



Doc.

8 September 2026

The role of the OECD in evaluating the impact of artificial intelligence (AI) on the future of work

Report¹

Committee on Political Affairs and Democracy

Rapporteur: Ms Marietta KARAMANLI, France, Socialists, Democrats and Greens Group

¹ [Doc. 16055](#), Reference 4841 of 29 November 2024.

A. Draft resolution²

1. The rise of artificial intelligence (AI) and related digital technologies is ushering in a new era of possibilities offering significant opportunities but also posing major threats. Societies and economies must be equipped for the ongoing AI and digital transition, in order to keep up with the pace of technological advancements, harness their benefits and mitigate their risks. The Parliamentary Assembly of the Council of Europe, enlarged to include delegations from the national parliaments of the Organisation for Economic Co-operation and Development (OECD) member States which are not members of the Council of Europe, as well as a delegation from the European Parliament, believes that this requires urgent and continuous attention due to its significant impact, notably on people, the economy, labour markets, education, public services and governance.

2. AI is already transforming the ways in which people interact, study, conduct research, organise production, and work. It has the potential to become a general-purpose technology with far-reaching effects across a wide range of sectors. Consequently, control over AI technology and infrastructure, as well as the large data sets required for its operation, has major strategic and geopolitical implications.

3. To address these challenges, both the OECD and the Council of Europe have adopted a range of instruments. In particular, in September 2024, the Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law (CETS No. 225), the first international treaty of its kind in this field, was opened for signature. The Council of the OECD adopted in 2019 and amended in 2024 a Recommendation on Artificial Intelligence, containing the following Principles for responsible stewardship of trustworthy AI: inclusive growth, sustainable development and well-being; respect for the rule of law, human rights and democratic values, including fairness and privacy; transparency and explainability; robustness, security and safety; and accountability.

4. The enlarged Assembly held its last debate in January 2024, with the adoption of Resolution 2526 (2024) on “Globalisation in times of crisis and war: the role of the OECD since the Russian Federation’s aggression against Ukraine”, which called on the Council of Europe and the OECD to continue working together in the field of AI. The enlarged Assembly emphasises that the Council of Europe, the OECD and their member States must be prepared to harness the benefits of AI and related digital technologies, while anticipating and countering any disruption to human rights, democracy, the rule of law, and the environment.

5. The enlarged Assembly welcomes the OECD’s ongoing work to develop a wide range of tools, repositories, indicators and research programmes on AI. These contribute to the monitoring of policies, the measurement of impacts, the identification of incidents and hazards, the assessment of capabilities, and the provision of information to governments, parliaments, businesses, social partners and citizens.

6. According to the OECD, while the potential impact of AI on productivity growth is expected to be positive, it remains difficult to predict its overall magnitude. AI’s impact is likely to be uneven across economic activities: it may generate efficiency gains for specific tasks, particularly in sectors such as finance, information and communication technology services, media and professional services. In contrast, sectors such as agriculture, construction, healthcare and elder care and other activities involving a high physical and manual intensive component, may be less exposed to AI. The extent of these productivity gains will depend on the rate at which AI is adopted, a process that can be accelerated by strengthening the relevant infrastructure, data and skills. It will also depend on the availability of complementary technologies, and on the capacity of firms and public authorities to integrate AI responsibly and support sectoral transformation.

7. Over the next 10 years, significant differences in macroeconomic gains related to AI are expected among OECD countries. The enlarged Assembly is concerned that the benefits of AI could be concentrated among countries, regions and firms that already have stronger digital infrastructure, higher-skilled workers, and greater financial and institutional capacity. Differences in rates of adoption of AI between capital regions and large cities, rural areas and remote, peripheral or underdeveloped regions, innovation leaders and laggards, and between large firms and small and medium-sized enterprises (SMEs), are already apparent and may exacerbate existing inequalities. Europe’s weaker position compared to the United States and China in terms of AI investment, infrastructure, computing capacity and advanced models raises questions regarding economic growth, democratic governance and oversight, the safety of both personal and commercial data, and digital sovereignty.

8. The precise impact of AI on employment also remains difficult to assess and is likely to be mixed. AI is expected to create new jobs, while simultaneously destroying existing ones, reconfiguring occupations and

² Draft resolution adopted by the committee on 8 September 2026.

changing the organisation of work. According to the OECD, occupations at the highest risk of automation account for an average of 27% of employment in OECD countries, though some regions display much higher percentages. At the same time, employment has grown in the occupations most exposed to AI.

9. According to OECD evidence, AI can improve job quality by improving performance, reducing physical strain, automating routine tasks, and promoting inclusion, for example for people with disabilities. However, excessive algorithmic management, intrusive monitoring of workers, and opaque decision-making, combined with insufficient protection of workers' physical and mental health, could have negative repercussions on job quality and workers' rights.

10. The enlarged Assembly emphasises that technology alone does not determine whether jobs will be lost or created by AI. To achieve a favourable outcome, a combination of responsible decisions by companies, social dialogue with workers, as well as labour reskilling, upskilling and reallocation policies will be needed.

11. Education and skills training policies are central to ensuring a fair digital transition. The enlarged Assembly welcomes the development by the OECD and the European Commission of the AI Literacy Framework for Primary and Secondary Education, which aims to equip students with the knowledge, skills, and attitudes necessary to understand and use AI safely and effectively. AI, particularly generative AI (GenAI) tools, can enhance performance, learning processes, teaching and tutoring. At the same time, these tools may also lead to overreliance, hindering the development of independent and critical thinking.

12. The enlarged Assembly is concerned that the adoption of AI tools in the workforce may exacerbate existing inequalities among workers. Women are underrepresented in occupations with the highest exposure to AI and, at the same time, they are overrepresented in certain occupations that may be at a higher risk of automation, such as clerical roles. Furthermore, women are less likely to participate in science, technology, engineering and mathematics (STEM) fields. Inequalities may also emerge among different age groups: young people are particularly vulnerable, as entry-level jobs are more easily automated, while older people are at risk as they are less likely to adapt to using AI tools. AI technologies, however, have the potential to significantly improve the inclusion of people with disabilities in the workforce.

13. Cultural and creative labour employment are among the most exposed to GenAI. High exposure does not necessarily mean job destruction, but it does require labour market policies to support shifting skills demands. OECD work on AI highlights the importance of policies that support lifelong learning, responsible AI adoption that complements human labour, protection of job quality and the broad sharing of productivity gains. This is especially important in cultural and creative industries, where self-employment, project-based work, micro, small and medium-sized enterprises, precarious conditions and limited social protection can make adapting to technological change more difficult.

14. Other reasons for concern are cybersecurity risks, and potential issues with copyright and intellectual property stemming from the use of GenAI tools. This is particularly concerning given the use of "data scraping" practices, which involve the automatic extraction of public or non-public data and information from third-party sources to train AI models. The risks from these practices could be sharper for SMEs, particularly in creative industries, which have more limited resources to protect their data. Fair compensation for the use of copyrighted material in training models, clearer licensing frameworks, and stronger transparency around the use of creative works in AI systems will therefore be important not only for equity, but also for maintaining the long-term sustainability of creative careers and cultural production.

15. The media and journalism are also affected, as the uncontrolled use of AI can have repercussions on the quality of information, on pluralism, and, ultimately, on democracy. In intellectual, creative, and journalistic professions, the goal should not be to produce more content at a lower cost, but to use AI to free up time for investigation, creation, interpretation, fact-checking, human interaction, and editorial responsibility.

16. The OECD is also conducting research into the use of AI by public authorities in core government functions. The enlarged Assembly recognises that the full potential of AI tools in different public services remains untapped, and that careful design, implementation and monitoring will be required to mitigate risks.

17. The enlarged Assembly believes that Europe needs to innovate and strengthen its digital ecosystem to reduce the gap with countries such as the United States and China in terms of digital infrastructure (data centres; hardware; computing capacity; advanced models) and investment, and to prevent growing disparities across firms, sectors and places. This means fostering open and fair trade, which facilitates access to technology without increasing Europe's dependencies or reinforcing the dominant positions of a few large companies. Europe must therefore promote effective competition, data interoperability, fair access to essential digital infrastructure, and common rules to regulate AI and monitor its development. The enlarged Assembly

stresses the necessity to invest in order to ensure European AI sovereignty. Given that AI technologies are avid energy and water consumers, Europe must also ensure that the digital transition is balanced by environmental considerations.

18. In light of the above, the enlarged Assembly invites member States of the Council of Europe and the eligible member States of the OECD to sign and ratify the Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law (CETS No. 225) in order to allow its rapid entry into force, and encourages non-member States worldwide to request to accede to it, as soon as they have the opportunity to do so.

19. The enlarged Assembly further invites member States of both the Council of Europe and the OECD to:

19.1. adopt and implement coherent national strategies and regulatory frameworks for AI and digital transformation that are human-centred, rights-based, socially inclusive and environmentally sustainable, in line with the Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law (CETS No. 225) and with the OECD Principles for responsible stewardship of trustworthy AI;

19.2. establish monitoring mechanisms to assess the impact of AI on productivity, the labour market, wages, skills, job quality, occupational safety and health, equality, intellectual property and regional development;

19.3. sustain broad-based and open-source responsible AI diffusion and foster its effective integration, which will be key to maximising labour productivity and workers' income in the medium term. Key levers for achieving this would include investing in computing, connectivity, and complementary skills, and having in place broader economic framework conditions that allow firms and workers to adopt and experiment with the technology;

20. Regarding the impact of AI on the labour markets, the enlarged Assembly invites member States of both the Council of Europe and the OECD to:

20.1. support investments in human capital to help workers, jobseekers and employers seize the benefits of AI, navigate changing skill needs and demands and transition to new jobs;

20.2. encourage the development and deployment of AI systems designed to complement human capabilities rather than diminish them, particularly by delegating repetitive or low-value-added tasks, supporting the detection of anomalies, improving workplace accessibility, and allowing workers the opportunity to understand, question, correct, or disregard the recommendations generated by the system;

20.3. support efficient reallocation of labour across occupations and industries, including SMEs, as sluggish reallocation significantly limits the productivity benefits of AI. This involves facilitating the transition of workers affected by AI-driven productivity changes, while sustaining activity in less exposed sectors. This will require secure labour-market transition arrangements, strong social protection, targeted retraining and mobility support, developed through social dialogue and in consultation with workers and their representatives;

20.4. promote awareness and building knowledge of the opportunities, functionalities, potential uses, limitations and impacts of AI systems in the labour market among workers (including managers) and employers, notably in SMEs, including possible biases and negative impacts on job prospects;

20.5. conduct an impact assessment involving workers and their representatives, prior to the deployment of AI systems that are likely to have significant effects on workers or job seekers. This assessment should, in particular, examine the effects of the AI system on the organisation and intensity of work, autonomy, skills, compensation, health and safety, the protection of personal data, the risks of discrimination, the procedures for challenging decisions, and the allocation of responsibilities among the employer, the provider, and the user of the system;

20.6. promote social dialogue through the appropriate and effective engagement of workers, trade unions, employers and their collective organisations, including through collective bargaining, to facilitate the trustworthy use of AI in the labour market;

20.7. ensure the protection and respect of labour rights, including through regulation where necessary, and support employers in taking effective measures against potential labour rights abuses at all stages of the AI system lifecycle in the labour market, while involving workers and their representatives in the design, implementation and evaluation of such measures;

20.8. consider developing appropriate measures to preserve workers' rights to freedom of association, collective bargaining and privacy where the integration of AI systems in the labour market entails the collection of personal data from workers and jobseekers, in a proportionate manner, based on evidence of the benefits and risks;

20.9. consider opportunities to leverage the use of AI to monitor and mitigate bias and discrimination in the labour market, to ground decisions on disaggregated data and evidence, and to help ensure that AI systems produce results that do not perpetuate and exacerbate labour market biases and discrimination;

20.10. support workers and employers in using trustworthy, safe and secure AI to prevent work-related injuries and ill health, and to improve job quality, while also addressing the risks for occupational safety and health in a proportionate manner;

20.11. promote transparency, explainability, accountability and democratic approaches in the deployment and use of AI systems in the labour market, including in SMEs, taking a proportionate approach based on evidence of the benefits and risks, to help workers and employers understand how the systems work, what the outputs are, which are the cybersecurity risks, and who is responsible for ensuring they function properly;

20.12. ensure that no decision resulting in significant adverse effects regarding hiring, assignment, evaluation, compensation, promotion, disciplinary action, or termination of employment is made solely on the basis of an automated system, and guarantee that every affected individual has the right to receive a comprehensible explanation, qualified human intervention, and an effective legal remedy;

20.13. seek to address gaps in territorial and regional infrastructure, data, skills and capacities for AI adoption, paying particular attention to the different challenges facing local and regional labour markets to ensure all regions have the potential to benefit from new tools;

20.14. strengthen local labour market policies and local governments' capacity to understand the impact of AI on work, to support workers' adaptation, and to promote training;

20.15. promote through social dialogue and collective bargaining, the fair sharing of AI-driven productivity gains and explore and encourage the responsible use of AI to reduce the amount of employee's working hours, while maintaining productivity and growth, in order to support their work-life balance and improve their social wellbeing;

20.16. encourage voluntary and market-based mechanisms that enable employees to participate in the economic opportunities created by AI-driven productivity gains, including employee share ownership, share-option schemes and other forms of long-term financial participation, while fully respecting entrepreneurial risk, property rights and the freedom of companies to determine their ownership and remuneration structures.

21. With regard to the impact of AI on the creative industries, the media, and journalism, the Enlarged Assembly calls on the member States of the Council of Europe and the OECD to:

21.1. develop policies aimed at protecting businesses in the creative industries, in particular by revising intellectual property legislation and by regulating practices such as data scraping. The measures to be taken should also address the unauthorised use of protected content, the production of deepfakes, the standardisation of cultural products and the possibility of human creators being replaced by AI. The aim should be to limit the use of AI tools that would lead to the standardisation of language, formats, references, narratives and tastes, to the detriment of Europe's cultural, linguistic and intellectual diversity;

21.2. protect public-interest journalism, media pluralism and the integrity of information by ensuring that any use of AI systems in newsrooms complies with the principles of truthfulness, accuracy, independence, editorial accountability, protection of sources and pluralism;

21.3. ensure that no content generated or substantially modified by AI is published without effective human verification and without a clearly identified natural or legal person assuming editorial responsibility for it;

21.4. to invite media organisations and bodies representing journalists to negotiate collective agreements governing the introduction of AI, covering in particular the provision of information to and consultation with employees, permitted and prohibited uses, the protection of sources and confidential data, verification procedures, the labelling of synthetic content, the safeguarding of jobs and training pathways, as well as fair remuneration for the use of journalistic content.

22. Regarding the strengthening of education and training capabilities, the enlarged Assembly invites member States of both the Council of Europe and the OECD to:

22.1. invest substantially in and promote the development of lifelong learning on AI literacy to equip students and workers with the knowledge, critical thinking skills and ethical awareness needed to understand and use AI effectively and responsibly;

22.2. design policies to ensure that women and men have equal access to AI tools and AI-related science, technology, engineering and mathematics (STEM) education and training. Special attention should be paid to low-skilled workers, young people in entry-level jobs, older workers, persons with disabilities, and regions with more vulnerable employment structures;

22.3. ensure that the use of GenAI in education prioritises long-term learning over short term performance gains, including by using general-purpose GenAI with pedagogical intent where appropriate, co-designing specialised educational AI tools involving teachers and students, and providing guidance to prevent overreliance, which could hinder cognitive development;

22.4. support teachers and education systems in leveraging AI as a complementary and augmenting tool, while safeguarding the human dimension of teaching, strengthening professional capacity and fostering evidence-based policies for the use of AI in classrooms;

22.5. promote dialogue and co-operation between local vocational education and training providers, innovation hubs and universities, industry and business representatives (including SMEs), workers' representatives and policymakers, to better anticipate AI-driven skills demand, provide reskilling and upskilling opportunities, and align future supply capacities.

23. Recognising the potential impact of AI on the way the public sector operates and delivers services to citizens, including national and subnational governments, the enlarged Assembly calls on member States of both the Council of Europe and the OECD to:

23.1. support public administrations at all levels of government in preparing for AI through strategic civil service workforce and activities planning. This should include defining which tasks can be delegated to AI, assessing the impact on job roles and staffing, identifying future skills requirements, and investing in the reskilling and upskilling of civil servants and human resources professionals, as well as the recruitment of AI-literate individuals;

23.2. ensure that the use of AI in public-sector human resource management, including recruitment, promotion, learning and performance-related processes, remains merit-based, be transparent, explainable and contestable, with qualified human oversight and accountability for final decisions;

23.3. protect the job quality, autonomy, privacy and professional discretion of civil servants at all levels of government where AI is used in management, workflow allocation, monitoring or productivity tools, including by outlawing intrusive surveillance, and involving employees and their representatives in the design, implementation and evaluation of such systems;

23.4. promote the use of AI to reduce administrative burdens and strengthen learning and development in the public sector, while monitoring and evaluating its impact on fairness, productivity, employee well-being and service quality;

23.5. strengthen AI-related capabilities among senior leaders and decision-makers in the civil service, to ensure that they have a sufficiently detailed understanding of how AI systems function, their limitations, risks and operational implications, with a view to enabling them to make responsible and informed decisions on the use of AI in the civil service;

23.6. address the broader transformation of work driven by AI adoption in the public sector, including changes to tasks performed by humans, the redesign of roles and workflows, and the emergence of new job roles. Assess the impact on working conditions, job quality and the operating environment;

23.7. expand public-sector learning and development systems beyond basic AI literacy and ethics, which are well-established now in many governments, to support the integration of AI into longer-term government operations. This should include the development of technical and role-specific skills, procurement knowledge, and substantial reskilling and upskilling strategies. Overall, the capacity of schools of government should be strengthened to enable them to autonomously design and deliver practical AI training;

23.8. provide targeted support for subnational governments by promoting data access and sharing across jurisdictions, facilitating interoperability, and strengthening digital infrastructure and workforce capabilities.

24. The enlarged Assembly invites the OECD to continue and deepen its work on measuring and evaluating the economic, social, territorial and environmental impacts of AI. The OECD should continue to make its evidence accessible to parliaments, through initiatives such as the OECD Parliamentary Group on Artificial Intelligence, and should provide support to policy-makers in defining practical, rights-compatible and socially inclusive reforms. The OECD should also strengthen its co-operation with the Council of Europe in the field of AI, in particular by promoting complementarity between Council of Europe legal standards and OECD policy tools.

25. The enlarged Assembly calls on the OECD to develop specific indicators for measuring the subnational, national and regional dimension of the artificial intelligence transition, including disparities in access to digital infrastructure, AI-related investment, skills and training, the capacity of small and medium-sized enterprises to adopt AI technologies, and the creation of new employment opportunities, with a view to identifying and reducing the emerging 'regional AI divide'.

26. Furthermore, the Enlarged Assembly encourages the OECD to deepen its analysis of the various impacts of AI on work, drawing a distinction between, on the one hand, AI systems and tools that assist workers, alleviate arduous tasks, facilitate problem-solving and ensure human oversight, and, on the other hand, those that dictate, monitor and accelerate the pace of work, and replace professional judgement with automated recommendations. In particular, the OECD could, in cooperation with the Council of Europe, the International Labour Organisation, the social partners, occupational health organisations and research institutes, develop a common framework for assessing the impact of AI on work, distinguishing in particular between 'supportive' and 'alienating' uses, and enabling the measurement of their effects on autonomy, workload, intensity, job quality, skills retention, health, discrimination and social dialogue.

27. Additionally, the OECD is encouraged to develop a common scorecard to compare, on a country-by-country basis, not only the uptake of AI, but also the proportion of organisations (businesses and public authorities) that have involved workers in its roll-out; the proportion of systems subject to an impact assessment on rights and working conditions; the effects on wages, working hours, work rates, health and autonomy; and actual access to training, broken down by gender, age, qualifications, employment status, region and company size.

B. Explanatory memorandum by Ms Marietta Karamanli, rapporteur

1. Introduction

1. Relations between the Council of Europe and the Organisation for Economic Co-operation and Development (OECD) were officially established in 1962. The first Parliamentary Assembly debate on the activities of the OECD took place in 1963. Enlarged Parliamentary Assembly debates were introduced in 1993, based on special rules,³ to allow delegations from the national parliaments of OECD member States that are not members of the Council of Europe and of the European Parliament to participate. Since then, the enlarged Assembly has operated as a unique platform for parliamentary scrutiny of the OECD activities.

2. In January 2019, a new methodology for enlarged debates was agreed upon, on the basis of a Memorandum of Understanding between the Parliamentary Assembly and the OECD,⁴ with the aim of achieving a stronger and more efficient institutional relationship between the Assembly and the OECD. It provides for such debates to be held every two years, based on a report focusing on specific themes, chosen by common agreement between the rapporteur and the OECD. Furthermore, it was agreed that during the year when there is no Enlarged Assembly debate on the OECD activities, an Assembly delegation will participate in the OECD Global Parliamentary Network as an institutional partner. In December 2020, the Council of Europe and the OECD also signed a Memorandum of Understanding, aimed at deepening their co-operation.

3. The last enlarged Assembly debate took place in January 2024 and focused on “Globalisation in times of crisis and war: the role of the OECD since the Russian Federation's aggression against Ukraine” (Resolution 2526 (2024)). The Assembly also established *ad hoc* Committees to participate in the meetings of the OECD Global Parliamentary Network in Paris, on 5-7 February 2025 and on 11-13 March 2026.

4. On 2 July 2025, following my appointment as rapporteur for the new report on the activities of the OECD, I held a meeting in Paris with Mr Mathias Cormann, Secretary-General of the OECD, and other representatives of the OECD's Secretariat: Ms Audrey Plonk (Deputy Director for Science, Technology and Innovation); Mr Mark Pearson (Deputy Director for Employment, Labour & Social Affairs); Mr Stéphane Levesque (Director for Communications); and Mr James Mancini (Acting Head of Policy, Secretary-General's Office). During this meeting, we agreed that the next report would focus on the topic of digital transformation and the OECD's role in evaluating the impact of artificial intelligence (AI) on the future of work.

5. On 26 November 2025, I visited the OECD headquarters in Paris again, and I held additional meetings with different Senior officers of the OECD, to discuss in further details the issues to be covered in the report. On 10 December 2025, the Committee on Political Affairs and Democracy held a hearing with the participation of Ms Angelica Salvi Del Pero, Senior advisor, Directorate for Employment, Labour and Social Affairs, and Mr Flavio Calvino, Senior Economist, Firms, Digital Transformation & Technology Diffusion, Directorate for Science, Technology and Innovation. I am sincerely grateful to all the OECD staff involved, for their valuable contributions at different stages during the preparation of this report.

2. Relevant work of the Parliamentary Assembly

6. In addition to the numerous reports regularly debated by the enlarged Parliamentary Assembly on the work of the OECD, the Parliamentary Assembly has recently adopted various texts that are relevant for this report. It is worth mentioning the following in particular:

- Resolution 2467 (2022) and Recommendation 2239 (2022) on “The future of work is here: revisiting labour rights”;
- Resolution 2510 (2023) on “Closing the digital divide: promoting equal access to digital technologies”.

7. In Resolution 2526 (2024) on “Globalisation in times of crisis and war: the role of the OECD since the Russian Federation's aggression against Ukraine”, the enlarged Assembly stated that the OECD and the Council of Europe “should continue working together in the field of artificial intelligence (AI)”.

³ Rules of procedure for enlarged debates of the Parliamentary Assembly on the activities of the OECD.

⁴ AS/POL 2019 04 “Relations between the Assembly and the Organisation for Economic Co-operation and Development”, 23 January 2019.

8. Furthermore, the Assembly makes a significant contribution to the Council of Europe's efforts to address the impact of AI technologies on human life. Notably, it has a dedicated Sub-Committee on Artificial Intelligence and Human Rights, and in October 2020 it adopted a series of resolutions and recommendations on the matter:

- Resolution 2345 (2020) and Recommendation 2186 (2020) on "Artificial intelligence and labour markets: friend or foe?";
- Resolution 2346 (2020) and Recommendation 2187 (2020) on "Legal aspects of 'autonomous' vehicles";
- Recommendation 2185 (2020) on "Artificial intelligence in healthcare: medical, legal and ethical challenges ahead";
- Resolution 2344 (2020) and Recommendation 2184 (2020) on "The brain-computer interface: new rights or new threats to fundamental freedoms?";
- Resolution 2343 (2020) and Recommendation 2183 (2020) on "Preventing discrimination caused by the use of artificial intelligence";
- Resolution 2341 (2020) and Recommendation 2181 (2020) on "Need for democratic governance of artificial intelligence";
- Resolution 2342 (2020) and Recommendation 2182 (2020) on "Justice by algorithm – the role of artificial intelligence in policing and criminal justice systems".

In a common Appendix to these reports, the Assembly set out the ethical principles that it believes should be applied to AI systems: transparency; justice and fairness; responsibility; safety and security; privacy.

9. Through Opinion 303 (2024), the Assembly welcomed the finalisation of the Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law. The Framework Convention is the first-ever international legally binding treaty in this field. Opened for signature on 5 September 2024, it aims to ensure that activities within the lifecycle of AI systems are fully consistent with human rights, democracy and the rule of law, while being conducive to technological progress and innovation. The Framework Convention complements existing international standards on human rights, democracy and the rule of law, and aims to fill any legal gaps that may result from rapid technological advances. In order to stand the test of time, the Framework Convention does not regulate technology and is essentially technology-neutral. It is based on the Council of Europe's standards on human rights, democracy and the rule of law, which are also shared by the non-member States that participated in the negotiations.⁵

10. Furthermore, the Assembly adopted Resolution 2628 (2025) and Recommendation 2300 (2025) on "Artificial intelligence and migration", Resolution 2654 (2026) on "Copyright enforcement in the artificial intelligence environment", and Resolution 2662 (2026) on "Protecting democracy from disruptions caused by artificial intelligence". The Assembly is also currently preparing other relevant reports on: the use of AI by parliaments; safeguarding human rights in the AI-driven public sector; AI and gender equality; and safeguarding creativity and education in the age of generative AI.

11. Finally, in December 2025 the Assembly co-organised in London a Parliamentary Conference on Artificial Intelligence with the Parliament of the United Kingdom, during which participants exchanged best practices and defined parliamentary roles in AI governance.⁶

3. An overview of the OECD's work on AI

12. The rapid growth of AI and related technologies is already having a significant impact on people's lives, particularly with regard to the ways in which they interact, study, conduct research and work. According to the OECD's Employment Outlook 2023, this rapid progress suggests that OECD countries might be on the brink of an "AI revolution".⁷

13. AI has the potential to be a general-purpose technology that could profoundly change a wide range of sectors and industries, including finance, health, and security. Furthermore, the control over data as well as over AI and the related infrastructure is having increasingly significant implications at geopolitical level.⁸

14. Societies and economies must be prepared for an AI and digitalisation transition in order to keep up with the pace of technological advancements, harness their benefits and mitigate their risks. This must go hand in hand with the green and sustainability transition, to ensure that technological developments do not come at

⁵ Council of Europe, The Framework Convention on Artificial Intelligence.

⁶ <https://pace.coe.int/en/pages/aiconferencelondon>.

⁷ OECD, "OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market", OECD Publishing, Paris, 2023.

⁸ Mark Esposito, "AI geopolitics and data centres in the age of technological rivalry", World Economic Forum, 24 July 2025.

the expense of the environment and of the climate, and that they take into account the rights and needs of future generations. The OECD has highlighted the positive contribution of digital technologies, including AI, to advancing environmental goals in the “Recommendation of the Council on Digital Technologies and the Environment” (adopted in 2010 and amended in 2025).⁹

15. Recognising that “AI has pervasive, far-reaching and global implications that are transforming societies, economic sectors and the world of work, and are likely to increasingly do so in the future”, in 2019 the Council of the OECD adopted a Recommendation containing the following “Principles for responsible stewardship of trustworthy AI” (OECD AI Principles, amended in 2024):¹⁰

- inclusive growth, sustainable development and well-being;
- respect for the rule of law, human rights and democratic values, including fairness and privacy;
- transparency and explainability;
- robustness, security and safety;
- accountability.

16. The OECD AI Principles also include the following recommendations for governments to implement in their national policies and international cooperation:

- 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;
- international co-operation for trustworthy AI.

17. Following the adoption of the OECD AI Principles, the OECD has worked in recent years to develop a wide range of tools for monitoring and reporting on the latest AI-related developments and their economic and social impacts.

18. The OECD AI Policy Observatory is a large and up-to-date global repository of national AI policies from over 90 jurisdictions and international organisations. It also features live data on AI in a range of areas, including trends in the demand for and supply of AI talent across countries and sectors over time, as well as insights into the most in-demand skills.¹¹

19. The Catalogue of Tools and Metrics for Trustworthy AI is a one-stop shop containing over 1000 tools and 130 metrics designed to help AI actors develop and use trustworthy AI systems. These include mechanisms, practices and methodologies for developing fair and transparent AI systems, as well as for measuring and evaluating AI trustworthiness and AI risks.¹²

20. The OECD AI Incidents and Hazards Monitor (AIM)¹³ tracks and documents AI incidents and hazards in real time, as reported by reputable media outlets. Based on the OECD’s common reporting framework for AI incidents¹⁴ and the OECD’s definition of AI incidents,¹⁵ the AIM helps build a common understanding of AI incidents and hazards and highlights their multifaceted nature, serving as an important tool for trustworthy AI.

21. The AI Policy Toolkit is a practical resource designed to help governments and stakeholders map their AI policy landscape, identify priorities, and explore concrete policy examples from other countries to inform their own policy design.¹⁶

22. The OECD AI Capability Indicators provide a monitoring system for governments to assess the evolving capabilities of AI systems in relation to core human abilities. These indicators, currently published in *beta* form, provide clear information to policymakers about current and likely future AI capabilities on the labour market, informing discussions on what skills will be needed in the future.¹⁷

⁹ OECD, Recommendation of the Council on Digital Technologies and the Environment.

¹⁰ OECD, Recommendation of the Council on Artificial Intelligence.

¹¹ <https://oecd.ai/en/>.

¹² <https://oecd.ai/en/catalogue/overview>.

¹³ <https://oecd.ai/en/incidents>.

¹⁴ OECD, « Towards a common reporting framework for AI incidents », 2025.

¹⁵ OECD, « Defining AI incidents and related terms », 2024.

¹⁶ <https://oecd.ai/en/ai-toolkit/get-started>.

¹⁷ <https://aicapabilityindicators.oecd.org/ai-capability-indicator-tool.html>.

23. Since the release of generative AI in 2023, the OECD has analysed the different trajectories of countries, regions and cities in the AI transition, highlighting emerging divides and the importance of local conditions for seizing the full potential of AI. This work has helped better understand the geography of generative AI and job exposure across regions, develop blueprints for AI use in public services in cities and regional development, and inform place-based strategies for sustainable, ethical and trustworthy AI, including through local innovation ecosystems, skills upgrading and capacity building.¹⁸

24. In September 2025, the OECD released “Advancing the measurement of investments in artificial intelligence”, a methodology for estimating public and private AI investments in European Union (EU) member States, and benchmark them against other economies, such as the United States, the United Kingdom, Canada, and Japan.¹⁹

25. To support the European Commission in monitoring the EU Coordinated Action Plan on AI, the OECD developed a report assessing EU member States’ progress towards its implementation,²⁰ as well as a report analysing the uptake of AI in the EU in the agriculture, health, manufacturing and mobility sectors.²¹

26. As part of the G7 Hiroshima AI Process, the G7 adopted in 2023 a Code of Conduct for organisations developing advanced AI systems. To support its implementation, the OECD developed a voluntary Reporting Framework for AI developers to report on their AI risk management practices²² and launched a report²³ analysing companies’ first twenty submissions. A revised version of the reporting framework was launched in May 2026.

27. The OECD Digital Well-being Hub provides key statistics spanning digital aspects of work and job quality, health, education, environment, personal safety, work-life balance, social connectedness, and civic engagement. This includes selected indicators broken down by gender, age or income decile. Through its embedded survey, the Hub is also gathering unique data on how people experience their digital lives, filling an important evidence gap.²⁴

28. The OECD programme on AI in Work, Innovation, Productivity and Skills, which was launched in 2020 with the support of Germany, has produced extensive data and policy evidence on the impact of AI on labour markets, innovation, productivity and skills needs.²⁵

29. The 2025/2026 OECD Horizontal Project on “Thriving with AI: Empowering Economies, Societies and Citizens,” aims to improve understanding of AI development and deployment trends, impacts and implications for the economy and society. The project deliverables cut across policy areas and sectors and feature analyses of AI’s potential to drive productivity and output growth across firms, sectors, economies and places. Deliverables are expected to be finalised by the end of 2026, including two policy reports summarising key findings.

30. Findings from various OECD research projects and publications demonstrate the importance of monitoring and analysing the impact of increased AI usage in the workplace on areas such as employment rates, wages, job quality, productivity and growth. As not all sectors, places, occupations or demographic groups will be equally exposed to or impacted by AI, tailored policies and multilevel governance will be needed to ensure that no one is left behind in the transition, and to promote all people’s ability to benefit from AI, while addressing the risks to their fundamental rights and well-being.

4. The impact of AI on the economy: productivity and the labour market

4.1. The impact on productivity

31. Productivity growth at global level has decreased in recent years. In OECD countries it has gone from a yearly average of 1.5% in the period 2000-2010, to around 0.5% in 2019-2023. Economists are currently debating what impact AI will have in terms of productivity, and opinions vary widely. The most optimist scenarios suggest that AI might contribute up to 2-3% to annual labour productivity growth over the next

¹⁸ <https://www.oecd.org/en/about/projects/seizing-the-full-potential-of-ai-the-local-factor.html>.

¹⁹ <https://oecd.ai/en/ai-investment>.

²⁰ OECD, “Progress in Implementing the European Union Coordinated Plan on Artificial Intelligence (Volume 1)”, 2025.

²¹ OECD, “Progress in Implementing the European Union Coordinated Plan on Artificial Intelligence (Volume 2)”, 2026.

²² <https://transparency.oecd.ai/>.

²³ OECD, “How are AI developers managing risks?”, 2025.

²⁴ <https://www.oecd.org/en/data/tools/digital-well-being-hub.html>.

²⁵ <https://oecd.ai/en/work-innovation-productivity-skills>.

decade, whereas the most pessimist ones indicate that the gains would be negligible, given that only a limited fraction of the economy can successfully automatise labour.

32. The OECD, in turn, estimates that AI could contribute between 0.4% and 0.9% annually to labour productivity growth in the US, which could be compared to some of the estimates regarding the contribution of Information and Communication Technologies (ICT) during the last technology driven productivity boom in the mid-90s in the country (around 1-1.5%).²⁶ A more recent update, in light of rapidly rising AI adoption rates and expanding capabilities, considers a more optimistic scenario as well, that leads to a contribution of 1.2% to annual labour productivity growth in the US.²⁷

33. The OECD treats AI in its studies as a production technology which combines inputs (software, skills, data) and computing capacity to produce a wide range of outputs (analytical tasks like prediction, recommendations or optimisation; content generation; physical tasks in association with robotics), thus increasing the productivity of economic activities.

34. In this framework, the OECD identifies four key factors determining the impact of AI on productivity.²⁸ The first factor implies that efficiency gains in specific tasks can be highly significant: these include customer service, coding, professional and general writing, and business consulting; a study of available literature has shown that, on average, the improvement observed is around a 30% increase in performance.

35. The second factor indicates that highly qualified sectors are the ones mostly exposed to AI, or in other words, the ones in which AI can potentially have a stronger impact, because there is a larger share of tasks that AI can assist with or substitute for: finance, ICT services, media and professional services. On the other hand, the least exposed sectors include agriculture, construction, and sectors with a strong manual component. In many cases there will be strong complementarity between human workers and AI, for instance where AI tools require enhanced human supervision and involve liability.

36. The third factor is represented by the speed of business adoption of AI: to assess different scenarios, the OECD has compared the speed of adoption of AI at country level with the speed of adoption of past general-purpose technologies (GPTs), such as electricity, computers, and the internet. The US data show that the rate of AI adoption is still in its early stages, but it is progressing in line with past digital technologies. At regional level, however, the speed of AI adoption varies markedly between capital and non-capital regions, between innovation leaders and laggards, or within a same country and a same sector, between AI hotspots and non-specialised regions.²⁹ Even regions at similar levels of potential job exposure show different speeds of actual business adoption.³⁰

37. The fourth factor that can determine the impact of AI on productivity results from local conditions and place-based strategies. Beyond economic specialisation and skills structure, adoption is tied to local access to AI assets, such as data or skills, or AI compute and non-AI infrastructure that is essential for operating AI systems, such as power grid or high-speed broadband networks. Integrating AI into legacy systems also requires technology convergence across workplaces and production lines, as well as financial and institutional capacities for deployment. Local innovation systems play a key role in tailoring AI solutions and boosting adoption.³¹

38. AI is being more widely used across large firms; the share of AI users tends to be also higher among “young firms”, including start-ups.³² Firms using AI tend to be more productive than other firms: this seems to be related to the fact that they have higher complementary human and technological capital (digital infrastructure, digital and innovative capabilities of firms, and other digital technologies) that might be a prerequisite for the use of AI. Furthermore, sectors with high AI intensity are also the ones shaping the technology, i.e. IT services, telecommunications and media.³³

39. The OECD analysis also shows that, in the next 10 years, there will be significant differences in terms of macroeconomic gains related to AI among OECD countries, caused by different economic structures, variable skill levels available (companies adopting AI require much higher levels of technical and social skills),

²⁶ OECD, “[Miracle or Myth? Assessing the macroeconomic productivity gains from Artificial Intelligence](#)”, 2024.

²⁷ OECD, “[AI meets trade: Global linkages and the cross-country distribution of the gains from AI](#)”, 2026.

²⁸ OECD, *ibidem*; and OECD, “[Emerging divides in the transition to artificial intelligence](#)”, 2025.

²⁹ OECD, *ibidem*; and OECD, “[How can AI help make better regional development policies in Korea](#)”, 2025.

³⁰ OECD, “[Regions and Cities at a Glance](#)”, 2026.

³¹ OECD, “[Emerging divides in the transition to artificial intelligence](#)”, 2025.

³² OECD, “[A portrait of AI adopters across countries: Firm characteristics, assets’ complementarities and productivity](#)”, 2023.

³³ OECD, “[A sectoral taxonomy of AI intensity](#)”, 2024.

differing adoption rates, and the way place-based conditions and strategies unfold. This might also increase global inequalities, with poorer countries and places being more penalised, given their slower adoption rates.³⁴

40. Furthermore, the technological development measured through the number of AI-related patents shows a strong geographical concentration in the US and China, which have a dominant position, whereas the EU lags behind, with less than half of the total AI patents. The US and Chinese AI models currently represent, in fact, the technological frontier.

41. Europe invests far less than the United States and China in infrastructure, research and computing capacity, which fuels a structural dependence on clouds and the models offered by a handful of dominant private players. During the first three months of 2026, Amazon, Google, Microsoft and Meta repeatedly broke records for spending on AI; they invested a total of \$130.65 billion in capital expenditure, mainly in data centres that power AI. This figure - which sets a new record - is more than three times the cost of the Manhattan Project to develop nuclear bombs and is 71% higher than what the tech giants had spent during the same quarter the previous year.³⁵ Public investment must therefore not be viewed as a scattered catch-up effort, but as a strategic lever: sustainable funding for research and skills, support for shared and sovereign infrastructure, and prioritising well-considered technologies rather than simply subsidising additional energy-intensive capacity. This involves making an explicit trade-off at European level between technological sovereignty, environmental cost and fiscal sustainability, rather than leaving this choice solely to large private consortia.

42. At the same time, Europe's dependence on semiconductors, on infrastructure dominated by GAFAM (the tech giants: Google, Apple, Facebook-Meta, Amazon and Microsoft) and on AI models developed outside Europe undermines technological sovereignty, economic security and the capacity for democratic control. The response cannot be solely national: it requires a foundation of infrastructure and models under European jurisdiction, compatible with the Council of Europe's Framework Convention and OECD principles, as well as mechanisms for pooling investment at EU level. The challenge is to prevent public administrations and services from becoming structurally dependent on non-European solutions, while recognising that greater digital strategic autonomy will require substantial investment but will also bring significant economic, security and democratic benefits.

43. In order to benefit from the possible significant productivity gains from AI, countries will need to:

- focus on the acceleration of AI adoption, by strengthening the relevant infrastructure, data and skills, and the capacity of local innovation systems to support sectoral transformations;
- promote an efficient reallocation of labour (through reskilling and flexible labour markets);
- ensure global access to AI, e.g. by ensuring the interoperability of open standards;
- preserve trade to disseminate technologies.

44. Generative AI (GenAI) tools are capable of creating new outputs (e.g. text, code, audio, images, video), often in response to prompts, based on their training data. GenAI has the potential of becoming a GPT, as it appears to show defining characteristics of GPTs: pervasiveness; continuous improvement over time; and innovation spawning.³⁶ The extent to which AI could boost innovation and the generation of new ideas, and therefore productivity, is important to understand the long-term transformative implications of AI and its future returns in terms of economic growth.

45. The role of policy-makers in this sense is crucial, to achieve an inclusive digital transition that can lead to significant social and economic benefits, while respecting human rights and democratic values. In order to do so, particular care should be given to cultivating inclusive AI innovation ecosystems; supporting firms' digitalisation; developing human capital for AI adoption and use (technical and non-technical AI skills), to achieve an equitable labour market transformation; and co-operating at international level for a trustworthy AI governance, in particular to ensure the interoperability of policy and regulation frameworks.³⁷

4.2. *The impact on the labour market*

46. OECD countries are experiencing a rapidly changing labour market:³⁸ overall, employment rates have been on the rise since 2014, but there are fewer low-skilled jobs. On average, the occupations at the highest

³⁴ OECD, *"AI meets trade: Global linkages and the cross-country distribution of the gains from AI"*, 2026; and OECD, *"AI and the global productivity divide: Fuel for the fast or a lift for the laggards?"*, 2025.

³⁵ The New York Times, *A.I. Spending Sets a Record, With No End in Sight*, 29 April 2026.

³⁶ OECD, *"Is generative AI a General Purpose Technology? Implications for productivity and policy"*, 2025.

³⁷ OECD, *"Fostering an inclusive digital transformation as AI spreads among firms"*, 2024.

³⁸ OECD, *OECD Employment Outlook 2023 - Artificial Intelligence and the Labour Market*, 2023.

risk of automation account for 27% of employment, with some regions displaying shares well above this average: this might lead in the future to a mass need for redeployment of workers to other jobs in potentially different regions within their country, with increased demand for training and support services for mobility. The risk of automation is not equally distributed across groups in the population: a concerning decrease of 30% in employment rates for entry-level jobs among young people has been observed in 2025.³⁹ However, the worsening labour market situation of young people started well before the COVID pandemic, and so AI cannot be the only reason.

47. That being said, workers are worried about their jobs. Among workers in manufacturing and finance sectors, as shown by a survey conducted by the OECD, three in five are worried about losing their jobs entirely to AI in the next ten years, particularly those who actually work with AI. On the other hand, most employers in the same sectors stated that the adoption of AI has not had an impact on workforce numbers so far.⁴⁰

48. It should be noted that the major trade unions rightly point out that it is not abstract technological forces that determine whether jobs are lost or created, but the choices made by companies regarding how they use AI. In this regard, trade unions emphasise that social dialogue on the use of AI remains limited; they call for the resulting decisions affecting employees to be the subject of social dialogue, for AI to form part of a collective company-wide strategy, and for the necessary training to be provided by the employer.

49. A survey conducted among SMEs in 2024 indicated that the adoption of generative AI did not have an impact on staffing needs in most cases (83%).⁴¹

50. According to the OECD, high-skilled workers are currently most exposed to AI – on the other hand, employment growth has been greatest in the most exposed occupations: AI could at the same time increase productivity and, under certain conditions, increase the demand for the related services and therefore for the kind of workers with the skills to deliver them.⁴²

51. AI is reshaping skill needs in the labour market. One of the decisive factors determining whether economies benefit from AI is likely to be the skills of the people using it. Skills gaps are already holding back AI adoption, while AI is simultaneously raising the skills bar, shifting demand toward higher-level skills. Governments must scale up access to AI-relevant training, particularly for SMEs and workers at risk of being left behind.⁴³

52. In fact, a large majority of workers in manufacturing and financial services have confirmed that AI has improved their performance at work. In turn, the most reported benefit from surveyed SMEs is indeed employee performance. While different levels of skills among workers can become a barrier and a discriminant in the adoption of AI, a number of SMEs also reported that using generative AI is actually helping compensate the lack of skills or experience among their staff.

53. More importantly, workers are reporting improvements in their performance, enjoyment and mental health at work: AI can reduce physical strain, automate routine and tedious tasks, and free up time for more interesting ones. At the same time, workers are worried about privacy and excessive data collection by AI (e.g. increased pressure to perform; worry that collection of data will lead to decisions biased against them).⁴⁴

54. An additional in-depth study of the OECD has surveyed over 6000 mid-level managers in 6 countries to explore the prevalence of algorithmic management, i.e. the use of software, which might include AI, to fully or partially automate tasks traditionally carried out by human managers.⁴⁵

55. The findings show that algorithmic management tools are already widespread in the US (90% of managers responded that their firm provides at least one algorithmic management tool) and in the European countries surveyed (79%), but less prevalent in Japan (40%). The intensity (i.e. number of tools used) also varies: in the US, more than three-quarters of firms use ten or more tools, whereas the intensity is more moderate in Europe and low in Japan.

³⁹ <https://www.weforum.org/stories/2025/09/gen-z-are-competitive-job-market-randstad/>.

⁴⁰ OECD, “The impact of AI on the workplace: Main findings from the OECD AI surveys of employers and workers”, 2023.

⁴¹ OECD, “Generative AI and the SME Workforce: New Survey Evidence”, 2025.

⁴² OECD, “Who will be the workers most affected by AI?”, 2024.

⁴³ OECD, “AI and skills: What we know so far”, 2026.

⁴⁴ OECD, “The impact of AI on the workplace: Main findings from the OECD AI surveys of employers and workers”, 2023.

⁴⁵ OECD, “Algorithmic management in the workplace: New evidence from an OECD employer survey”, 2025.

56. Furthermore, the types of tools used are different: in the US, monitoring tools and evaluation tools are very largely used (adoption rate of 90%); 55% of firms also monitor the content and tone of employees' voice calls or emails, against only 6% in Europe and 8% in Japan. European firms most often use instruction tools (intended to give instructions to employees, with an adoption rate of 69%) and basic monitoring tools (e.g. to track working time, with an adoption rate of 33%). Japanese firms mostly use monitoring tools.

57. A large share of managers reports a positive impact of algorithmic management tools in their decision-making (60%), and many of them reported changes in their job satisfaction (the largest share in the US), mostly linked to reductions in stress and in repetitive work. On the other hand, two in three managers reported having at least one concern regarding the trustworthiness of algorithmic management tools used, in particular for what concerns unclear accountability in case of a wrong decision; the inability to follow the logic of algorithmic decisions or recommendations; and inadequate protection of workers' physical and mental health.

58. The most important area of concern regards the impact on the quality of work: a trustworthy use of AI in the workplace means recognising and addressing risks regarding privacy but also transparency and explainability; robustness, safety and security; and accountability.

59. Overall, it is perhaps too early to make clear estimations on the impact of AI on the labour market, which is likely to be mixed: a generalised adoption of AI will probably lead to both job creation and job losses. Some occupations might see a reduction in the demand, whereas most exposed workers could benefit from it on average. There is a significant risk of widening inequalities, as certain groups (such as older workers or low-skilled workers) might be left behind in the transition, but at the same time AI could create new opportunities for certain categories, e.g. disabled people.

5. Education and skills: how to prepare citizens for the AI transition

60. The rapid changes in the labour market will likely have a significant impact in the kind of skills demanded for certain jobs. This involves ensuring that the adoption of AI and the resulting change in demand for skills is accompanied by strategies to update curricula and qualifications, building foundational AI and digital literacy, critical thinking and socio-emotional skills, while also preparing high-skilled pathways, investing in teacher training and in lifelong learning. Importantly, AI literacy of 15-year-olds at the end of upper secondary education will be assessed internationally for the first time in the OECD's Programme for International Student Assessment (PISA) in 2029, marking a significant step in enabling countries to benchmark their students' preparedness against peers globally.

5.1. The impact on learning and teaching

61. The OECD is implementing with the European Commission the joint initiative "Empowering Learners for the Age of AI: An AI Literacy Framework for Primary and Secondary Education (AILit Framework)",⁴⁶ with the support of Code.org. The framework is designed for teachers, education leaders, education policymakers, and learning designers. Its purpose is to equip students with the knowledge, skills, and attitudes to understand and use AI safely and effectively.

62. The framework defines AI Literacy as "the technical knowledge, durable skills, and future-ready attitudes required to thrive in a world influenced by AI. It enables learners to engage, create with, manage, and design AI, while critically evaluating its benefits, risks, and ethical implications."

63. The Framework evolves around four domains of AI Literacy: Engaging with AI, which implies using AI as a tool to access new content, information, or recommendations; Creating with AI, which consists of collaborating with an AI system in a creative or problem-solving process; Managing AI, which requires intentionally choosing how AI can support and enhance human work; and Designing AI, which empowers learners to understand how AI works and connect it to its social and ethical impacts by shaping how AI systems function.

64. The Framework is an interdisciplinary tool which covers technical skills and attitudes, provides best practices and is designed to stand the test of time, despite future technological developments. It also develops most of the skills that will be evaluated in the PISA 2029 exercise.

⁴⁶ <https://ailiteracyframework.org/>.

65. Furthermore, the OECD has been producing dedicated Digital Education Outlooks since 2021,⁴⁷ in order to provide education policy makers and researchers with insights concerning the latest trends and policies internationally related to the increased use of digital technology and data in education.

66. The Digital Education Outlook 2026 focuses on “Exploring Effective Uses of Generative AI in Education”.⁴⁸ GenAI tools are widely accessible and used outside institutional control by students, teachers and researchers. They can be general-purpose tools (designed to be performance-enhancers) or educational tools (designed to be learning-enhancers).

67. As shown in the Digital Education Outlook 2026, using GenAI tools to augment performance does not automatically enhance students learning. As an example, a study of 1000 high school students in Türkiye has shown that while having access to GPT-4 tools improved students’ performance during practice, once that access was removed, students who had used the tool performed 17% worse than those who never had access.

68. There is therefore a crucial distinction to be made between immediate performance and actual learning. The over-reliance on GenAI tools can lead to negative cognitive effects, such as “metacognitive laziness” (avoiding the diagnosis of a problem as well as the evaluation and iteration of possible solutions), with the risk of longer-term cognitive consequences.

69. On the other hand, there are possible positive impacts when used with pedagogical purpose: a study in Indonesia focusing on the use of ChatGPT as a pedagogical support tool showed that it improved critical thinking awareness and collaborative tendencies among students. Another study conducted in the United Kingdom showed that students using GenAI to draft stories produced more creative outputs, but less diverse ideas.

70. An interesting possible development mentioned in the Digital Education Outlook 2026 is the evolution of GenAI tools into AI tutors, following the longstanding tradition of intelligent tutoring systems: AI tutors powered by generative AI offer new educational possibilities, not so much by providing answers but rather by engaging users in deep dialogue and providing adaptive guidance. A key for the success of these systems will be the integration of the “pedagogy-first” principle, the prioritisation of inclusivity and ethics, and the adoption of safeguard mechanisms.

71. For what concerns teaching, GenAI tools can contribute to boost productivity and the quality of teaching, in particular of online tutoring; the risk is, however, that over-reliance on them could lead to loss of skills and teaching expertise.

72. A case study presented in the Digital Education Outlook 2026 is the one of JeepyTA, from the United States: an AI teaching assistant, which was developed to provide students with answers related to logistic questions; feedback on their essays; clarifications on course readings and lectures; and other additional support. The tool was rated by students as comparable to human teacher assistants in clarity, accuracy and professionalism, and it raised the proportion of students achieving top grades on essays from 64% to 95% - even though students still preferred to interact with human teaching assistants.

73. Human-AI interactions can happen in three ways: through replacement, when the AI tool accomplishes a task; through complementarity, when the AI tool pairs human judgment; and through augmentation, when the human-AI system accomplishes a task outperforming what the AI or the human could have produced on their own. GenAI tools provide promising possibilities to augment teachers’ professional abilities.

74. It is important to ensure a pedagogical validation of the tools: generic AI tools have proven effective at boosting short-term performance, but less so at supporting long-term learning. As suggested in the Digital Education Outlook 2026, a possible way to tailor GenAI tools to educational needs is to co-design them with teachers and students, allowing them to control how they behave and interact with students.

75. GenAI can also be applied to improve system and institutional management, by reshaping administrative tasks (making them faster and more accurate); standardising assessment (generating exam items at scale); and expanding research possibilities.

76. Ultimately, the challenge for policymakers will be to ensure that GenAI tools are developed to be learning tools and not shortcuts. The human relationship between teacher and students should not be lost, also

⁴⁷ https://www.oecd.org/en/publications/oecd-digital-education-outlook_7fbff45-en.html.

⁴⁸ https://www.oecd.org/en/publications/oecd-digital-education-outlook-2026_062a7394-en.html.

because machines cannot replace human critical thinking nor some motivational aspects of the human relationship that are key to learning.

5.2. *The impact on skills*

77. AI adoption by firms is changing how workers perform their jobs, how work is organised, and ultimately, what skills are demanded. Furthermore, against the backdrop of an ageing population, AI can help address labour and skills shortages, as already reported by SMEs in the above-mentioned study conducted by the OECD.⁴⁹ On the other hand, 50% of SMEs also reported that lack of skills among employees was one of the major barriers to adoption of GenAI. A recent study explores the relation between AI and ageing, confirming that AI has the potential to ease labour shortages and support economic growth. However, unlocking these benefits will require investing in reskilling and upskilling, as well as supporting labour market reallocation and fostering business dynamism and innovation.⁵⁰

78. Employers in the finance and manufacturing sectors involved in the study expressed that AI would increase demand for highly skilled workers; skills that are perceived as more relevant include data analysis and interpretation, as well as creativity and innovation.

79. The requested skills are indeed evolving: while there will be no need to be specialised AI experts to use the technology, an analysis of job advertisements conducted in 2023 has shown that leading employers seeking technical AI skills are also looking for broader, high-level soft skills such as problem-solving, leadership, and innovation.⁵¹

80. The OECD also conducted a literature review covering more than 80 experimental studies which investigate the effects of GenAI on productivity, innovation and entrepreneurship. The results show that GenAI produces relevant gains across the field reviewed, but its impact appears to be highly dependent on how it is utilised, for which purpose, by whom, and on their level of expertise and trust in GenAI. Individuals with less experience and skills tend to benefit more from GenAI when tasks are well-defined; in order to unlock significant gains for experienced workers, the technology needs to complement their expertise. Understanding how and for which purpose GenAI is used, critically assessing outputs and considering the fit between the tasks undertaken and GenAI's capabilities is, however, critical for benefits to materialise.

81. The technology can support personalised learning experiences, but overreliance on AI-generated content may reduce critical thinking: careful integration of GenAI, including through training and support, remains crucial.⁵² In fact, worker's training and consultation regarding the adoption of new technologies seem to make them more positive about the impact of AI on their work, and more prepared. Training and consultation become therefore important not only for upskilling, reskilling and adaptation, but also to improve their enjoyment in the workplace.

6. **Ensuring inclusiveness and equal opportunities**

82. One of the major risks related to the adoption of AI tools in the workforce is the possibility that it leads to greater inequalities among workers. Countries will need to develop policies that support different groups and capture the benefits of AI (in terms of increased productivity and economic growth), without exacerbating inequalities and societal resistance to technological progress. It will be particularly important to focus on policies that enable both women and men to benefit from the AI transition equally.

83. Data shows that women are underrepresented in occupations with the very highest exposure to AI. Furthermore, women are highly represented in clerical occupations, which could be at particular risk of automation given the developments related to AI technology.⁵³

84. Women participate less in science, technology, engineering and mathematics (STEM) fields, limiting their opportunities to access newer, specialised AI positions (which are also better paid).

⁴⁹ OECD, *"Generative AI and the SME Workforce: New Survey Evidence"*, 2025.

⁵⁰ OECD, *"A potential boost from AI in ageing societies"*, 2026.

⁵¹ OECD, *"Emerging trends in AI skill demand across 14 OECD countries"*, 2023.

⁵² OECD, *"The effects of generative AI on productivity, innovation and entrepreneurship"*, 2025.

⁵³ OECD, *"Algorithm and Eve: How AI will impact women at work"*, 2024.

85. Overall, it appears that high-skilled male workers are overrepresented in the AI workforce (those who develop AI technology) as well as among AI users: women and lower-educated workers would therefore have less access to both specific AI jobs, and to AI tools in the workplace.⁵⁴

86. Inequalities can also appear among different age groups. Young people are more at risk, as entry-level jobs are more easily automated. On the other hand, even though older people are generally less exposed to automation, as they tend to have skills complementing AI,⁵⁵ some are less likely to easily adapt to use AI tools. Policy-makers will need to carefully assess these issues in order to counter the risk of age discrimination.

87. On the other hand, a very significant contribution of AI technologies to increase inclusiveness is represented by their potential for significantly improving the access to labour market and the quality of the work environment for people with disabilities (for example, through speech or image recognition, conversational chatbots, remotely operated machinery).⁵⁶

88. It is also important to mention that labour markets in different countries are and will be affected by AI in different ways. Southern and Eastern Europe seem to be the most vulnerable regions on the European continent, based on their employment structure and on the higher amount of low-skilled workers exposed to AI. This will be an important indicator to be considered in order to define where training investments can potentially have the highest impact.

7. Implications for intellectual property

89. The rise of GenAI tools, and the increasing demand of data to train them (text, audios, images and videos) is also accompanied by concerns regarding intellectual property (IP), especially regarding certain data collection methods.

90. The OECD has produced a publication on one of these methods: “data scraping”, which refers to the automated extraction of public or non-public data and information from third-party sources (websites, databases, social media). This practice is a common method to train AI models, occurring on a very large scale. It relies on automated means, and it can severely affect creators and owners of IP-protected works, as often there is no coordination with them, meaning that they are not informed, and most importantly, not paid.⁵⁷

91. Data scraping is used for commercial purposes, but also to support academic research. The IP implications are different, in terms of copyright, database rights, trademarks, trade secrets, publicity, and moral rights. Possible public policy tools should be tailored to the different uses, and the OECD has developed some suggestions in this regard:

- awareness raising on data scraping and the related legal implications would empower stakeholders and provide them with information on how to protect their rights;
- a “data scraping code of conduct” would encourage responsible practices and provide specific guidelines for different actors, including mechanisms for monitoring adherence and recommendations for transparency practices;
- standard technical tools would protect IP rights and enable rights holders to manage access to their data;
- standard contract terms would address legal and operational issues and allow the harmonisation of contractual terms.

92. IP legislation will probably need to be revised, updated and possibly harmonised among countries, to reflect the ongoing technological developments. The impact of GenAI technologies on IP also has additional implications, as restricting access to data could limit the development of AI technologies and hamper innovation.

8. Adoption by Small and Medium-Sized Enterprises (SMEs) and creative industries

93. Across the OECD, SMEs represent around 99% of all firms: they are therefore a crucial source of employment, and on average they generate between 50% to 60% of value added.⁵⁸ Beyond the mass effect,

⁵⁴ OECD, “Who will be the workers most affected by AI? A closer look at the impact of AI on women, low-skilled workers and other groups”, 2024.

⁵⁵ OECD, “A potential boost from AI in ageing societies”, 2026.

⁵⁶ OECD, “Using AI to support people with disability in the labour market”, 2023.

⁵⁷ OECD, “Intellectual property issues in artificial intelligence trained on scraped data”, 2025.

⁵⁸ <https://www.oecd.org/en/topics/policy-issues/smes-and-entrepreneurship.html>.

SMEs are key actors for the diffusion of sustainable, ethical and trustworthy AI, through the role they play in tailoring innovation to markets, including in niches or remote areas, and their integration in supply chains.⁵⁹

94. The adoption of AI by SMEs has risen sharply since 2023, with its use by small businesses (from 7.1% to 17.4%) and medium-sized enterprises (from 13.6% to 29.6%) more than doubling between 2023 and 2025.⁶⁰ However, this increase was from a low base, and large firms extended their lead in AI adoption over the same period (the use of AI by larger firms grew from 30.4% to 52.1%). There are also wide gaps between sectors, and in the uptake of more mature digital technologies. As these technologies continue to evolve, it is essential to put in place policies that help small and medium-sized businesses keep pace and access complementary assets to successfully adopt AI, including broadband connectivity, compute, software, data and skills.⁶¹

95. A recent OECD survey of 2,000 SMEs across 10 OECD countries showed that among AI users more than half of surveyed SMEs (54%) report deriving at least moderate value from their AI use, with 33% reporting a moderate impact on their business, 15% a significant impact, and 6% reporting a transformational impact. At the same time, 15% cite a significant positive impact on efficiency, productivity or decision making. Although this sample was not representative, it does provide useful indicative evidence that SMEs using AI are already experiencing tangible business benefits, particularly in terms of efficiency, productivity and decision making.⁶²

96. Recent technological developments are likely to have particularly significant implications for SMEs in the cultural and creative sectors (CCS). The sector is dominated by very small firms: across OECD countries, 99.9% are micro enterprises or SMEs, with 96.1% employing fewer than 10 people.

97. GenAI tools are having a particularly high impact on the sectors of advertising, film and TV production, music, publishing, videogames and visual arts. The main applications include the generation of scripts, still and moving images, music, news stories, computer codes, as well as video and image editing, and targeted advertising. These applications can have implications in terms of copyright violation, and can lead to the substitution of creators. Furthermore, the rise in GenAI use can lead to a loss of cultural diversity due to the standardisation of products, as well as to the dissemination of deep-fakes and disinformation.

98. Upcoming OECD work on the impact of AI on labour markets in CCS shows that cultural and creative occupations are more exposed to AI than the average occupation (more than 80% of tasks can be performed 50% faster with AI, compared to 44% of tasks on average across all occupations). It also shows that demand for AI skills is roughly twice as high in cultural and creative occupation job postings compared to average (4% against 2%) and that uptake of AI is generally higher in CCS businesses compared to average (56% vs 20% average), though this varies by subsector.

99. Evidence points towards potential disruption in CCS as a result of generative AI specifically. For example, in 2025, around 9.5% of businesses in the EU used AI to generate pictures, videos or sound/audio, and 34.9% of SMEs in 2024 had used AI to generate images, 16.9% to generate video, and 14.7% to generate audio. The most common use of GenAI was in marketing and sales (50% of SMEs using GenAI), which may suggest a reduction in need for freelance designers and marketing consultants.

100. The findings suggest that a proactive policy approach will be needed to help CCS adapt to the growing use of GenAI. Given the sector's wider cultural and social value, high levels of self-employment and project-based work, and the continued importance of human creativity, policy should support workers and businesses in adapting to changing skill demands while mitigating risks to employment quality, creative careers and cultural diversity. Priorities include investing in hybrid skills that combine creative, digital and AI capabilities, supporting AI adoption among SMEs and freelancers, ensuring fair governance of rights and remuneration, strengthening cultural ecosystems, and improving the monitoring of AI's labour market impacts through more timely and granular data.

9. The use of AI by the public sector

101. In order to meet increasing demands from citizens and strengthen trust in public institutions, national and local governments will need to adopt AI ensuring that it is well-governed, targeted, and human-centred. Ignoring the AI transformation or waiting for all uncertainties to be resolved risks turning governments into technology-takers rather than shapers of public values, with significant long-term costs and disadvantages.

⁵⁹ OECD, *OECD Outlook on SMEs and Entrepreneurship*, 2023.

⁶⁰ <https://goingdigital.oecd.org/datakitchen/#/cover/5/ict/indicator/explore/en>.

⁶¹ OECD "AI adoption by small and medium-sized enterprises: OECD discussion paper for the G7", 2025.

⁶² OECD, "Empowering SMEs in the age of AI", 2026

Without sustained investment in internal AI capacity and governance, national and local governments risk lock-in, dependency, and loss of strategic autonomy.

102. The full potential of AI tools in different public services (such as employment, social and health services) remains untapped and will require careful design, implementation and monitoring. AI has multiple potential uses by the public sector, with benefits ranging from improved efficiency of public administration, increased tailoring and effectiveness of public policies, strengthened integrity and transparency in public action, and greater responsiveness in public services. Opportunities are to be found across all levels of government, and the public services delivered at each level, including in and within regions and cities.

103. The OECD has recently conducted research⁶³ on the use of AI in 11 core government functions, across 200 use cases. The research provides a rich collection of examples and good practices from different OECD countries. The results indicate that AI is most prevalent in core functions of public service, justice and civic participation, and less common in policy evaluation, tax administration and civil service reform. Furthermore, AI use is more prevalent for improving internal administration or public facing service delivery, but less in government oversight and policymaking. Similar results emerge from recent analysis of use cases for regional development by national and subnational governments.⁶⁴

104. In June 2026, the OECD published its first Digital Government Outlook,⁶⁵ a comparative analysis of digital government across OECD member and accession candidate countries. It draws on two OECD benchmarking indexes, the 2025 Digital Government Index and the Open, Useful and Re-usable Data Index, which provide comparative metrics of countries' digital maturity by assessing the strength of the capabilities that underpin digital government, from data governance and infrastructure to skills and the use of AI, rather than whether policies or online services simply exist. In a dedicated chapter on AI, the Outlook finds that the technology is already used in at least one area of government in almost every OECD country, and that most countries have established dedicated strategies, oversight bodies and training programmes, marking a shift from early experimentation towards integration. It demonstrates that governments have now built many of the foundations for digital and AI-enabled government, such as shared infrastructure, interoperable systems and open data, but that realising impact at scale depends on closing gaps in institutional capabilities, governance mechanisms and workforce skills, and on creating the conditions for AI to deliver reliable results in day-to-day operations.

105. While government use of AI is increasing, closing these gaps is also critical to public trust in how it is used. The latest OECD Survey on Drivers of Trust in Public Institutions, also published in June 2026, includes for the first time a dedicated chapter on trustworthy AI in the public sector, and finds that most people remain sceptical, with only around four in ten holding positive views about the potential of AI use by government institutions.⁶⁶ Familiarity with AI is strongly associated with more positive expectations, and people who trust government to handle their personal data responsibly are also more optimistic about its use in the public sector. The report highlights appropriate regulations, transparency, meaningful human oversight and strong data protection as important levers for building public confidence.

106. Other OECD studies have focused on specific AI use by public entities. One of these focuses on the use of AI to strengthen public employment services: already in 2023, almost half of public employment services in OECD countries were utilising AI, most commonly to match jobseekers with vacancies and to aid the design of vacancy postings (including classifying occupations).⁶⁷ In particular, public employment services in OECD countries are using AI across all key areas of their activity, to understand jobseeker needs and targeting support; for labour market matching and employer services; and for administrative activities and knowledge generation.⁶⁸

107. AI has also multiple current and potential uses in social protection, to improve policy design; support claims administration; enhance service delivery; reduce “non-take-up”; and enhance monitoring and evaluation. Opinions among citizens are however divided on governments using AI in social services and to process benefits.⁶⁹

⁶³ OECD, “[Governing with Artificial Intelligence. The State of Play and Way Forward in Core Government Functions](#)”, 2025.

⁶⁴ OECD, “[How can AI help make better regional development policies in Korea](#)”, 2025; and OECD, “[Artificial Intelligence for Advancing Smart Cities](#)”, 2025.

⁶⁵ OECD, “[Digital Government Outlook 2026](#)”, 2026.

⁶⁶ OECD, “[OECD Survey on Drivers of Trust in Public Institutions 2026 Results](#)”, 2026.

⁶⁷ OECD, “[AI and the future of social protection in OECD countries](#)”, 2025.

⁶⁸ OECD, “[A new dawn for public employment services. Service delivery in the age of artificial intelligence](#)”, 2024.

⁶⁹ OECD, “[AI and the future of social protection in OECD countries](#)”, 2025.

108. Furthermore, governments at all levels are starting to use AI to improve and enhance civic participation in policymaking, for instance to better analyse citizens' inputs received through public consultations; lower the barriers to participation opportunities through automated translation, transcription, virtual assistance, and targeted communication; and facilitate deliberative processes at scale.⁷⁰

109. However, using AI in government can presents significant risks, often similar to those associated with diffusion in industry, but also with some unique aspects for the public sector. Because AI is deployed within broader public sector systems and processes, incidents or harms may not remain isolated, but can propagate across service delivery, decision-making and institutional relationships. If significant incidents or harms emerge, they can have far-reaching impacts on government operations and broader societal outcomes.⁷¹ Known risks consist of:

- ethical risks, when AI outputs undermine human rights, resulting from biased algorithms, poor-quality data or misuse, such as invasive surveillance, abusive inference or privacy infringements;
- operational risk, including technical and operational failures, mistakes in training, too weak oversight or deficient infrastructure;
- exclusion risks, related to gaps among citizens in terms of access to the technology or digital literacy, or inadequate representation in training data;
- public resistance risks, related to citizens' distrust in government AI systems or processes, (as explained above) and lack of transparency or avenues for redress;
- inaction risks, related to government inaction or delays in adopting AI technology to yield positive benefits.

110. Governments at national and subnational levels, face several challenges in AI implementation. These include the difficulties in procuring AI technologies; moving from pilot phases to scaling up successful AI applications; filling skills gaps in the public sector, including non-expert AI skills; obtaining reliable and quality data; lack of concrete and actionable guidance to transform strategies in practice; insufficient monitoring and evaluation mechanisms to gauge progress and detect risks; risk aversion and regulation uncertainty; and financial costs.

111. The use of AI by the public sector also raises specific challenges and opportunities at local and regional level, including concerning the implementation of smart city initiatives, urban digital twins and AI-enabled strategic planning. In particular, effective multilevel governance and coordination frameworks are required to ensure interoperability and coherent public action and investment, e.g. through joint public procurement or financing models; knowledge, data and infrastructure sharing; or AI governance standards, tools and mechanisms. At the same time, measures need to be taken to ensure that local and regional governments have the required capacities and skills to integrate AI systems into existing processes and services, and manage its associated risks.

112. In order to seize the benefits of AI, mitigate the risks and overcome the challenges, the OECD suggests that governments put in place “enablers” to facilitate a trustworthy AI adoption; “guardrails” to guide the use of AI, through rules, policies and frameworks; and “engagement approaches” to involve key actors and shape user-centred and responsive AI-based services. These comprise the elements of the OECD Framework for Trustworthy AI in Government, which helps governments operationalise implementation of the OECD AI Principles. Human determination and the role of parliaments in terms of regulating and overseeing AI will also be crucial.

113. The OECD currently has ongoing work that seeks to help governments close the gaps identified above, while also helping them prepare for the next generation of AI technologies. In particular, a forthcoming report on measuring and evaluating AI investments in government, expected later in 2026, responds to the finding that only around a quarter of OECD countries currently measure the impact of their AI use cases, which helps explain why many projects stall at the pilot stage. Related work under way addresses other challenges highlighted here, including how governments can experiment with AI safely, build AI skills across the public service and strengthen the public procurement of AI. In addition, in promoting readiness for the future, a short series of reports in preparation examines agentic AI in government (i.e. systems that can act on a government's behalf rather than only answer questions), and the use cases, readiness and safeguards governments will need to adopt agentic AI systems in a trustworthy way.

⁷⁰ OECD, “Artificial Intelligence and the Future of Citizen Participation”, 2026.

⁷¹ OECD, “Emerging divides in the transition to artificial intelligence”, 2025

10. Conclusions

114. The rise of AI and related technologies is opening a new era of possibilities for OECD countries, but these are accompanied by a series of challenges and risks that policymakers need to carefully consider.

115. While there is a growing literature on the impact of AI on the economy and on labour markets, more must be done in order to keep up with the fast-paced developments: this will be a challenge both in terms of research as well as decision-making and implementation.

116. AI can lead to significant productivity gains, as it can improve the efficiency of work in certain tasks. The degree to which these gains can be achieved depends on adoption, and therefore on the data, digital infrastructure, technical, human and managerial skills and auxiliary technologies available for integrating AI with work.

117. Countries will need to take measures to ensure that the digital transformation does not leave anyone behind. While it might be too early to clearly estimate the overall impact of AI on the labour markets in terms of occupation, it will probably lead to both the creation and the destruction of jobs, or their deep reconfiguration, with large differences in impact across territories.

118. Significant investments in training, upskilling and reskilling (with particular emphasis on digital skills as well as on critical thinking) will therefore be needed in order to accompany the groups of workers and regions which are most vulnerable and exposed, either for mitigating the impact of replacements or for ensuring proper AI oversight and governance. Policies will also need to be tailored to consider gender, age, and geographic location of workers, and will need to be clear and certain in order to facilitate their implementation, especially by SMEs.

119. Europe needs to boost and innovate its digital ecosystem, to reduce the gap with countries like the United States or China in terms of digital infrastructure (data centres; hardware; computing capacity; advanced models) and investments, and to avoid growing divides across firms, sectors and places. This has implications in terms of regulations and economic competitiveness, but also in terms of digital sovereignty.

120. At the same time, to ensure a trustworthy adoption of AI by both the private and the public sectors, decision-makers will need to be guided by transparency, explainability and the respect of human rights and democratic values. Given the global nature of this challenge, the importance of international co-operation to ensure the harmonisation of regulatory frameworks is more relevant than ever. The oversight role of parliaments will be crucial in this sense.

121. Finally, it will be equally important to ensure that digital transformation is properly linked with the net-zero transition: AI technologies are increasing energy and water consumption exponentially, but they can also be employed to envisage new methods to increase environmental protection and energy and material efficiency. Indeed, AI relies on hardware infrastructure that is highly energy-intensive and consumes water and critical raw materials, with the carbon footprint of large models still being significantly underestimated. This environmental cost manifests itself in the form of increased computing requirements, the accelerated replacement of equipment, and conflicts over land use. We must align the digital transition with the ecological transition by mandating environmental transparency, setting efficiency targets and promoting suitable architecture, in order to distinguish between costs that are simply borne and those that can become a future investment for a sustainable digital technology.⁷²

⁷² See public authorities' concerns in this regard: RTS, « Le Maine initie une pause dans la construction de data centers géants, d'autres Etats pourraient suivre », 15 April 2026.