture information from valuable sources while limiting the impact of missing data. The Secretariat also investigated the possibility of considering higher imputation thresholds. However, missingness is not completely random, but it is rather concentrated in specific countries, often as a consequence of their non-response in surveys. Therefore, imputing too much data might create a biased score for those countries. This selection of country coverage and imputation rule resulted in 28 indicators being retained (Table D.1).

Results

Visualisation of the results can be done across countries and by components for both 2023 and 2024, as shown in Figure 5.1 and Figure 5.2. It is important to recall that the Index is expressed in per-capita terms to enable meaningful cross-country comparisons and to properly assess the degree of implementation of the OECD AI principles regardless of the size of the economy or population. Investigation into alternative normalisation using GDP can be found in Annex C. The normalisation procedures also put the Index in cross-sectional relative space (i.e., it reflects each country's performance relative to others in the same year). This implies that comparisons over years will give an indication of the change in performance of a country relative to its peers, but not relative to its past performance in absolute terms.

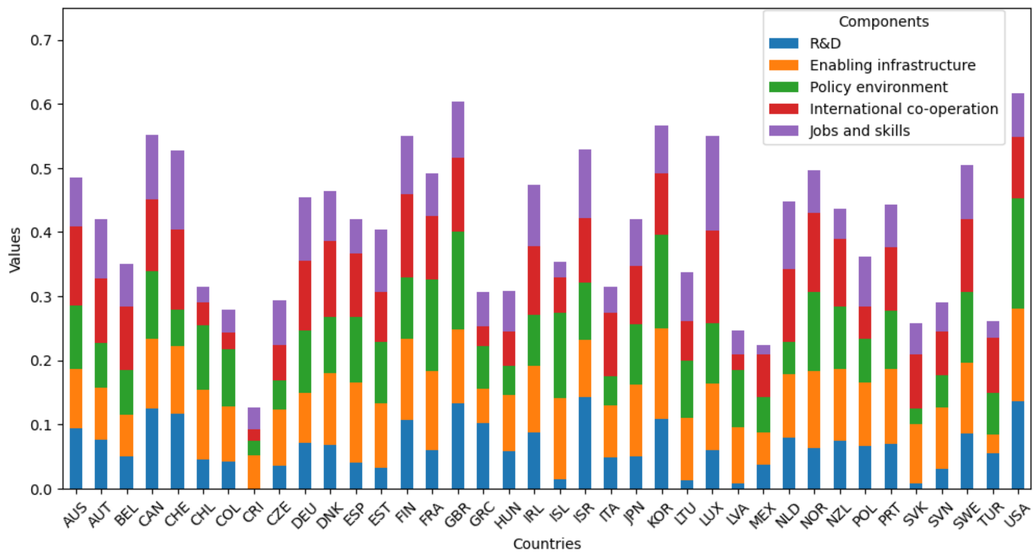
Among the top performers are the United States, the United Kingdom, and Switzerland. In each case, this was partially due to very strong scores in R&D. These countries represent the frontier of AI developments. The United States had particularly strong venture capital investments as they host a large number of AI models and hosted supercomputers and GPU clusters that provide strong enabling infrastructure. The United Kingdom had strong performances across digital government use and data infrastructure. Switzerland, on the other hand, had strong scores on skills related metrics such as in the knowledge subcomponent. The strong overall scores of each of these top performers show that different strategies on implementing the AI Principles can be successful, depending on the relative strengths of the country.

The non-binary indicators with the highest standard deviation (after normalisation and scaling) were use of AI in the government, training datasets by language, and AI patents. However, as discussed in Section 4, several indicators were log-transformed due to skewed distributions. This transformation was performed to control for large outliers that could otherwise distort the contribution of the skewed indicator for the countries without such extreme values.

While comparisons across years should be done with care due to the cross-sectional design of the Index, several interesting observations can be made. Firstly, the scores remain fairly stable between 2023 and 2024. However, some notable changes in the rankings occurred, for example, due to the Cartegena Declaration and the Committee on Artificial Intelligence, both announced in 2024, as well as large swings in venture capital in Sweden, Lithuania, and Iceland. The absolute values of the Index need not be compared, but these changes in scores and rankings are indicative of the performance of countries relative to their peers.

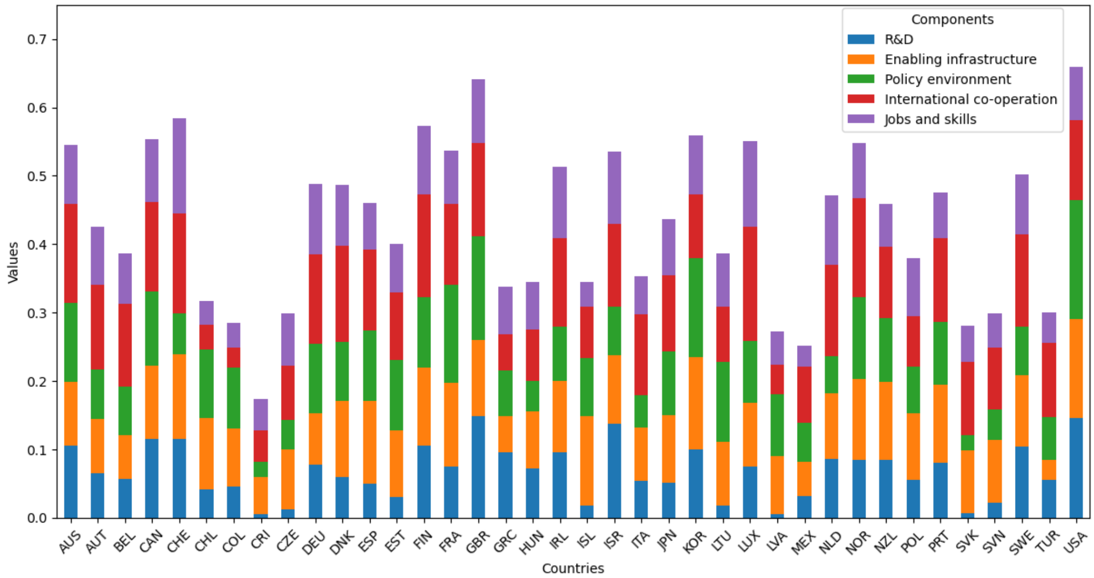
It is important to recall that subcomponents are weighted equally within each component, while the number of indicators varies for each subcomponent. As a result, the implicit weights of individual indicators also vary accordingly. The underlying rationale is that each component is equally important in the construction of the Index, an argument also supported by statistical analysis presented in Annex C. The number of available indicators varies across principles, but their contribution should be reflective of the conceptual framework. The result of these assumptions is that, for example, VC investment contributes a larger share of overall index values compared to indicators such as accessibility and availability of high-value datasets.

Figure 5.1. 2023 Index results by country



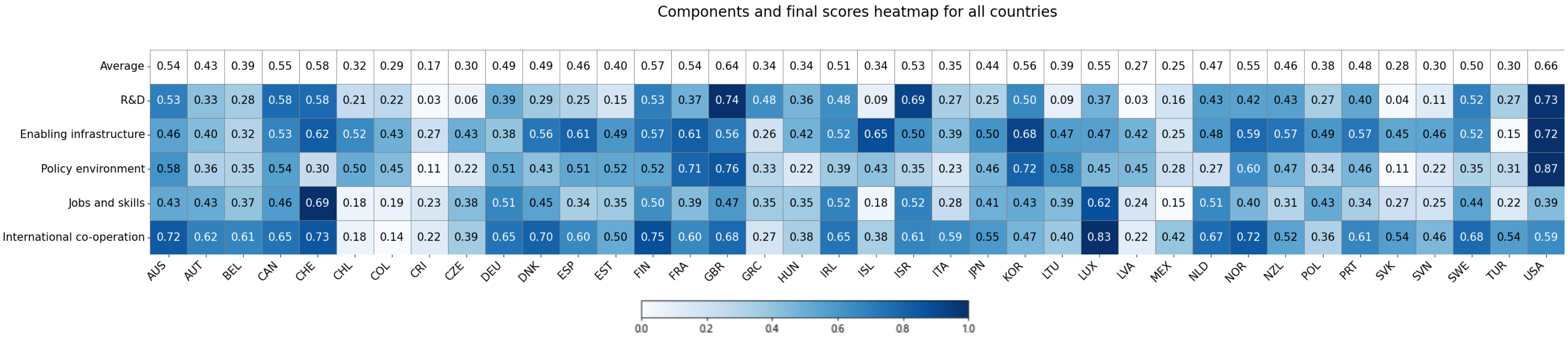
Source: OECD calculations based on data sources as listed in Table 3.1.

Figure 5.2. 2024 Index results by country



Note: Data for high impact forks from Github in the 2024 Index use values from 2023 until full updates are available.
Source: OECD calculations based on data sources as listed in Table 3.1.

Figure 5.3. Index results by component and country for 2024



	AUS	AUT	BEL	CAN	CHE	CHL	COL	CRI	CZE	DEU	DNK	ESP	EST	FIN	FRA	GBR	GRC	HUN	IRL
Average	0.54	0.43	0.39	0.55	0.58	0.32	0.29	0.17	0.30	0.49	0.49	0.46	0.40	0.57	0.54	0.64	0.34	0.34	0.51
R&D	0.53	0.33	0.28	0.58	0.58	0.21	0.22	0.03	0.06	0.39	0.29	0.25	0.15	0.53	0.37	0.74	0.48	0.36	0.48
Enabling infrastructure	0.46	0.40	0.32	0.53	0.62	0.52	0.43	0.27	0.43	0.38	0.56	0.61	0.49	0.57	0.61	0.56	0.26	0.42	0.52
Policy environment	0.58	0.36	0.35	0.54	0.30	0.50	0.45	0.11	0.22	0.51	0.43	0.51	0.52	0.52	0.71	0.76	0.33	0.22	0.39
Jobs and skills	0.43	0.43	0.37	0.46	0.69	0.18	0.19	0.23	0.38	0.51	0.45	0.34	0.35	0.50	0.39	0.47	0.35	0.35	0.52
International co-operation	0.72	0.62	0.61	0.65	0.73	0.18	0.14	0.22	0.39	0.65	0.70	0.60	0.50	0.75	0.60	0.68	0.27	0.38	0.65

	ISL	ISR	ITA	JPN	KOR	LTU	LUX	LVA	MEX	NLD	NOR	NZL	POL	PRT	SVK	SVN	SWE	TUR	USA
Average	0.34	0.53	0.35	0.44	0.56	0.39	0.55	0.27	0.25	0.47	0.55	0.46	0.38	0.48	0.28	0.30	0.50	0.30	0.66
R&D	0.09	0.69	0.27	0.25	0.50	0.09	0.37	0.03	0.16	0.43	0.42	0.43	0.27	0.40	0.04	0.11	0.52	0.27	0.73
Enabling infrastructure	0.65	0.50	0.39	0.50	0.68	0.47	0.47	0.42	0.25	0.48	0.59	0.57	0.49	0.57	0.45	0.46	0.52	0.15	0.72
Policy environment	0.43	0.35	0.23	0.46	0.72	0.58	0.45	0.45	0.28	0.27	0.60	0.47	0.34	0.46	0.11	0.22	0.35	0.31	0.87
Jobs and skills	0.18	0.52	0.28	0.41	0.43	0.39	0.62	0.24	0.15	0.51	0.40	0.31	0.43	0.34	0.27	0.25	0.44	0.22	0.39
International co-operation	0.38	0.61	0.59	0.55	0.47	0.40	0.83	0.22	0.42	0.67	0.72	0.52	0.36	0.61	0.54	0.46	0.68	0.54	0.59

Note: Component scores are between 0-1. Scores are calculated based on 28 indicators.
Source: OECD calculations based on data sources as listed in Table 3.1.

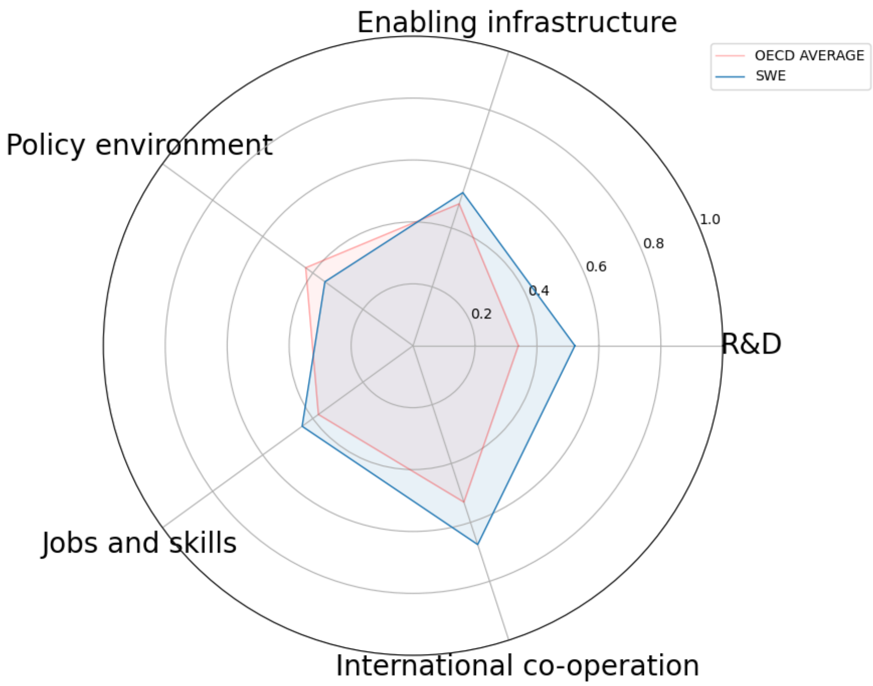
Case study: Sweden

The AI Index will serve to give researchers and policymakers a metric to evaluate the strengths and weaknesses of countries' performance according to the OECD AI principles. A common application will likely be to compare a country's score to others, and to the OECD average. Charts for each country will be made available on OECD.AI. To illustrate this potential use case, we take the example of Sweden in 2024.

Sweden is roughly at the 70th percentile of the Index, as seen in Figure 5.2. It performs roughly average on the Enabling Infrastructure, Policy Environment, and Jobs and Skills components of the Index, and above average on R&D and International Co-operation (Figure 5.4).

At an indicator level, these results are driven by above-average levels of VC investments per capita, high-quality publications per capita, and the share of fibre subscriptions. Some areas for improvement include establishing regulatory sandboxes for AI innovation, increasing the use of AI in government, and creating more datasets in the local language.

Figure 5.4. Sweden index component comparison



Source: OECD calculations based on data sources as listed in Table 3.1.

6 Next steps

This paper outlines the methodology for the OECD.AI Observatory Index. Using a composite measurement framework, the Index combines a variety of AI-specific indicators to provide a tool to assess adherence to the OECD AI Recommendation.

The Index will be updated on an annual basis. The measurement framework will be regularly reviewed to ensure continued relevance, with new and relevant indicators added as they become available. The Index will also be published on the OECD.AI Observatory for users to access and browse indicators across and within dimensions.

Future work may focus on extending the geographic and, potentially, time-series coverage of the Index. The expansion in geographic coverage may include Adherents to the OECD AI Recommendation as well as GPAI members. Extending the historical time dimension may require changing the structure of the Index to enable comparisons of a country's results in absolute terms over time.

Additional potential future work will aim to identify and assess indicators that capture the implementation of the principles for trustworthy AI. While these principles will be difficult to quantify in a similar manner as the national policy recommendations for trustworthy AI, progress can be monitored by compiling surveys, policies, and other non-traditional data. Such information could be compiled and displayed accordingly in the OECD.AI Observatory.

Annex A. Comparing existing AI indices

Table A 1. Overview of existing AI indices

Name and publisher	Focus	Description	Type of data	Geographical scope	Format	Weights	Dissemination
AI Index Report & *Global AI Vibrancy Tool* by Stanford (Academia)	Evolution in AI trends	Report N/A, it presents a great amount of miscellaneous data divided into themes: • **Research and development** • **Technical performance** • **Responsible AI** • **Economy** • **Science and medicine** • **Education** • **Policy and governance** • **Diversity** • **Public opinion** Tool 42 indicators 8 pillars • **R&D** • **Responsible AI** • **Economy** • **Education** • **Diversity** • **Policy and Governance** • **Public opinion**	Primary and secondary: Data from a number of private and public sources as well as own statistics	Report Global scope Compares various data from over 30 countries Tool Global scope Compares data from 36 countries	Report & Interactive tool	Report N/A (not aggregated, every indicator is analysed on its own) Tool Adjustable by the user	Yearly

Name and publisher	Focus	Description	Type of data	Geographical scope	Format	Weights	Dissemination
		• **Infrastructure**					
AI Preparedness Index by IMF (Public institution)	AI preparedness across countries	29 indicators 4 dimensions with 7 sub-dimensions: • **Digital infrastructure** → sub-dimensions: accessible, affordable and secured internet access; mature e-commerce infrastructure • **Human capital and labour market policies** → sub-dimensions: education and digital skills; labour market flexibility and policies • **Innovation and economic integration** → sub-dimensions: innovation; economic integration • **Regulations and ethics** → sub-dimensions: strong legal frameworks and enforcement mechanisms	Secondary: Indicators from UN and its agencies, World Bank, World Economic Forum, and Fraser Institute	Global scope 174 countries	Report	Fixed (all indicators and dimensions have equal weight)	One-off (2024)
AI Readiness Index by Oxford Insights	Readiness of Governments to implement AI in delivery of public services to citizens	40 indicators 3 dimensions with 10 sub-dimensions: • **Government** → sub-dimensions: vision, governance and ethics, digital capacity, adaptability • **Technology Sector** → sub-dimensions: maturity, innovation capacity, human capital • **Data and Infrastructure** → sub-dimensions: data representativeness, data availability, infrastructure	Secondary: Indicators collected from over 20 public and private data sources	Global scope 188 countries	Report	Fixed (all indicators, dimensions and pillars have equal weights)	Yearly
Global AI Index by Tortoise (Media company)	AI capacity	122 indicators 3 dimensions and 7 sub-dimensions: • **Implementation:** measures the operationalising of AI by practitioners in business, government and communities → sub-dimensions: talent, infrastructure and operating environment • **Innovation:** estimates technology breakthroughs and advancements in methodology that are indicative of greater capacity for AI in the future → sub-dimensions: research and development • **Investment:** reflects financial and procedural commitments to AI → sub-dimensions: commercial ventures and government strategy	Secondary: Indicators collected from 28 public and private data sources + 62 governments	Global scope 83 countries	Visualisation tool	Fixed (but different weights according to a mix of relevance, contribution and comprehensiveness)	Yearly

Name and publisher	Focus	Description	Type of data	Geographical scope	Format	Weights	Dissemination
AI and Democratic Values Index by CAIDP (Think tank)	Assessment of AI policies and practices	12 indicators (qualitative questions) The research team conducts extensive online searches, supplemented by input from a multilingual team, to gather information. Based on this research, the team assigns "Yes," "No," or "Partly" answers to the 12 questions for each country	Secondary: Scores are assigned based on the review of existing policies, frameworks and reports	Global scope 80 countries	Report	Fixed (all indicators have equal weights)	Yearly
Global Index on Responsible AI by Global Center on AI Governance (Think tank)	Responsible AI	1862 indicators (qualitative questions) 3 dimensions and 19 sub-thematic areas: • Responsible AI Capacities → sub-areas: Competition authorities, public sector skills development, international co-operation • Human Rights → sub-areas: gender equality, data protection and privacy, public participation and awareness, bias and unfair discrimination, children's rights, labour protection and right to work, cultural and linguistic diversity • Responsible AI Governance → sub-areas: national AI policy, impact assessments, human oversight and determination, responsibility and accountability, proportionality and do no harm, public procurement, transparency and explainability, access to remedy and redress, and safety, accuracy and reliability	Primary: Indicators collected by having local researchers complete a survey with 1862 questions (98 per thematic area)	Global scope 138 countries	Report	Fixed (but different weights to each pillar)	TBC, first release in 2024
AI Watch Index by JRC (Public institution)	Understanding EU's areas of strength and weakness in the field of AI	22 indicators 5 dimensions with 10 sub-dimensions: • **Global view on the AI landscape** → sub-dimensions: AI activity, AI areas of strength, AI investments • **Industry** → sub-dimensions: AI firms' profile, robotic start-ups • **R&D** → sub-dimensions: R&D activity, network of collaborators • **Technology** → sub-dimensions: performance of AI research, standardisation activity engagement • **Societal aspects** → sub-dimensions: diversity in research, AI in higher education	Primary: Indicators from JRC databases or estimates (exception of 2 indicators, one from UN and one from Dealroom)	EU (+ parallel China and US if available) 29 (EU27 + China and US)	Report	N/A (not aggregated, every indicator is analysed on its own)	One-off (2021)

Name and publisher	Focus	Description	Type of data	Geographical scope	Format	Weights	Dissemination
Latin America AI Index by CENIA and ECLAC (Public institutions)	Overview of the current state of AI in LAC	Over 85 indicators 3 dimensions and 9 sub-dimensions: • **Enabling Factors:** measures the presence of elements that enable an ecosystem to flourish → sub-dimensions: infrastructure, data, human capital • **Research, Development and Adoption:** evaluates the level of maturity that reflects the state of the art and practice in elements such as scientific production, private investment and technology transfer in each country → sub-dimensions: research, innovation and development, adoption • **Governance:** assesses the institutional and regulatory environment in which AI ecosystems are framed → sub-dimensions: vision and institutionality, international linkages, regulation	Secondary: Indicators from public institutions, private companies, government sources	LAC 19 countries	Report	Fixed (all sub-indicators, indicators, sub-dimensions and dimensions have equal weights)	

Note: Type of data is used as a category to differentiate between primary data, i.e. those that were originally obtained and newly documented, and secondary data i.e. those that rely on existing sources.

The existing indices can be grouped based on their primary measurement focus and key components into the following three categories: performance indices, thematic indices, and regional indices.

Performance indices

The AI Index by the Stanford Institute for Human-Centred AI (2025[12]) and its Global AI Vibrancy Tool (2025[24]), the AI Preparedness Index by the International Monetary Fund (2024[5]), the AI Readiness Index by Oxford Insights (2024[6]), and the Global AI Index by Tortoise (2024[7]) all aim to measure and compare the capability or readiness of countries in adopting, implementing, or advancing AI technologies, providing a benchmark for evaluating national progress and effectiveness in the AI sector. They evaluate enabling factors for AI, such as human capital and infrastructure, examine national R&D expenditures and innovation capacity, and explore governance dimensions.

Stanford's Index Report (Stanford Institute for Human-Centered Artificial Intelligence, 2025[12]), published annually since 2017, is one of the leading indices on AI. It covers data from over 30 countries, although many statistics are predominantly provided for the United States. The report tracks AI's progress and impact across several dimensions, such as research, development, technical performance, and societal impact. It monitors advancements in various AI technologies such as natural language processing, computer vision, and robotics, highlighting significant milestones and emerging trends within these subfields. Finally, the report assesses the societal and economic effects of AI, examining how these technologies influence job markets, education systems, public opinion, and ethical consideration. It is a comprehensive report that compiles, analyses, and visualises a wealth of data related to AI, featuring AI-specific metrics only. However, while representing an authoritative source of data on AI advancement across countries, the Stanford AI Index Report does not provide a composite score of the different indicators. It therefore differs from the other indices included in this overview, which for the most part provide an aggregate measure and rank countries on a single scale. The Global AI Vibrancy Tool (Stanford, 2025[24]) can be seen as complementary: it is an interactive visualisation that compares 36 countries over 42 indicators grouped into 8 pillars. It does not have fixed weights, giving the user more freedom but simultaneously making country comparison reliant on users' preferences.

The AI Preparedness Index (AIPI) (International Monetary Fund, 2024[5]), published for the first time in 2024, uses 29 metrics for 174 countries to evaluate national "AI preparedness". While the index assesses the enabling economic factors that contribute to the development of AI systems, the data itself do not assess AI-specific dimensions of the economy, but instead includes metrics on the broader digital transformation. For example, the AIPI includes measures of e-commerce maturity in its Digital Infrastructure pillar and counts the number of Science, Technology, Engineering and Mathematics (STEM) graduates as a primary indicator in the Human Capital dimension (International Monetary Fund, 2024[25]). This approach provides a valuable context for understanding the overall environment in which AI can be developed, even though it does not specifically include AI-specific indicators.

Similarly, the AI Readiness Index (Oxford Insights, 2024[6]) provides since 2020 an annual comprehensive assessment of AI readiness based on 39 indicators, particularly focusing on governments' ability to implement AI in public services. It covers and ranks 193 countries, making it the index with the broadest geographical coverage. A unique feature of the index is the great number of indicators in the governance dimension, including on governance and ethics, as well as on less commonly measured dimensions such as government adaptability, defined as a government's ability to change and innovate effectively. As in the case of the IMF's AIPI, the indicators included in scope are for the large majority non-AI specific.

Finally, the Global AI Index (GAII) by Tortoise Media (2024[7]), at its fifth edition in 2024, evaluates 83 countries across 122 indicators and ranks them based on their overall AI capabilities. This index adopts a comprehensive AI perspective, including indicators on the operating environment, i.e. political, social, legislative, economic, cultural and natural environmental factors that significantly affect the implementation of AI technologies ("enabling factors"), as well as data on both commercial and governmental investments. About 70% of the indicators included in the scope are AI-specific.

Thematic indices

The AI and Democratic Values Index by the Center for AI and Digital Policy (2024[8]) and the Global Index on Responsible AI by the Global Center on AI Governance (2024[8]) take a thematic approach by focusing on the ethical and democratic dimensions of AI governance. Differently than the other indices, they do not include indicators on AI development and its impact on the economy such research and development, investment or AI talent, but consider national AI policies and practices as well as adherence to international standards to assess government commitments and country capacities towards the responsible development of AI.

The AI and Democratic Values Index (Centre on AI and Digital Policy, 2025[9]) focuses on how national AI policies align with democratic values as reflected in international AI ethical frameworks (including the OECD AI Recommendation). The Index has been published on an annual basis since 2020 and covers 80 countries, reflecting country's commitment to integrating democratic values into their AI strategies, policies, and practices. The Index evaluates 12 factors reflecting well-known frameworks for AI policy (e.g. adherence to and implementation of the OECD/G20 AI Principles, adherence to and implementation of the UNESCO Recommendation on the Ethics of AI), human rights (Universal Declaration for Human Rights), and democratic decision-making (transparency, public participation, access to policy documents), based on a qualitative assessment. Indicators are for the large majority AI-specific. The Index gathers data through expert assessments and analysis of policy documents, analysing progress towards responsible AI, with results compiled into an annual report and a score calculated for each country, with a ranking of the countries established every year.

The Global Index on Responsible AI (Global Center on AI Governance, 2024[8]), published for the first time in 2024, measures progress towards responsible AI, ranking 138 countries across 19 thematic areas grouped into three dimensions: Responsible AI capacities, Human rights, and Responsible AI governance. This index uses answers from local experts to 1 862 qualitative questions (98 per thematic area) designed to ascertain conditions and actions being taken to advance responsible AI by the government and non-government actors in each country surveyed.

Regional indices

The AI Watch Index by the Joint Research Centre of the European Commission (2021[13]) and the Latin America AI Index by CENIA and ECLAC (2025[14]) offer regional perspectives, providing comprehensive assessments of AI development and performance within their regions, the EU and LATAM respectively.

The AI Watch Index (European Commission, 2021[13]) focuses on the 27 EU Member States and benchmarks the EU's AI capabilities against those of the US and the People's Republic of China. Developed as a one-off initiative in 2021 and with plans to publish a new iteration in 2025, it provides an overview of EU Member States' AI activity, strengths, and weaknesses, based on 22 indicators, including on R&D and collaboration among and within EU countries, on the proportion of university programmes with AI content as well as societal considerations such diversity in research. Notably, over 80% of the indications are AI-specific, and the data is collected directly by the research centre, with only two indicators sourced from the United Nations (UN) Comtrade database and Dealroom (a private provider of data on start-ups, growth companies and tech ecosystems in Europe and worldwide).

Similarly, the Latin America AI Index (CENIA and ECLAC, 2025[14]), in its third edition in 2025, provides an annual overview of AI development in 19 Latin American countries. It examines the enabling factors of AI i.e. infrastructure, data, and human capital, but also explores aspects such as R&D and private investments in AI and assessing national governance landscapes. The data sources are primarily official statistics from countries or international organisations, complemented by data from private companies.

Annex B. Indicators' description

Table A B.1. Description of selected indicators

Indicator description	Context and source	Scoring methodology
Number of "high-quality" AI research publications	Two sources were used for research publication data, Elsevier and OpenAlex. Scopus is Elsevier's expertly curated abstract and citation database, with over 75 million indexed records. The data used to construct OECD.AI visualisations includes scholarly articles, conference proceedings, reviews, book chapters and books from a subset of AI-related resources belonging to Elsevier. More than 600,000 AI scholarly publications are extracted from its archives using core AI keywords such as back-propagation neural network, genetics-based machine learning, cohen-grossberg neural networks, back-propagation algorithm, and neural networks learning. The OpenAlex dataset is a comprehensive, open-source bibliographic database offering extensive information on scholarly works. It includes over 245 million research publications, including journals, conferences, and workshop papers. The data records are tagged with a set of 65 000 topics from Wikidata, covering a range of different subjects.	Scientific publications are ranked based on the Field-weighted Citation Impact (FWCI), which is the ratio of the total citations actually received by a scientific publication and the total citations that would be expected based on the average of the subject field or scientific discipline. A FWCI of 1 means that the publication is cited as much as the average publication in that subject field or scientific discipline. A FWCI of less (more) than 1 means that the publication is cited less (more) than the average publication in that subject field or scientific discipline. In this manner, the FWCI takes into account the differences in research behaviour across disciplines. OECD.AI defines three categories of scientific publications based on their FCWI score: • Low impact: 0 < FWCI ≤ 0.5 • Medium impact: 0.5 < FWCI ≤ 1.5 • High impact: FWCI > 1.5
Number of AI patents applications submitted	Data refer to AI-related patent applications filed under the PCT, by earliest filing date and location of applicants, using fractional counts. AI-related patents are identified on the basis of their Cooperative Patent Classification (CPC) group and keyword search in patent's title and abstract (OECD, forthcoming). Data is compiled by the OECD.	"AI patents" are patents that: - Belong to a "core AI" group: Patents classified under Cooperative Patent Classification (CPC) groups: G06N3 (computing arrangements based on biological models), G06N5 (id. Using knowledge-based models), G06N7 (id. Based on specific mathematical models), G06N20 (machine learning), G06F18 (pattern recognition); and G06T9 (image coding); or - Belong to an "AI-related" group and display an AI keyword: Patents from a selected list of AI-related CPC groups whose title or abstract contain at least one relevant AI keyword. This group is made of technologies applying AI to particular uses (e.g., autonomous driving). Combining keywords and CPC groups helps to prevent overestimation of AI patents by filtering out patents pertaining to those

		technologies but which are not AI per se. Patents which fulfill neither of these conditions are not considered as AI. The OECD Secretariat uses patent data with a two-year lag to ensure the reliability of the indicator, as patent filings are a lagging indicator. Patents can take several years to move from application to publication, which makes drawing conclusions from recent data problematic.
Number of AI models developed	A comprehensive data collection was carried out by screening the websites of cloud providers to track the characteristics of AI models on offer, including different modalities. This data was collected as an effort to measure competition in AI development (André et al., 2025[26]).	Counts were determined by unique combinations of model characteristics across 7 segments: foundation model, variant, version, update date, number of parameters, and context window size.
Number of large-scale models	Models in the Epoch AI dataset have been collected from various sources, including literature reviews, Papers With Code, historical accounts, highly-cited publications, proceedings of top conferences, and suggestions from individuals. The list of models is non-exhaustive, but aims to cover most models that were state-of-the-art when released, have over 1000 citations, one million monthly active users, or an equivalent level of historical significance.	The number of models were counted by country associated with the developing organisation(s). Countries were identified for 97% of models.
GPU clusters	Epoch AI's database of over 500 GPU clusters and supercomputers tracks large hardware facilities, including those used for AI training and inference. The dataset covers an estimated 10–20% of existing global aggregate GPU cluster performance as of March 2025.	GPU clusters were aggregated by the number of H100 equivalents, and filtered for confirmed clusters that had their first operational date on or before the last day of the target year.
Fibre connections per 100 inhabitants	The OECD Broadband Statistics includes broadband-related statistics based on questionnaires received by the OECD from relevant national authorities of OECD members and accession countries.	Fibre connections per 100 inhabitants.
Fixed subscriptions above 100mbps over total advertised fixed broadband plans		Fixed broadband subscriptions exceeding certain thresholds (above 100 Mbps) over total advertised fixed broadband plans. Note that these speed thresholds are the speeds advertised by service providers and not the actual speeds experienced by users.
Datasets available by language	Hugging Face offers a leading open-source library for machine learning (ML) tasks, providing state-of-the-art pre-trained models, datasets, and metrics to support ML application development. It serves as a central repository for sharing and versioning these resources, and users can access and download them for a wide range of ML applications such as NLP, computer vision and reinforcement learning. The World Factbook provides basic information on the history, people, government, economy, energy, geography, environment, communications, transportation, military, terrorism, and transnational issues for 258 world entities.	The number of multilingual and monolingual open datasets are acquired from the Hugging Face public API. The number of datasets containing a language were counted for each language appearing in the Hugging Face API. For a calculation for a given year in the Index, only datasets created at or before that year were included. Data from the World Factbook on the top two primary languages for each country, and the percentage of the population with this as their primary language, was used. The sum of the percentage of the top two languages were scaled to sum to 100, and then each percentage was applied to the count of datasets that include that language. These were then summed to get the total datasets available for each country.

Accessibility of high-value datasets (HVD)	The OECD Open, Useful and Re-usable data (OURdata) Index benchmarks efforts made by governments to design and implement national open government data policies. With subsequent editions released in 2017 and 2019, the Index has remained a valuable resource for policymakers and serves as a key public governance indicator, assessing the progress governments have made in ensuring open data to support policy reform. More details can be found in the OECD reports (Forthcoming[27]; 2026[19]).	Percentage of available high-value datasets that are provided in easily accessible and reusable formats (non-proprietary (open) format, through API, up to date, good metadata quality, on a central portal)
Availability of high-value datasets (HVD)		Percentage of high value datasets made available by governments (available = open license, machine-readable, free of charge).
Existence of an open data strategy		A score of 1 was assigned to countries saying they have an open data strategy, and 0 otherwise.
Number of supercomputers	The TOP500 supercomputer list is a ranking of the world's most powerful supercomputers, based on their performance in solving linear equations using the High Performance Linpack (HPL) benchmark. The HPL benchmark measures a system's ability to solve dense systems of linear equations, providing a standardised metric for comparison across diverse architectures and configurations. The list serves as a key resource for understanding trends in high-performance computing, highlighting advancements in hardware, software, and computational techniques. The data for the TOP500 are gathered through submissions from manufacturers, users, and other stakeholders, and are validated to ensure accuracy and consistency.	By filtering for geographical location, this indicator sums of all supercomputer's Rmax and Rpeak (separately) from the TOP500 list were calculated for each territory, and then each country was indexed between 0 and 1. The latest data (i.e., from November) were selected for each year. Disclaimer: traditional HPCs are primarily used for scientific computation/modeling and simulation tasks, while AI oriented GPU clouds are used for training large-scale AI models. Data for the latter were however not available, hance the reliance on HPCs.
Strategic approach to cloud infrastructure	The OECD Digital Government Index assesses countries' digital government by looking at the comprehensiveness of strategies and initiatives in place to be able to leverage data and technology to deliver a whole-of-government and human-centric digital transformation of the public sector. The assessment is based on the six dimensions of the OECD Digital Government Policy Framework: 1) digital by design, 2) data-driven public sector, 3) government as a platform, 4) open by default, 5) user-driven, and 6) proactiveness. The DGI is a composite index that takes values from 0 to 1, where 1 indicates the highest digital government maturity and 0 indicates low and/or fragmented progress across organisations. More details can be found in the OECD reports (Forthcoming[27]; 2026[19]).	Countries replied to the question "How is the strategic approach to cloud infrastructure development managed by your central/federal government?" and had to select one option between: A. There is a dedicated strategy/policy on cloud infrastructure for the central/federal government; B. Cloud infrastructure is included as part of the national digital government strategy/policy (NDGS); C. Other; D. None of the above. They were assigned a score of 1 if they replied A, 0.5 points for answer B and 0 points for answers C or D.
Use of AI in the central/federal government		Countries replied to the question "Has the central/federal government used AI to improve the following? Select all that apply among the three, and provide the requested information at least for one initiative per answer option". They were assigned 1/3 of a point per each improved area, for a maximum score of 1 point.
Amount of venture capital investments in AI	Preqin is a private company which collects data on private equity transactions, funds and fund managers. Preqin covers various asset classes including VC investments. Information provided includes the number of venture capital deals, their count and value are included as well as information on the industry relevant to the deal.	Start-ups are identified as AI or data start-ups based on Preqin's cross-industry and vertical categorisation. The sums of the value of all deals within each territory (determined by the company receiving the funding) were calculated. .
Existence of regulatory sandboxes on AI	A regulatory sandbox is a limited form of regulatory waiver or flexibility for firms, enabling them to test new business models with reduced requirements. Such sandboxes are useful for assessing the potential adjustments needed in the legal frameworks to better accommodate the evolving capabilities of AI, thus providing a more informed basis for future legislation and policy decisions.	A score of 1 was assigned to countries with planned strategies regarding regulatory sandboxes in AI, 2 points if these strategies are effectively implemented, and 0 points otherwise. This approach aims to differentiate between countries at different stages of regulatory sandbox implementation to reflect varying degrees of commitment and progress in fostering AI innovation and regulation.

	To compile a directory of AI sandbox initiatives for the indicator under review, the OECD Secretariat relied on the DataSphere Initiative's report *"Sandboxes in AI"* which serves as the primary source for our dataset.	
Membership to the International Network of AI Safety Institutes	An AI Safety Institute (AISI) is a government-backed institution dedicated to fostering the safe and secure development and deployment of AI. The International Network of AI Safety Institutes was established in November 2024, on behalf of the AI safety institutes and government mandated offices that facilitate AI safety and evaluation from Australia, Canada, the European Commission, France, Japan, Kenya, Korea, Singapore, the United Kingdom, and the United States. The mission statement of the Network is as follows: “Our institutes and offices are technical organisations that aim to advance AI safety, help governments and society understand the risks posed by advanced AI systems, and suggest solutions to address those risks in order to minimize harm. Beyond mitigating risks, these institutes and offices play a crucial role in guiding the responsible development and deployment of AI systems.”	In 2023, before the establishment of the Network, manual research was conducted to provide a score of 1 for countries with an established AI Safety Institute and 0 to those without. In 2024 and in future iterations, a score of 1 is given to members of the Network, and 0 for non-members. Common instruments (e.g. EU-level initiatives) are not taken into account. The rationale behind this choice is that including supranational efforts would not accurately reflect which individual countries are taking national leadership and investing directly in the institutional infrastructure needed to ensure AI safety.
Existence of national strategy on AI	The existence of a national AI strategy indicates a government’s overarching policy commitment and strategic direction for AI development and adoption. National AI strategies were identified using the OECD.AI Policy Navigator and desk research by OECD analysts.	A value of 1 is given to those countries with a national AI strategy. Future updates to this indicator may take into account the age and last update of the strategy.
Net AI talent migration i.e. net flow migration of AI talent per 10000 people, derived from the self-identified locations of LinkedIn member profiles	LinkedIn is an online platform designed for professional networking and career development. It serves as a virtual hub where individuals can connect with peers, explore job opportunities, and share industry insights. LinkedIn's online platform encompasses millions of user profiles, which include detailed information on professional backgrounds, skills, and endorsements. The dataset covers annual information on skills and jobs of LinkedIn members from 2016 to 2023 across industry and country for data on AI talent, and for 2019 to 2023 for skills migration. Countries are included in the sample if the LinkedIn posts represent 40% of the real work force and they display at least 10 AI hires in any given month on LinkedIn for this country.	The indicator describes the net flow migration of AI talent per 10000 people, for each country per year. A negative (positive) value indicates that a country is experiencing a loss (gain) in its AI talent pool relative to the size of its professional community. Net AI talent migration between country A and country B – for country A – is calculated as follows: $\text{Net AI Talent Migration}_{((a,b,t))} = \frac{\text{Net AI Talent flows}_{((a,b,t))}}{\text{Member count}_{((a,t))}}$ The numerator represents the net flow of AI talent between countries A and B at time t. It is calculated as the difference between the number of AI talents who moved from country B to country A and those who moved from country A to country B during the period from t-1 to t. The denominator represents the total number of LinkedIn members in country A at time t, regardless of their AI skills or jobs. Therefore, the Net AI Talent Migration measure is normalised by the total LinkedIn member count in country A at time t, not specifically by the AI talent pool in country A.
Density of LinkedIn members having explicitly added AI skills to their profile and/or occupied in an AI job		A job profile on LinkedIn is considered an AI talent if they have explicitly added AI skills to their profile and/or they are occupied in an AI job. AI talent concentration at the country level is calculated using the counts of AI talent divided by the counts of total LinkedIn members in that country.
Number of high and very high impact software projects	Following the methodology developed by Gonzalez et al. (2020[28]), OECD.AI identifies the publicly available GitHub projects containing AI code. The methodology uses the GitHub API to curate a list of relevant repository topic	AI Projects are classified based on a set of criteria. The project must have a size greater than zero files and must be accessible via the GitHub API and GHTorrent. It is important that the project is a software project and not a tutorial, homework assignment, coding

	labels related to "artificial intelligence", "deep learning" and "machine learning" and then searches for projects with these specific labels. Including the three search terms, the result led to 439 topic labels that can be used to identify a GitHub repository as artificial intelligence-related if they matched with at least one of the labels. Overall, 53,427 public repositories were identified based on this methodology, and further classified based on their quality to assess the type of contribution to a given public AI project.	challenge, 'resource' storage or collection of model files/code samples. The level of contribution to a given public AI project is measured by the number of "commits" made to it. Further, the last commit must have been made within the year 2019. Two quality measures are used to classify public AI projects: 1. Project impact: the impact of an AI projects is given by the number of copies (i.e. "forks") made of that project. Low impact (0 forks), Medium impact (1-5 forks), High impact (6-100 forks), Very high impact (>100 forks). 2. Project popularity: the popularity of an AI projects is measured by the number of followers (i.e. "stars") received by that project. Low popularity (0 stars), Medium popularity (1-5 stars), High popularity (6-100 stars), Very high popularity (>100 stars) The indicators are calculated as fractional counts by country. The fractional count represents a country's share of contributions to a specific AI project. To calculate the fractional count, an AI project is divided equally by the total number of contributions made to it. This indicator uses the sum of high and very high impact software projects.
Average importance of search terms related to artificial intelligence average value (score index)	Google Trends offers access to a largely unfiltered sample of search queries made to Google, which are anonymised and categorised by the topic of the search query. This data is instrumental in measuring public interest in various topics and tracking the evolution of that interest over time, across different languages, and geographic regions. Google Trends provides Search Volume Indices, which measure search intensity by calculating the number of searches for a given keyword relative to the total number of searches in a specific location and period. Users can conduct queries based on keywords, categories of keywords, or topics. Queries based on keywords are language-specific and can be subject to ambiguity. In contrast, categories and topics are harmonised across languages, allowing for comparability across countries. This harmonisation enables the representation of search interest in broader concepts rather than specific terms.	Data cleaning involved removing repetitive or irrelevant related topics. This included topics such as 'Artificial', 'Intelligence', 'Machine', and 'Learning', as well as topics spuriously related to acronyms (e.g., 'Adobe Illustrator' for 'AI' and 'Neuro-Linguistic Programming' for 'NLP'). Semantic similarity was applied to filter out topics that were least related to the original key search topic. The filter, based on cosine similarity, used a threshold of 0.15 to systematically exclude the least related topics to the original search topic.
Number of international research collaborations on AI topics	Scopus is Elsevier's expertly curated abstract and citation database, with over 75 million indexed records. The data used to construct OECD.AI visualisations includes scholarly articles, conference proceedings, reviews, book chapters and books from a subset of AI-related resources belonging to Elsevier.	OECD.AI calculates research collaborations between different entities, either institutions or countries (Country names and codes in OECD.AI abide by the *"OECD Guidelines regarding the use of the list of names of countries and territories"*). This is done by assigning each paper to the relevant institutions and countries on the basis of the authors' institutional affiliations. To avoid double counting, collaborations are considered to be binary: either an entity collaborates on a paper (value=1) or it does not (value=0). The shared paper counts as one toward the number of collaborations between two entities.
Legally binding instruments Voluntary multilateral initiatives	The Policy Navigator is a live database updated regularly by official contact points from countries and international organisations and OECD.AI experts.	A score of 1 was given to countries that signed the declaration/initiative and 0 to other countries that did not sign it.

Non-binding declarations and political commitments (from Policy Navigator)	Users can see who submitted or updated each entry and when. A filter for "International and multi-stakeholder co-operation on AI" was applied to the database. The results were further refined to retain policies that fulfilled two criteria: being AI-specific; and applicable across jurisdictional borders for at least one OECD country. Events and conferences were also excluded from the selection. This resulted in the inclusion of 9 declarations and initiatives on AI. These were further classified into three categories: Legally binding instruments (Committee on Artificial Intelligence), voluntary multilateral initiatives (G7 Hiroshima Process on Generative Artificial Intelligence, and the FAIR Forward initiative), and non-binding declarations and political commitments (the Bletchley declaration, the Seoul declaration, the Montevideo declaration, the Santiago declaration, the declaration on AI in the Nordic-Baltic Region, and the Cartagena de Indias Declaration for Governance).	For voluntary multilateral initiatives and non-binding declarations and political commitments, the commitment of the European Union does not necessarily imply obligatory compliance by its member states. Therefore, individual EU countries that did not explicitly sign the declaration received a score of 0. For legally binding instruments, namely the Committee on Artificial Intelligence, the EU signed on behalf of its member states, and therefore individual EU countries received a score of 1. Each signing was weighted equally, for each declaration or initiative.
National participation in AI standardisation committees	ISO/IEC JTC 1/SC 42 is a committee of the Joint Technical Committee (JTC 1), a collaboration between the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). SC 42 specifically focuses on AI. It is responsible for developing international standards that address the entire AI ecosystem, including, for example, safety considerations or specific AI applications. SC 42 aims to create frameworks and guidelines that ensure interoperability, safety, and ethical development and deployment of AI technologies, fostering global collaboration and consistency in AI development and implementation across industries.	A score of 1 was assigned to countries with Participating (P) member status and 0.5 points to those with Observer (O) member status in ISO/IEC JTC 1/SC 42. This scoring decision reflects the different levels of engagement and influence countries have within the committee. Participating members play a more active role in shaping AI standards through voting rights, regular attendance at meetings, and contributions to working groups. Observer members, while having access to documents and discussions, have a more limited impact on the standardisation process.

Annex C. Robustness checks

As part of the robustness checks conducted while building the OECD.AI Index, the Secretariat performed a clustering and principal component analysis.

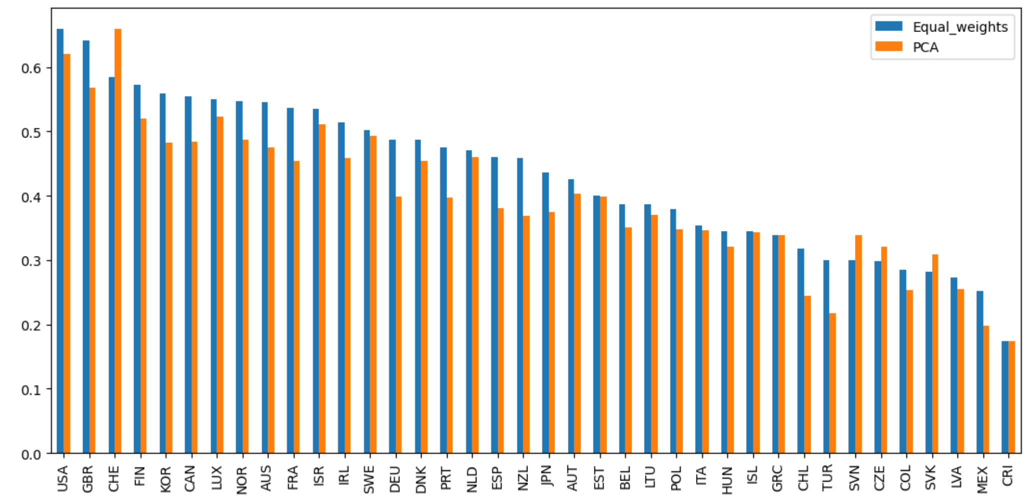
Principal component analysis

The principal component analysis (PCA) was conducted to reduce the dimensionality of the dataset and to identify the key underlying factors that explain the variance in the composite indicator. This analysis helps to simplify the complexity of the data and to highlight the most influential components driving the countries' performances.

The PCA was performed on the dataset of 38 OECD Member countries and 28 indicators that form the composite indicator. Before conducting the PCA, the variables were standardised to ensure comparability

The results of the PCA reinforce the use of an equal weighting scheme. Firstly, across countries the first principal component was highly correlated with the index from the equal weighting scheme (Figure A C.1.) (correlation of 0.94). Secondly, while loading factors for individual indicators deviated from the weights under the baseline schema, the average loading factors for most subcomponents were similar (Table A C.1). The results imply that the subcomponents explained roughly the same amount of variance in the latent factor. Taken together, these results suggest that the equal weighting scheme is a reasonable approach that lines up well with statistically robust, yet less transparent, methods.

Figure A C.1. Comparison of equal weights Index and first principal component for 2024



Note: PCA scaled to min/max of equal weight result.
Source: OECD calculations based on data sources as listed in Table 3.1.

Table A C.1. Comparison of weights under equal weights assumption and PCA

	Equal weights (%)	PCA (average of loading factors)
RD	20	24.3
Enabling infrastructure	20	14.4
Policy environment	20	10.8
Jobs and skills	20	21.2
International co-operation	20	7.4

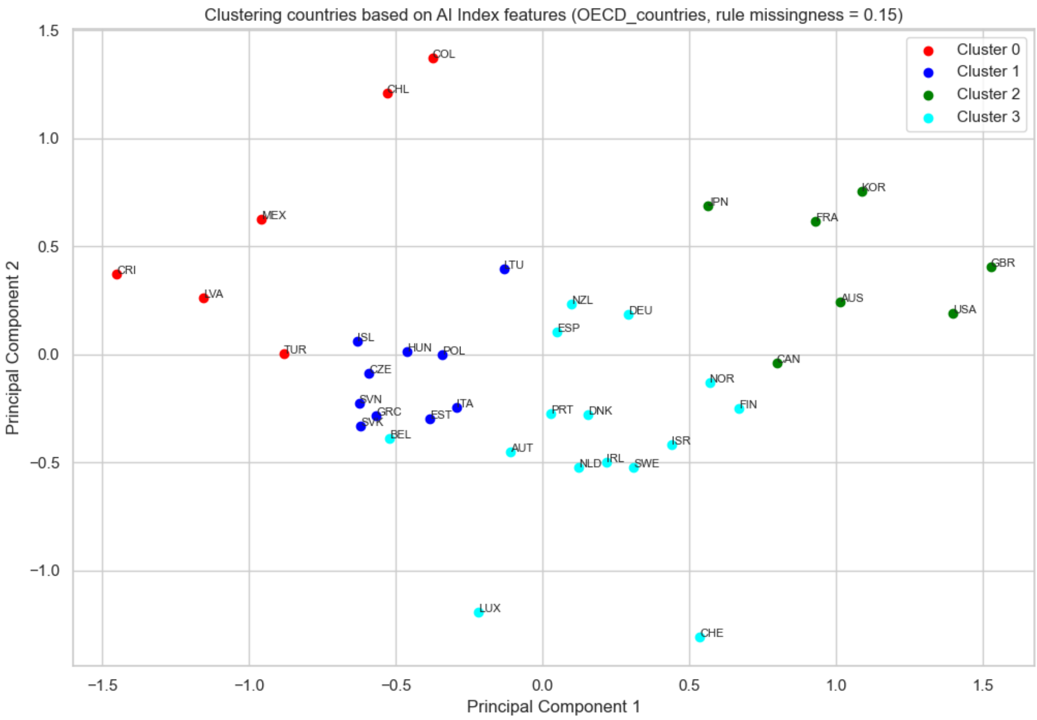
Source: OECD calculations based on data sources as listed in Table 3.1.

Clustering analysis

The clustering analysis (Figure A C.2) was conducted to identify distinct groups of countries based on the dataset used to compute the composite indicator. This analysis aids in understanding the heterogeneity among the country entities and utilised the k-means clustering algorithm for its efficiency and interpretability. The number of clusters was determined using the Elbow Method, balancing the trade-off between the number of clusters and the variance explained.

The high-performing cluster sets a benchmark, while the lower-performing clusters indicate specific areas requiring targeted support. However, it is important to acknowledge the limitations of the clustering method, including sensitivity to the choice of variables and the number of clusters.

Figure A C.2. Distribution of clusters based on indicators in the OECD.AI Index



Note: The clustering analysis has been based on a total of 38 countries. Data have been estimated up to 10% of missing data per country.
Source: OECD calculations based on data sources as listed in Table 3.1.

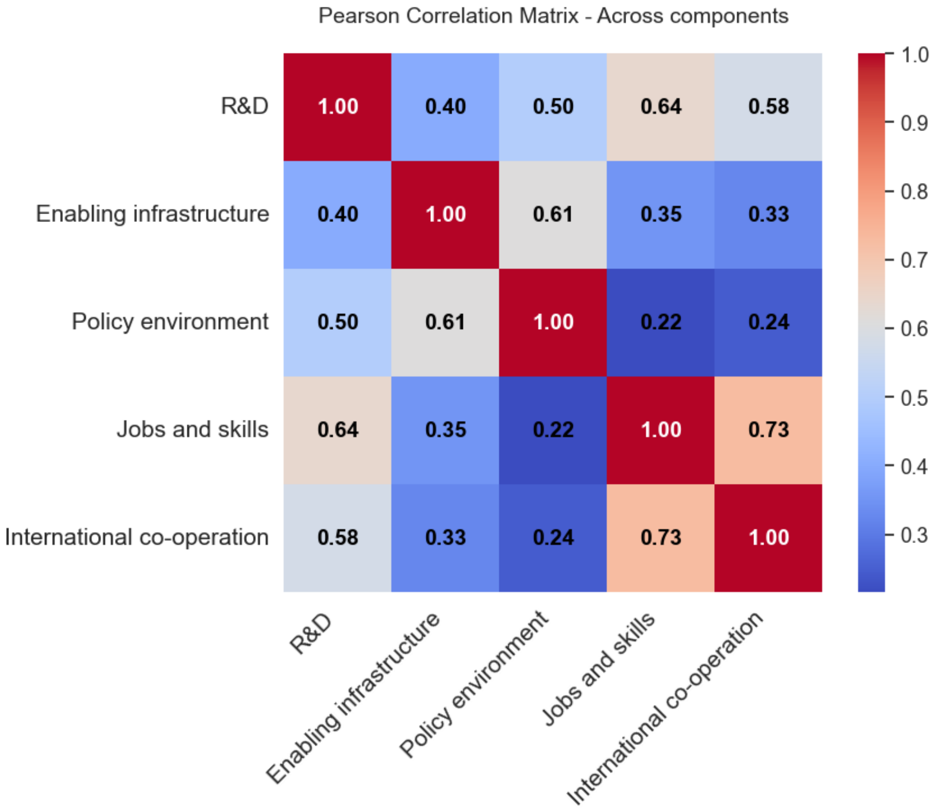
Robustness and sensitivity

Sensitivity checks serve to evaluate the internal reliability of the conceptual framework, ensuring that the Index remains stable and reliable under various conditions. It checks whether the different components that make up the Index consistently measure the underlying constructs they are intended to reflect. This consistency is important because it helps ensure that the conclusions drawn from the data are reliable and can be trusted to accurately reflect the phenomena being studied, rather than being influenced by variability in the measurement process itself. Hence, this step is necessary to confirm that the Index is stable across different scenarios and that its conclusions are sound and defensible.

Correlation analysis examines the relationships between individual indicators and to ensure they are measuring the intended constructs. Pairwise Pearson correlations are computed to understand the relationships between individual indicators, followed by correlation checks within and across different components of the Index (Figure A C.3). For example, the low correlation between the R&D and enabling infrastructure components likely reflects fundamental differences in what these indicators capture. R&D indicators tend to reflect national capacities and innovation cultures that evolve over extended periods, often deeply embedded in a country's academic and industrial systems. In contrast, indicators related to enabling infrastructure are typically more influenced by policy decisions and government investment and may evolve on different timescales. As a result, the development cycles of these two components may be misaligned, contributing to the observed weak correlation.

Additionally, Cronbach's alpha is calculated to evaluate the internal consistency within each component, ensuring that grouped indicators reliably measure the same construct. The Cronbach Alpha value across components is 0.79 in 2023 and 0.8 in 2024, which is well above the recommended threshold of 0.7 for a reliable aggregate. This multilevel approach helps validate the structural integrity of the Index and guarantees that it accurately reflects the dynamics it aims to capture.

Figure A C.3. Pearson correlation matrix for 2024

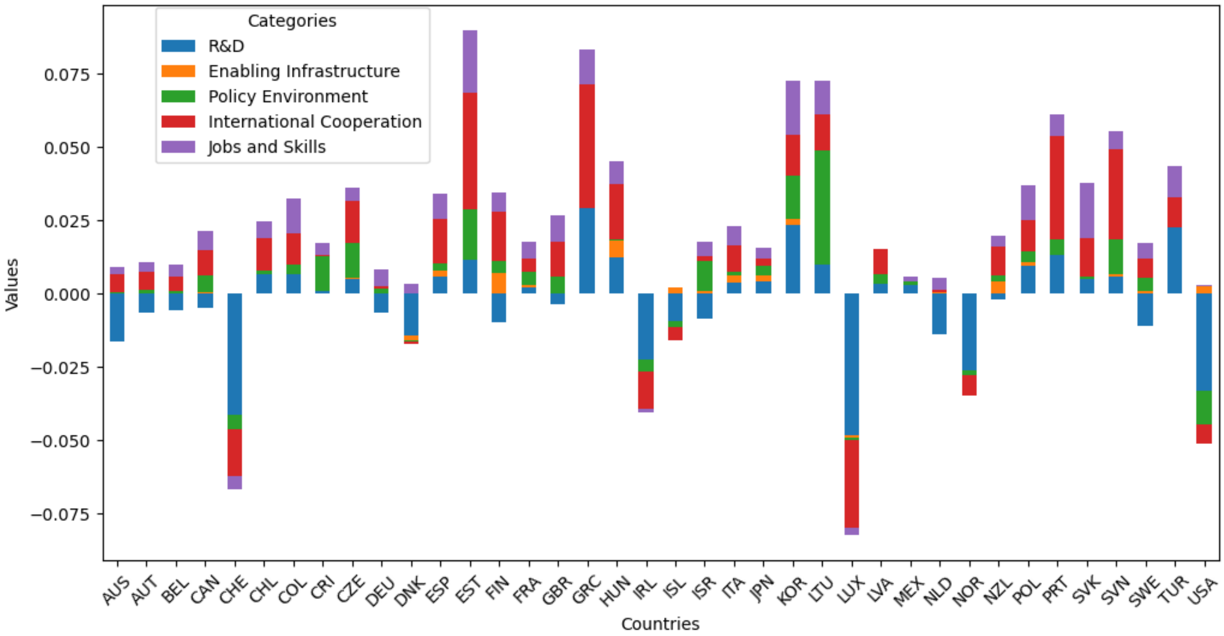


Source: OECD calculations based on data sources as listed in Table 3.1.

Finally, a sensitivity check on the method of normalisation was performed by using GDP instead of population as the scaler. The results show that there are significant changes in the scores and rankings when using GDP. The results indicate that wealth may be a significant factor in the implementation of the OECD AI policy recommendations, and policies that promote underlying economic improvements will also contribute to AI use and development.

Figure A C.4. Differences in Index values due to normalising by GDP large for some countries

Results normalised by GDP minus results normalised by population



Source: OECD calculations based on data sources as listed in Table 3.1.

References

André et al. (2025), *Developments in Artificial Intelligence: new indicators based on models characteristics, prices and providers.*. [26]

CENIA and ECLAC (2025), *Latin American Artificial Intelligence Index*, https://indicelatam.cl/. [14]

Centre on AI and Digital Policy (2025), *Artificial Intelligence and Democratic Values Index 2025*, https://www.caidp.org/reports/aidv-2025/. [9]

Epoch AI (2025), *Parameter, Compute and Data Trends in Machine Learning*, https://epoch.ai/data/ai-models. [17]

European Commission (2021), *AI Watch Index 2021*, https://publications.jrc.ec.europa.eu/repository/handle/JRC128744. [13]

Fattorini, L. et al. (2024), *The Global AI Vibrancy Tool*, https://hai.stanford.edu/assets/files/global_ai_vibrancy_tool_paper_november2024.pdf (accessed on 6 January 2026). [11]

Fonteneau, F. et al. (2025), "Advancing the measurement of investments in artificial intelligence", *OECD Artificial Intelligence Papers*, No. 47, OECD Publishing, Paris, https://doi.org/10.1787/13e0da2f-en. [15]

Global Center on AI Governance (2024), *Global Index on Responsible AI*, https://global-index.ai/. [8]

Gonzalez, D., T. Zimmermann and N. Nagappan (2020), *The State of the ML-universe: 10 Years of Artificial Intelligence \& Machine Learning Software Development on GitHub*. [28]

International Monetary Fund (2024), , https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379. [5]

International Monetary Fund (2024), *AI Preparedness Index (AIPI)*, https://www.imf.org/external/datamapper/AIPINote.pdf. [25]

JRC-COIN (2023), *Step 3: Data Treatment - 19th JRC Annual training on Composite Indicators and Scoreboard*, https://knowledge4policy.ec.europa.eu/sites/default/files/COIN_2023_Step%203.%20Data%20Treatment.pdf (accessed on 25 July 2024). [23]

Lehdonvirta, V. et al. (2025), "Measuring domestic public cloud compute availability for artificial intelligence", *OECD Artificial Intelligence Papers*, No. 49, OECD Publishing, Paris, https://doi.org/10.1787/8602a322-en. [18]

OECD (2026), "Digital Government Index and Open, Useful and Re-usable Data Index", *OECD Working Papers on Public Governance*, No. 90, OECD Publishing, Paris, https://doi.org/10.1787/6347ec74-en. [19]

OECD (2025), *Identifying emerging AI technologies using patent data: A semi-automated approach*, OECD Publishing, Paris, https://doi.org/10.1787/d17e9a1a-en. [16]

OECD (2025), *OECD.AI Policy Observatory*, https://oecd.ai/en/. [2]

OECD (2024), *OECD Explanatory Memorandum on the Updated OECD Definition of an AI*, https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/03/explanatory-memorandum-on-the-updated-oecd-definition-of-an-ai-system_3c815e51/623da898-en.pdf. [1]

OECD (2023), "The state of implementation of the OECD AI Principles four years on", *OECD Artificial Intelligence Papers*, No. 3, OECD Publishing, Paris, https://doi.org/10.1787/835641c9-en. [4]

OECD (2021), "State of implementation of the OECD AI Principles: Insights from national AI policies", *OECD Digital Economy Papers*, Vol. No. 311, https://doi.org/10.1787/1cd40c44-en. [3]

OECD (Forthcoming), *Digital Government Outlook*. [27]

OECD/European Union/EC-JRC (2008), *Handbook on Constructing Composite Indicators: Methodology and User Guide*, OECD Publishing, Paris, https://doi.org/10.1787/9789264043466-en. [22]

Oxford Insights (2024), *Government AI Readiness Index 2023*, https://oxfordinsights.com/ai-readiness/ai-readiness-index/. [6]

Pilz, K. et al. (n.d.), "Data on GPU Clusters", *Published online at epoch.ai*, https://epoch.ai/data/gpu-clusters (accessed on 2 February 2026). [21]

Stanford (2025), *Global AI Vibrancy Tool*, https://hai.stanford.edu/ai-index/global-vibrancy-tool. [24]

Stanford Institute for Human-Centered Artificial Intelligence (2025), *Artificial Intelligence Index Report 2025*, https://hai-production.s3.amazonaws.com/files/hai_ai_index_report_2025.pdf. [12]

Stanford Institute for Human-Centered Artificial Intelligence (2025), *The Global AI Vibrancy Tool 2025*, https://hai.stanford.edu/research/the-global-ai-vibrancy-tool-2024 (accessed on 2 December 2025). [10]

TOP500 (2025), *The List*, https://top500.org/lists/top500/. [20]

Tortoise (2024), *The Global AI Index 2024*, https://www.tortoisemedia.com/intelligence/global-ai/#rankings. [7]

End notes

[i] Connectivity Services and Infrastructures, commonly referred to as **digital infrastructure**, as defined by the OECD's Working Party on Connectivity Services and Infrastructure (WPCSI), is the foundation for all transformative digital technologies, including AI. As defined within the Working Party on Connectivity Services and Infrastructures (WPCSI), digital infrastructure includes broadband access networks, the Internet backbone (subsea cables) and backhaul transport networks, Internet Exchange Points (IXPs), data centres, Content Delivery Networks (CDNs), cloud infrastructure, and the logical parts of the Internet (e.g. routing protocols, domain name servers, etc.). The OECD broadband indicator "fibre-to-the home (FTTH) subscriptions" connections are not strictly AI-related but is a type of fixed broadband access technology and serves as a proxy for next generation networks, which is ideal for AI workloads due to their

low latency, high scalability, high bandwidth capabilities and symmetrical upload and download speeds. Fibre connections are the most prevalent fixed broadband access technology across the OECD, and as new generations of broadband networks are rapidly emerging, deploying fibre backhaul further into fixed networks to support increases in speed and capacity across all network technologies becomes critical. However, given deployment costs, fibre rollout is less costly in high population density settings and varies by country. The OECD through its WPCSI within the Digital Policy Committee works on policies to harness affordable and high-quality digital connectivity for all, and the evidence base for digital infrastructure. Other indicators as highlighted in the WPCSI definition of digital infrastructure, will be considered to proxy accessibility in future reports, such as cloud compute availability. Please find OECD's broadband statistics here updated every six months from data received from OECD communication regulators: Broadband statistics | OECD.

[ii] The indicators are: venture capital investments in AI, international research collaborations, number of high-quality research publications (from both Elsevier and OpenAlex), and number of high impact software projects, number of AI models developed, GPU clusters, and number of large-scale models.

[iii] Geometric aggregation was also considered, which multiplies each indicator value raised to the power of its respective weight and takes the product of these values across all indicators. However, arithmetic aggregation is currently adopted as it provides more straightforward results.