

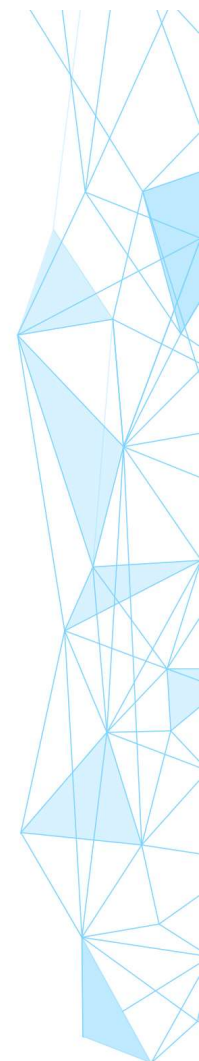
G20 2024 Readiness Report:  
AI Powered Transformation

July 2024



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# The AI readiness imperative

The global landscape is shifting rapidly, driven by the fast development of technologies like Artificial Intelligence (AI). This report dives deep into the readiness of G20 countries to capitalize on the transformative potential of AI. It analyzes the multifaceted impact of AI on labor markets and economies, exploring the upsides such as increased productivity and the potential downsides such as job displacement.

The in-depth analysis pinpoints specific challenges faced by G20 countries in their AI adoption journeys. While national strategies provide valuable insights into policy frameworks, the picture is far from complete. Significant disparities exist between G20 members, with some countries boasting advanced infrastructure and skilled workforces while others grapple with resource limitations. This report underscores the need for international collaboration to bridge these gaps and ensure inclusive AI development.

Businesses play a crucial role in driving AI adoption. This report presents case studies of some leading companies based in G20 countries, showcasing their journeys navigating and implementing AI and the strategies they developed. These business stories offer a potential blueprint for overcoming common hurdles and maximizing the benefits of AI.

The experiences of companies at the forefront of AI implementation can glean valuable lessons on fostering innovation, upskilling workforces, and creating new job opportunities. This report emphasizes the importance of fostering a collaborative ecosystem between governments, the private sector, and academia to unlock the full potential of AI for the benefit of all G20 countries and their citizens.

This research serves as a call to action for G20 leaders and stakeholders to embrace AI readiness as a national and international imperative. By addressing the challenges, fostering collaboration, and developing a conducive environment for businesses to support this transition, AI could become a force for shared prosperity and progress across the G20 countries and beyond.



# Artificial Intelligence and the great debate

The impact of emerging technologies on the advancements of jobs, income, opportunities, and wealth is a topic of debate as old as the concept of technology itself. In the past few years, this concern is centered and top of mind for Artificial Intelligence (AI) and especially Generative AI (GenAI). AI and GenAI are stirring speculation on their impact to businesses given the rapid pace of automation and augmentation. With rapid advances, the abilities of AI are infringing on tasks and jobs, including those of decision-making and cognitive skills (that are accomplished through training or achieved from past experiences) that used to be exclusively executed by humans.

Growing research and empirical literature around AI and its advances such as GenAI, provide varying perspectives on the effects of the new profound technology on the labor market. With the International Monetary Fund (IMF) suggesting that almost 40% of jobs are exposed to AI, differing views are gaining traction regarding AI's ability to complement or substitute labor.<sup>1</sup>

## Potential paybacks of productivity and prudence

One side of the debate points to the abilities of AI to improve productivity and efficiencies and enhance human capabilities. This is because GenAI has the potential to enable significant change in the scale of performance and production for organizations. AI has the ability (among other high-end technologies such as machine learning and deep learning) 'for autonomous navigation, object recognition and manipulation, natural language processing, and predictive analysis and maintenance reducing error significantly.'<sup>2</sup> From manufacturing and logistics to healthcare and finance, AI-driven automation has streamlined processes, reduced human errors, and optimized resource utilization.

The expected levels of benefits of GenAI varied significantly depending on the type of benefits pursued. According to the Deloitte US State of Generative AI in the Enterprise, Q2 2024 report released in April 2024, those who reported high or very high levels of GenAI expertise were found to be scaling GenAI much more aggressively and hence the benefits achieved were different from those who had 'some level' of expertise. Improved efficiency and productivity was the third highest benefit (56%) achieved by very high expertise, while those with 'some level of expertise', were still not able to achieve the desired benefits (of improving existing products and services, and efficiency and productivity, and reducing costs) to a much greater degree.<sup>3</sup>

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<sup>1</sup> IMF, Gen-AI: Artificial Intelligence and the Future of Work, 2024

<https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379>

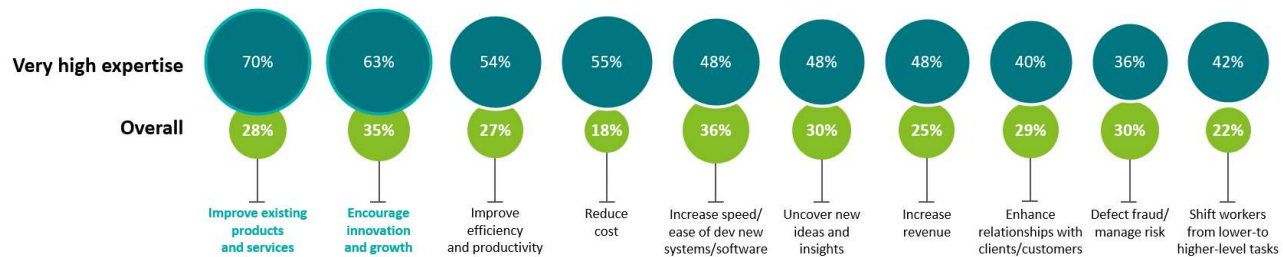
<sup>2</sup> Science Direct, Artificial intelligence, machine learning and deep learning in advanced robotics, a review, 2023

<https://www.sciencedirect.com/science/article/pii/S2667241323000113>

<sup>3</sup> Deloitte US, Deloitte's State of Generative AI in the Enterprise, Q2 2024

<https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consulting/us-state-of-gen-ai-report-q2.pdf>

Achieving benefits of those seeking the benefit, the percentage of respondents achieving the benefit to a large extent or more



Note: Q: What are your anticipated benefits and to what extent are you achieving those benefits to date?

Source: Deloitte US [State of Generative AI in the Enterprise, Q2 2024](#)

At the same time, the volume and variety of data available is becoming more and more difficult for humans to process, therefore limiting their abilities to leverage information for data-driven decision-making. Researchers from the Ladoko Akintola University of Technology in Nigeria, went on to argue that AI significantly reduces human error by automating tasks, ensures accuracy in data processing and analysis, and unveils intricate relationships and trends that might elude traditional analysis methods.<sup>4</sup> In other words, AI and its advances are improving and accelerating decision making amongst businesses and across industries.<sup>5</sup>

## A human lens to AI

As we have reviewed, the arrival of GenAI marks a significant shift in how we approach work. The impact of this technology not only creates an opportunity for business productivity, but also for workers, and the way they perform tasks. For example, as highlighted by the Deloitte US Generative AI and the Future of Work report (2023), AI can churn out text, images, audio and even artwork, but it lacks the inherent human touch. True power lies in collaboration. Freed from routine tasks by AI, humans can focus on the creative spark. With more expertise, trust, and time for creative pursuits, humans can use AI-generated content as a springboard, injecting their own ideas and evaluation to produce a surge of strategic, transformative, and innovative solutions (and, importantly, not fully replacing their ideas with those generated on command). To harness these tools with responsibility and accountability, however, humans must be properly educated and equipped up front to understand how to use them – and how to avoid misinformation.

The key to unlocking GenAI’s true potential lies in a human-centric approach. By fostering a culture of continuous learning and playful experimentation alongside AI, we inspire and realize the boundless potential that AI can create. If we navigate this transition thoughtfully, GenAI can live up to the vision of making humans better at work, and work becoming better for humans in turn, further amplifying this human-centered future of work.

<sup>4</sup> Research Gate, Utilizing AI and data analytics to derive insights from large datasets, aiding in decision-making processes, December 2023  
[https://www.researchgate.net/publication/376650485\\_Utilizing\\_AI\\_and\\_data\\_analytics\\_to\\_derive\\_insights\\_from\\_large\\_datasets\\_aiding\\_in\\_decision-making\\_processes](https://www.researchgate.net/publication/376650485_Utilizing_AI_and_data_analytics_to_derive_insights_from_large_datasets_aiding_in_decision-making_processes)

<sup>5</sup> Deloitte, Fueling the AI transformation: Four key actions powering widespread value from AI, right now, October 2022  
<https://www2.deloitte.com/content/dam/Deloitte/us/Documents/deloitte-analytics/us-ai-institute-state-of-ai-fifth-edition.pdf>

## Case study 1: International Business Machines Corporation (IBM)

IBM's decades-long AI work became more widely popularized when its program, Deep Blue, beat the world chess champion, Gary Kasparov, in a match in 1997. Since then, IBM emerged as one of the global leaders in AI research and development.

### **Empowering Humans with AI**

Today, IBM is advancing AI across its organization through a flagship AI platform called Watsonx. This platform augments human decision-making through learning recommendations, basic chatbots, and automation of business processes. Watsonx provides a robust governance framework to best realize AI's benefits while mitigating risk. This is implemented globally across its organization to enhance human capability and productivity.

IBM uses AI to improve its business processes through data analysis, task automation, and enhanced employee experiences through chatbots and AI-powered tools. By integrating AI into its processes, IBM aims to reduce mundane and routine tasks, drive efficiency, and deliver innovative solutions.

### **A Balancing Act: Efficiency and Upskilling**

When implementing AI solutions, IBM faced internal challenges, such as the need to reskill and upskill to adapt to new AI technologies and move from piloting AI tools to successful deployment across the company. Externally, IBM encountered challenges due to the patchwork of rules and regulations around the use of AI, which require continual adaptations of AI tools.

IBM created trust amongst its employees by highlighting the benefits of automation in improving processes and providing tools for continual upskilling. IBM engages with employees to identify those business processes and tasks that would most benefit from automation and AI. IBM implemented robust data security measures and compliance protocols to ensure data privacy and AI tools are vetted by its AI Ethics Board.

Externally, IBM engages with policymakers, industry stakeholders, and regulatory bodies to advocate for public policies and regulations that promote effective and innovative AI adoption, leveraging a risk-based approach to AI governance. IBM focuses on voluntary transparency and ethics in AI development and deployment to build trust with clients and ensure ethical use of AI technology.

### **Leading by Example: Trust and Transparency**

Other companies may find inspiration in IBM's approach to overcoming challenges in AI implementation. By prioritizing employee training and upskilling, companies can help ensure a smooth transition to AI technologies and mitigate concerns about the potential to impact on jobs. Involving employees also helps companies build trust in the use of AI, which is essential for successful deployment.

Implementing robust data security measures and compliance protocols demonstrates a commitment to protecting sensitive information and building trust with customers. IBM also engages with policymakers and regulatory bodies to advocate for precision regulation of AI because one-size-fits-all rules can not properly accommodate the many unique characteristics of every industry making use of this technology and its impact on individuals. Emphasizing the need for transparency and ethics in AI development helps build credibility and trust with stakeholders.

## Probable downsides of displacements and disparities

On the other hand, the advantages that AI and its new advancements could bring to people, societies, and countries are not universally accepted, and the debate of AI's impact is equally centered on its potential harms and disadvantages. One such concern for the rapid transition towards AI-enabled growth is its anticipated impact on the labor market resulting in rapid displacement of jobs; unequal opportunities for varied-skilled workers; widening perceived inequalities; and increasing income disparities across countries.

A report by the World Economic Forum in 2023 estimated that 83 million jobs are projected to be lost and 69 million are projected to be created, globally in the next five years (2023-2027). This constitutes a reduction in employment of 14 million jobs, or 2% of the studied dataset (673 million employees).<sup>6</sup> The study also pointed to a rising demand for certain skills such as analytical thinking, creativity, and flexibility. Cognitive skills with an increasing emphasis of complex problem-solving in the workplace are in rising demand, while repetitive, routine, and clerical jobs such as data entry, accounting and bookkeeping, will be the fastest declining jobs.

On the other hand, the OECD (2023) found no significant evidence of the impact of AI on aggregate employment. Instead, they found that organizations exposed to AI were hiring fewer people in jobs not requiring AI and more in jobs requiring AI skills.<sup>7</sup> However, the study did highlight that while organizations may not have laid off significant number of people, employment opportunities improved for AI-skilled workers relative to lower-skilled workers over the past ten years. Additionally, the latest Deloitte State of AI Report, found that more organizations plan to increase rather than decrease headcount in the next 12 months to implement their AI Strategy.<sup>8</sup> Clearly, the adoption of AI has led to increased opportunities for certain skills more than others.

With the recent progress in AI, specifically GenAI, even high-skilled jobs are now being exposed to this technology. High-skilled occupations are mostly associated with non-routine cognitive and creative tasks and GenAI can now partially carry out these tasks with some supervision. A study by the Pew Research Center (2023) specific to GenAI points to the fact that this new generation of intelligent software is 'designed to mimic cognitive functions, and it is likely that higher-paying, white-collar jobs will see a fair amount of exposure to the technology'.<sup>9</sup> Clearly, earlier generations of AI mainly impacted routine and repeatable jobs that were primarily rules-based. That has changed as GenAI is likely to impact creative work impacting high-skilled jobs.

The IMF study (2024) highlighted the possibility that the new wave of automation may extend job displacement risks beyond middle-skilled workers to higher-wage earners.<sup>10</sup> OECD's (2023) study even suggests that the rapid evolution of AI could reduce the time of adoption and reluctance among firms to lay

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<sup>6</sup> WEF, Future of Jobs Report, May 2023

[https://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs\\_2023.pdf](https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf)

<sup>7</sup> OECD, OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market, 2023

[https://www.oecd-ilibrary.org/sites/08785bba-en/1/3/3/index.html?\\_csp\\_=9f4368ffe3fc59de4786c462d2cdc236&itemContentType=book&itemIGO=oecd&itemId=%2Fcontent%2Fpublication%2F08785bba-en](https://www.oecd-ilibrary.org/sites/08785bba-en/1/3/3/index.html?_csp_=9f4368ffe3fc59de4786c462d2cdc236&itemContentType=book&itemIGO=oecd&itemId=%2Fcontent%2Fpublication%2F08785bba-en)

<sup>8</sup> Deloitte, The State of Generative AI in the Enterprise, 2024

<https://www2.deloitte.com/us/en/pages/consulting/articles/state-of-generative-ai-in-enterprise.html>

<sup>9</sup> Pew Research Center, Washington, D.C., Which U.S. Workers Are More Exposed to AI on Their Jobs?, July 2023

<https://www.pewresearch.org/social-trends/2023/07/26/which-u-s-workers-are-more-exposed-to-ai-on-their-jobs/>

<sup>10</sup> IMF, Gen-AI: Artificial Intelligence and the Future of Work, January 2024

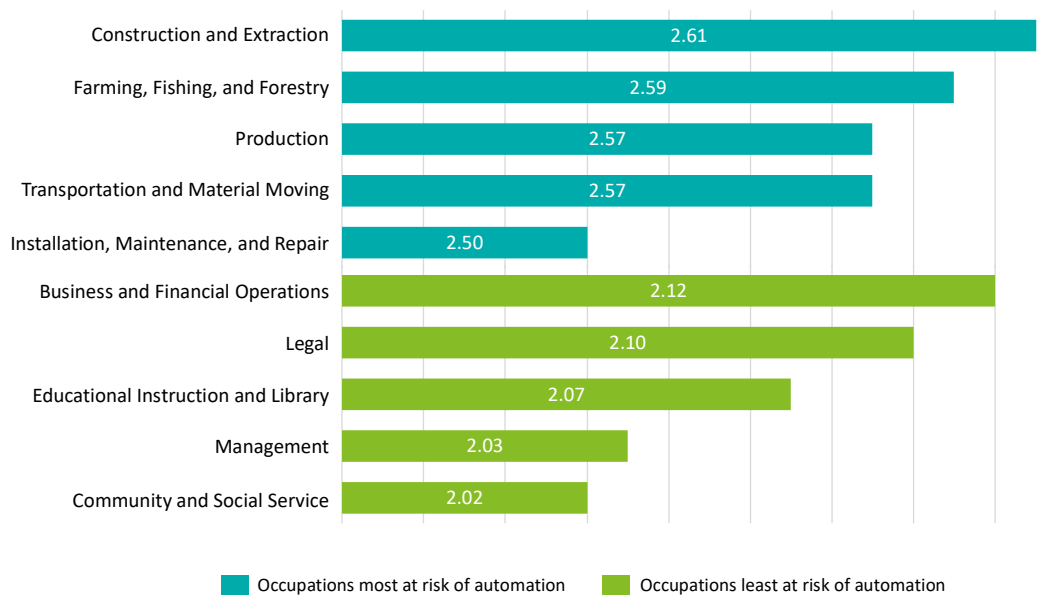
<https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379>

off disproving some of the evidence (of not-so-significant impact of AI on employment mentioned above) accumulated so far.<sup>11</sup>

Data from MIT economists (2020) suggests that automation has a bigger impact on labor market inequality and identified the year 1987 as a key inflexion point.<sup>12</sup> Within industries adopting automation, the study shows, the average “displacement” (or job loss) from 1947-1987 was 17% of jobs, while the average “reinstatement” (new opportunities) was 19%. But from 1987-2016, displacement was 16%, while reinstatement was just 10%. Not to mention, this was an estimate provided well before GenAI was known to a global audience. Since the incoming of GenAI, both the occupational range and extent of AI exposure has rapidly expanded with the use of more powerful AI technology and systems.

While different reports have listed jobs with differentiated exposure to AI and risk of automation, we list the following occupations as noted by OECD.

Occupations most and least at risk of automation including AI and other automation technologies, 2021



Notes: Occupations are SOC-2 digit (2018). The results are based on a survey of experts who evaluated the degree of automatability for 98 skills and abilities. **The risk of automation measure** is then computed by occupation as the average rating for each skill or ability used in the occupation across all expert responses weighted by the skills or abilities' importance in the occupation as rated by O\*NET. **Scale is 0-5 for all occupations.**

Source: [OECD, OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market, 2023](https://www.oecd-ilibrary.org/sites/08785bba-en/1/3/3/index.html?_csp_9f4368ffe3fc59de4786c462d2cdc236&itemContentType=book&itemIGO=oced&itemId=%2Fcontent%2Fpublication%2F08785bba-en)

The increasing use of AI in various industries has led to a demand for AI-skilled workers, with employers willing to pay a premium for these skills. According to an IMF study, vacancies in administrative and support services sector are charging the largest premium for AI skills encompassing credit bureau, document

<sup>11</sup> OECD, OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market, 2023 [https://www.oecd-ilibrary.org/sites/08785bba-en/1/3/3/index.html?\\_csp\\_9f4368ffe3fc59de4786c462d2cdc236&itemContentType=book&itemIGO=oced&itemId=%2Fcontent%2Fpublication%2F08785bba-en](https://www.oecd-ilibrary.org/sites/08785bba-en/1/3/3/index.html?_csp_9f4368ffe3fc59de4786c462d2cdc236&itemContentType=book&itemIGO=oced&itemId=%2Fcontent%2Fpublication%2F08785bba-en)

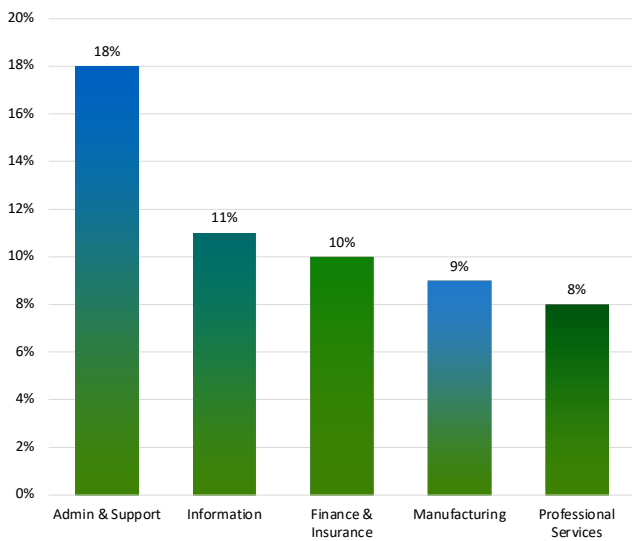
<sup>12</sup> MIT, Study finds stronger links between automation and inequality, May 2020 <https://news.mit.edu/2020/study-inks-automation-inequality-0506>



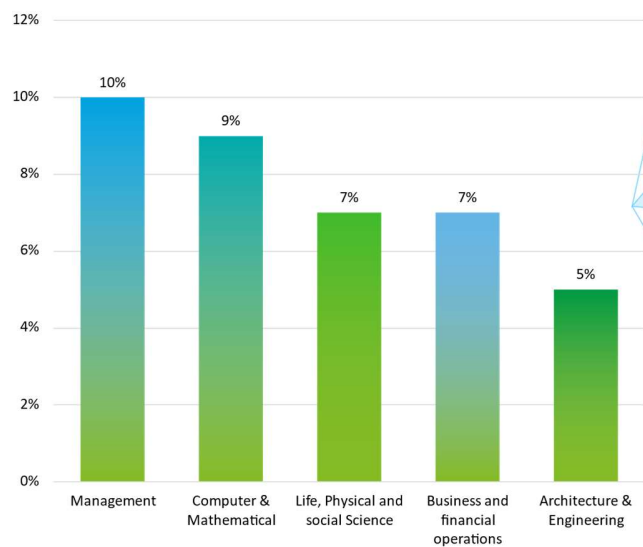
management, call centers, and other business support type of organizations.<sup>13</sup> In this sector, a vacancy demanding AI skills offers a 17.7% higher salary than a vacancy with no demand for AI. This sector has experienced the most sudden increase in the demand for AI skills. The information industry and the finance and insurance industry offer comparable 10.8% and 10.4% premia for vacancies with AI skill requirements respectively.

Occupation-wise, as expected, AI is very relevant for vacancies in computer and mathematical occupations offering higher salary studies for vacancies.

Estimated wage premiums for AI skills by industry



Estimated wage premiums for AI skills by occupation



Source: [CEPR, The demand for AI skills in the labour market, May 2020](#)

Even more, when addressing the impact on soft skills, rapid advancements in AI and tech innovation are starting to expose an imagination deficit with the capacity of many workers and organizations unable to keep pace in operationalizing the uniquely human capabilities required to unlock the boundless potential of AI. Deloitte Global’s 2024 Human Capital Trends research found that less than 10% of today’s workers have the imagination and curiosity needed to keep pace with the AI and tech innovation advancement.<sup>14</sup>

<sup>13</sup> Science Direct, The demand for AI skills in the labor market, August 2021

Alekseeva, JoséAzar, Mireia Ginéa, Sampsa Samila, Bledi Taska; [The demand for AI skills in the labor market, Labour economics](#)

<sup>14</sup> Deloitte, 2024 Global Human Capital Trends, 2024

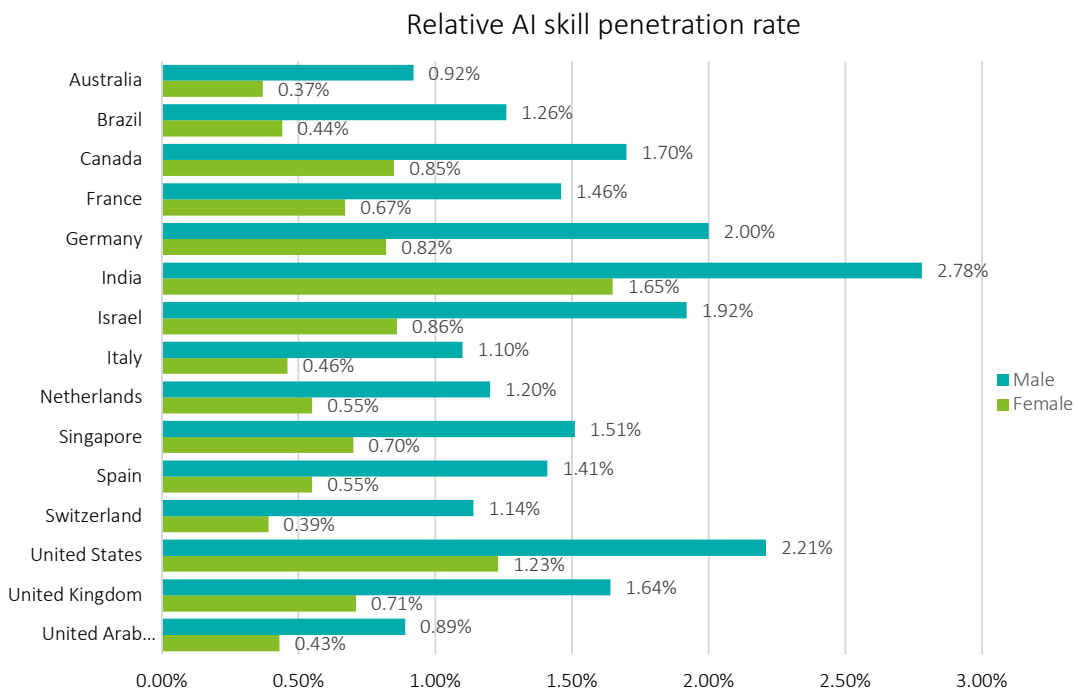
<https://www2.deloitte.com/us/en/insights/focus/human-capital-trends.html>

## Social inequalities

While AI-complementing occupations will likely impact workers without AI-related skills more adversely, access and ease of acquiring AI-related skills may determine the ultimate impact of this technology in job access and job mobility. There is evidence of widening inequalities across different segments of the population, such as across gender, demographics, and income levels.

For instance, women have disproportionately reduced access to knowledge, resources, and opportunities compared to men in most countries. They are thus more often employed in occupations that are vulnerable to changes in technology and skills requirements. For example, the expansion and impending adoption of GenAI tools may compound and further restrict availability of aforementioned “middle-skilled” jobs at risk of replacement by technologies and automation. Women and other populations may expect to bear the weight of this transition, while still also having inequitably low access to the resources, such as trainings and higher education, needed to upskill to more sought after, skills-based job positions.<sup>15</sup>

Research indicates that, globally, men tend to acquire AI skills at a higher rate than women. This disparity is particularly pronounced in technical AI skills, such as machine learning and data science, which are in high demand in the job market. The disparities are high for all G20 countries, irrespective of income. Interestingly, India fares very well in terms of acquiring AI skill penetrations compared to other G20 countries.



Source: [HAI AI-Index-Report 2024.pdf \(stanford.edu\)](#)

Note: A country’s “Relative AI skill penetration rate across genders” for women of 1.5 means that female members in that country are 1.5 times more likely to list AI skills than the average member in all countries pooled together across the same set of occupations in the country.

<sup>15</sup> HAI, Artificial Intelligence Index Report, 2024

[https://aiindex.stanford.edu/wp-content/uploads/2024/04/HAI\\_AI-Index-Report-2024.pdf](https://aiindex.stanford.edu/wp-content/uploads/2024/04/HAI_AI-Index-Report-2024.pdf)

## Case study 2: Globant

Globant S.A.'s story with AI began in 2013 and continues to evolve. It began with a dedicated Data Studio from which an AI practice was born and evolved into a full Studio. Its and a commitment to core principles outlined in their [AI Manifesto](#) (2018). Today, AI is woven into the very fabric of Globant, playing a central role in nearly every aspect of their business, internal operations and their product and platform division, to Globant X.

### Globant X: Reimagining Software with AI Alchemy

Globant X leverages next-generation technologies, with AI at the forefront, to revolutionize the software creation process. Three key AI solutions act as powerful tools for developers:

- [MagnifAI](#): This platform acts as a Turbocharger for Testing, speeding up the process by 56% and accelerating product launches.
- [Augoor](#): Designed to be a developer's best friend, Augoor tackles real-world coding challenges, acting as a "Waze" to help developers navigate the complexity of large code bases, highlighting difficult to maintain code pieces and suggesting improvements..
- [GeneXus](#): This AI-powered platform streamlines and automates the entire software development journey, from building the initial concept to ongoing maintenance across various environments, Automaton and migration across different development languages and cloud providers.

Today, 98.9% of Globant's teams have a dedicated AI Leader, and employees receive over 200 hours of AI training, solidifying their position as an AI Powerhouse.

### Navigating the Hurdles of AI Integration

Integrating Large Language Models (LLMs) presents several challenges for companies. Security is paramount, especially when connecting LLMs to sensitive information. The lack of clear public policies surrounding AI ethics and data privacy adds another layer of complexity. Furthermore, the rapid evolution of AI models, with frequent releases of new tools to integrate, can create uncertainty in strategic decision-making. Choosing the "right" model today might not be the optimal choice tomorrow.

Globant addresses these challenges by leveraging GeneXus Enterprise AI which provides a secure and flexible environment for exploring different AI models, taking care of the evolution of needed tools and frameworks, so that developers can focus on tackling business challenges.

### Lessons Learned: A Blueprint for the Future

Globant can inspire other companies in AI integration by addressing common challenges and emphasizing critical strategies for successful implementation. The rapidly evolving AI landscape, with emerging new models, adds to the complexity of strategic decision-making, such as selecting the appropriate model or tech stack for integration. To further support companies in overcoming AI adoption challenges, Globant focuses on these strategies:

1. **Building meaningful AI:** There is no success in adopting AI if the solution developed does not tackle a properly identified need or problem. From assisting a human to perform a specific task or solve a challenge to automated AI solutions that improve user experience..
2. **Investing in Talent Development:** Any company that wants to undergo an AI transformation needs to undergo a talent transformation upskilling or reskilling their workforce. This must be adopted as a continuous process to truly be on par with technological advancement..
3. **Prioritizing Ethics:** Globant designs based on its AI manifesto, promoting responsible AI adoption and stakeholder trust. For companies adopting AI this also stays true, everyone that interacts with an AI model has to have similar principles present.
4. **Advocating for Supportive Policies:** Globant advocates for transparency and industry standards in AI, creating an environment that supports effective AI adoption.

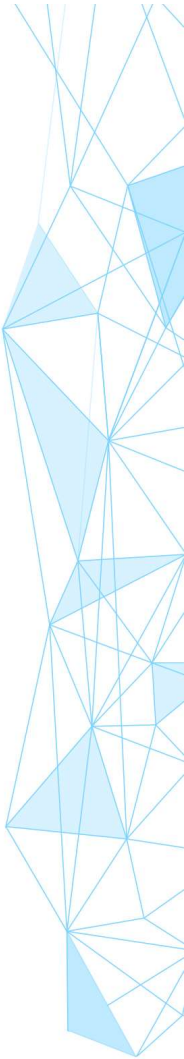
# Are G20 countries well-positioned to seize AI opportunities?

The application and usage of AI across countries is a complex matter. As discussed above, the degrees of the impact of AI and its advances are likely to vary substantially across job structures and by the nature of jobs themselves. The impact of AI on labor markets will likely depend on the different levels of investment already made in this field, current access to digital infrastructure and maturity, and relative skill gaps.

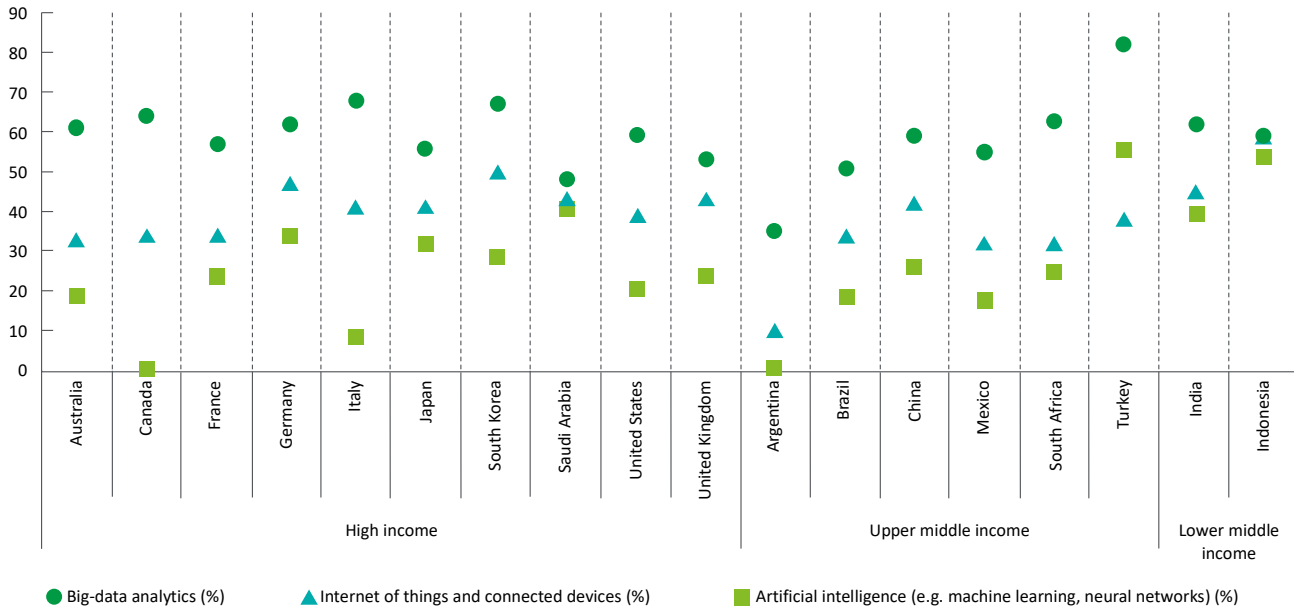
In this chapter, we assess the uncertain impact on job structures and the current state of the digital economy and skills in the G20 countries to understand how they are relatively prepared to respond to the advances in AI.

## The uncertain impact of AI and its advances on job structure in G20 countries

One of the findings suggests that the impact of AI on the labor market is expected to be the most uncertain. Using the IMF survey responses, we compared the impact of the three most adopted technologies by businesses—big data analytics, Internet of Things (IoT) and connected devices, and AI—on the labor market across the G20 countries. A larger share of respondents across almost all G20 countries believed that big data analytics would be the largest job creator, followed by IoT and connected devices. Even if the last statement positively indicates that AI might create more jobs than disruptions, it is important to point out that the share of respondents believing so was fewer.



### Technology and its impact on job creation (Technologies most likely to drive industrial transformation and their expected impact on job creation)



Note: This bar chart shows the effect on job creation of the technologies that have been identified by most respondents as likely to be adopted by their organization. It is based on the responses to the question, “Regarding the technologies likely or highly likely to be adopted in your organization, what is their expected impact on job creation in your organization?” of surveyed companies that operate in the respective economy or region, compared with the global average. Net effect is calculated by the share of respondents who view a technology as a net job creator, minus the share of respondents who view a technology as a net job displacer.

Period: 2022-2023

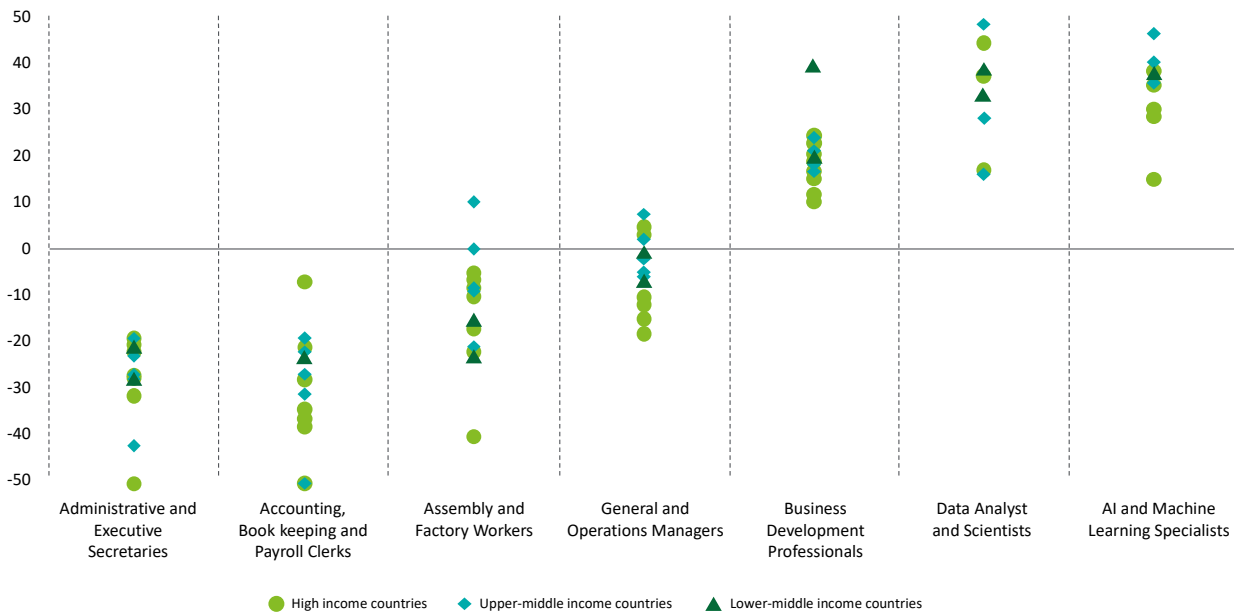
Source: [WEF, Future of Jobs report, 2023](#)

Similarly, there is an expectation that the nature of jobs will also likely see a transformation across G20 countries. The WEF survey suggests that of the total 100+ occupations listed in the report, the fastest job creation will occur for AI and machine learning specialists over the next five years, and net job creation growth will be prominently faster among upper-middle income and lower-middle income G20 countries. This may be due to high-income countries already seeing rising demand for such jobs, with other-income countries now catching up.

As shown in the figure below, the survey pointed out that certain jobs, such as administrative and executive secretaries, accounting, bookkeeping, payroll checks, and assembly and factory workers are expected to see higher number of job losses across many of the G20 countries, but more prominently in high-income countries. This may be because labor is expensive, and companies in high-income countries may try to mitigate costs by automating these jobs.

The least impacted jobs are expected to be general and operation managers and assembly and factory workers.

### Key roles for business transformation (%net growth)



Note: Net growth represents the forecast increase or decrease in the size of a workforce, either as a fraction of its current size, or in millions of employees.

Period: 2022-2023

Source: [WEF, Future of Jobs 2023 report.](#)

## Varying levels of investments

Private investment in AI has been substantial and increased rapidly over the past decade. However, the variation in this investment across the G20 countries has been quite stark. According to the Artificial Intelligence Index report 2024 by Institute for Human-Centered Artificial Intelligence Stanford, the private investment in the US and China accounted for 81% of the top 15 countries, majorly accumulating for the global investment in AI in the past decade.<sup>16</sup> India is the only other non-high-income country (other than China) that had a relatively higher share of private investment in AI.

<sup>16</sup> Stanford University, HAI, Artificial Intelligence Index report 2024 by Institute for Human-Centered Artificial Intelligence, 2024 [https://aiindex.stanford.edu/wp-content/uploads/2024/05/HAI\\_AI-Index-Report-2024.pdf](https://aiindex.stanford.edu/wp-content/uploads/2024/05/HAI_AI-Index-Report-2024.pdf)

## Case Study 3: Synthesis Software Technologies

Synthesis Software Technologies (Pty) Ltd specializes in the development and integration of advanced software solutions to streamline and improve different business processes by combining technologies such as AI, machine learning, and data analytics.

### **AI: Driving Efficiency and Innovation**

Synthesis Software Technologies implemented code assistant tools such as GitHub Pilot throughout its developer workforce (300+ developers) to aid developers in the software development process. Implementing these tools is helping drive efficiency and competitiveness, as well as enhance software development processes and innovation.

The Synthesis developer workforce uses AI code assistant tools to drive efficiency and create reusable boilerplate code in the development environments. AI tools handle equally important tasks outside of coding, such as documentation, to create draught documentation as developers code. The combined ability to create boilerplate code and generate documentation has drastically enhanced overall productivity.

### **Challenges and Overcoming Hurdles: A Strategic Approach**

When implementing AI solutions, Synthesis faced internal challenges, such as selecting the appropriate tools that addressed the most pressing needs. The use of AI tools created apprehension from employees as certain functions were seen to become redundant; however, with retraining and upskilling, the concerns of AI replacing developers were replaced with an understanding of how AI tools would augment existing roles and not lead to job displacement.

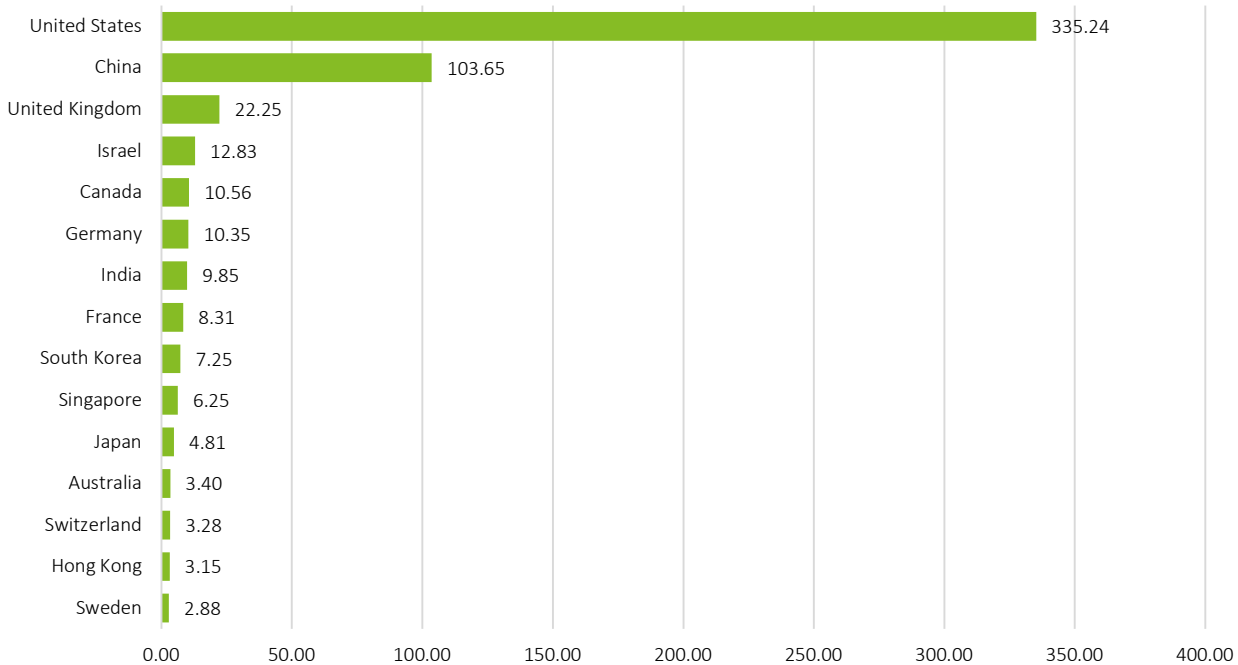
Additionally, internal policies on the correct use of AI tools, particularly concerning data security and privacy compliance, were implemented.

Synthesis overcame several challenges by assembling a team of necessary stakeholders that addressed the challenges through a strategic approach to ensure the successful implementation of AI tools and solutions. Several rounds of tool testing were conducted for both free and paid tools, a training and upskilling plan was created, and several sessions were conducted to increase awareness within the organization. Synthesis consulted with external experts and policy makers to consider the benefits and impact that customers in various markets and segments of industry may have to consider. The holistic approach and proactive engagement fully addressed the challenges and created a roadmap for future implementations across the organization.

### **How could this example inspire other companies?**

The impacts of the latest AI developments have created a lot of confusion around job displacement and how to implement AI tools effectively and securely within an organization. The focus for any company that is going to embark on its AI journey is to prioritize the people within the organization. Transparent communication and the identification of skills gaps and upskilling are essential to implementing AI within an organization.

Private Investment (in billions of U.S. dollars) in AI by Geographic Area, 2013-23 (Sum)



Source: [Quid, 2023](#) | Chart: [2024 AI Index report](#)

While investments in AI have increased in the last decade, this has only been the case for a few countries. However significant, for structural changes to happen (in the labor market and nature of jobs) and to capitalize the impact of AI into economic and societal benefits, the investments need to promote equitably among the G20 countries. Although this goal is desirable - and may result in a fairer distribution of access to AI's capabilities and benefits on a global scale - this trend may not change anytime soon. This is because the existing supporting ecosystem, which is essential for advanced technologies to scale up at an affordable cost, will most likely continue to give an edge to countries that are ahead in the race to operationalize AI.

The digital infrastructure and availability of necessary skills to effectively implement and govern AI vary significantly across the G20 countries. Consequently, countries that lack the supporting infrastructure and ecosystem are less prepared to maximize the benefits of technology growth and manage the associated risks.

## The digital infrastructure

The digital infrastructure, understood as the total physical and software-based infrastructure necessary to deliver digital goods, products & services,<sup>17</sup> varies significantly across G20 countries with high-income countries significantly more advanced in building the digital foundation needed than the middle-income and low-income countries. Digital infrastructure in high-income G20 countries is characterized by extensive broadband coverage, greater and reliable internet connections, and ubiquitous mobile networks. Strong investment by these economies in such foundations reflects their ability to better cope with technology

<sup>17</sup> SDIA, Definition for Digital infrastructure 2022

<https://sdialliance.org/dictionary/digital-infrastructure/>

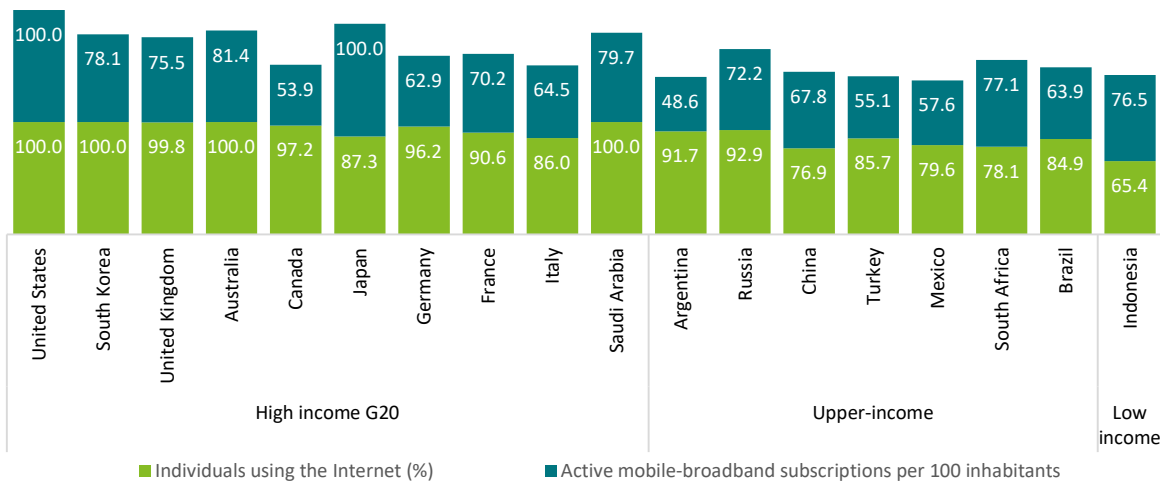
Note: Digital goods, products & services includes data centers, fiber infrastructure, server hardware, personnel, IT virtualization & infrastructure software, operating systems.



transformations. It also enables governments, private enterprises, and academic institutions to collaborate and foster technological advancements, resulting in cutting-edge innovations and widespread adoption of digital services.

On the other hand, middle and low-income G20 countries are behind in building the necessary digital ecosystem to address economic and social needs. This could be due to the numerous obstacles they face when attempting to establish comprehensive digital infrastructure such as limited financial resources, insufficient technical expertise, and insufficient governance. Moreover, the lack of supporting physical infrastructure such as maintaining a consistent supply of electricity poses additional hurdles. As a result, many developing countries struggle to provide adequate broadband coverage or maintain consistent internet connections, leaving millions without access to essential online services.

ICT Development across G20 countries 2023  
(Normalized Progress Scores (0-100))



Note: Proportion of individuals who used the Internet (from any location) in the last three months, Active mobile-broadband subscriptions refer to the sum of standard mobile-broadband and dedicated mobile-broadband subscriptions to the public Internet.

The indicators are measured on different scales and expressed in different units. Normalization is applied to bring all indicators on a common scale. The most common and intuitive method has been applied. This is the minmax approach, which rescales indicators onto an identical range of 0 to 100. Index data for India, African Union, and European Union is not available.

Source: [ITU, Measuring digital development ICT Development Index 2023, 2023](#)

## The skills gap

The skills gap challenge has persisted through ages, even before the world saw a boom in technology. Qualification barely kept up with the pace of skill requirements, making it difficult for businesses to hire the right talent. Qualification mismatch for jobs has been a problem for G20 countries, and especially so in middle-income countries when compared to high-income countries.



Note: Average percentage of workers that have a qualification or field-of-study that does not match their job's requirements. Index data for Japan, Saudi Arabia, Argentina, Russia, China, Turkey, Indonesia, and India is not available.

For Skill needs by country: Positive values indicate skill shortage while negative values point to skill surplus. The larger the absolute value, the larger the imbalance.

Source: OECD [statistics](#)

Since the Internet era, this challenge has become more pervasive. The rapid and widespread digitalization of economies has changed the nature of work, making digital skills essential for the modern workforce. As digitalization impacts almost every aspect of modern life, businesses struggle to find and attract individuals with the right set of skills for the constant-changing job requirements, while dated curriculums, slow modernization of educational offers, and disparities in education accessibility make these skills harder to find. According to a Deloitte Global survey, 68% of the executive respondents reported a moderate-to-extreme skills gap, while more than a quarter (27%) rated their skills gap as major or extreme.<sup>18</sup>

As relevant, the survey also showed that with more maturity in AI adoption, the skills gap challenges become even more acute. Among executives surveyed, the proportion of executives who reported major-to-extreme skills gaps in their organization increased consistently in relation to the number of AI production systems their organization has undertaken. 18% of executives with up to five AI production systems reported this degree of skills gap, whereas this proportion went up to 47% of executives who were highly experienced in building AI solutions (i.e., they built more than 20 production systems).

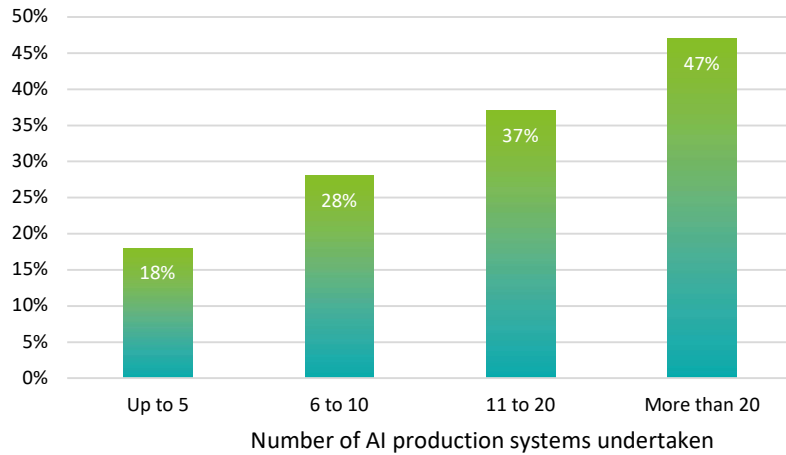
The nature of skills required with AI maturity also continues to change. Demand for AI researchers declines as organizations move up the AI experience curve, while demand for business leaders increases as there is now a greater need to translate the results and outputs produced by AI systems into business decisions and actions.

<sup>18</sup> Deloitte, Talent and workforce effects in the age of AI, March 2020

[https://www2.deloitte.com/content/dam/insights/us/articles/6546\\_talent-and-workforce-effects-in-the-age-of-ai/DI\\_Talent-and-workforce-effects-in-the-age-of-AI.pdf](https://www2.deloitte.com/content/dam/insights/us/articles/6546_talent-and-workforce-effects-in-the-age-of-ai/DI_Talent-and-workforce-effects-in-the-age-of-AI.pdf)

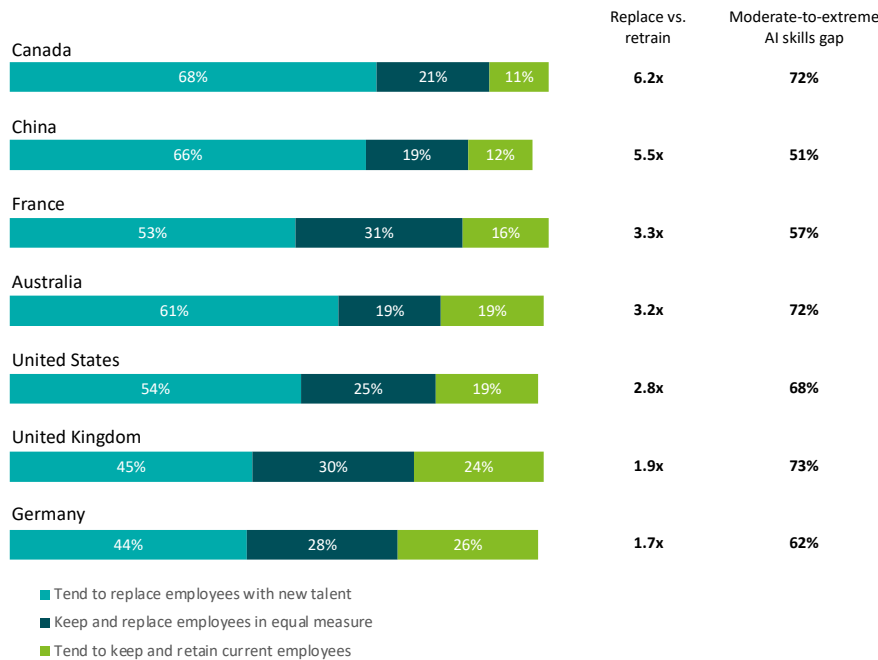
## Companies with greater experience building AI systems also report a larger AI skills gap

### Adopters reporting major-to-extreme AI skills gap



Source: [Deloitte Global analysis based on Deloitte’s AI in the Enterprise, 2nd Edition survey](#) of 1,900 AI early adopters in seven countries, 2020

## Across surveyed countries, AI adopters consistently prefer hiring new talent to address their AI skills gap



Note: Percentages may not total 100 percent due to a small number of respondents who answered “Don’t know”. Deloitte surveyed 1900 IT and line of business executives from companies that are prototyping or implementing AI solutions. Seven countries were represented- Australia, Canada, China, Germany, France, the UK, and the US

Source: [DI Talent-and-workforce-effects-in-the-age-of-AI.pdf \(deloitte.com\), 2020](#)

## Overall digital readiness

Insufficient infrastructure and connectivity, costs of devices and internet access, and unequal distribution of digital skills and literacy have resulted in discrepancies in digital readiness across G20 countries. Moreover, geopolitical uncertainties and lack of clear policies and institutional norms also impacted investment propensity and the ability to adopt technology in most of the emerging G20 countries. Limited investment results in increased vulnerability to cybercrime and misinformation, hurting the overall digital readiness of the nation.

High-income countries are significantly advanced in terms of digital readiness in comparison to middle-income and low-income countries. The rising disparity not only pushes back the latter set of G20 countries in their ability to adapt to the radical technology transformation but also results in a decreased ability to participate in the global digital economy and higher susceptibility to cyber-attacks.

The latest report by IMF proposed an AI Preparedness Index (API), which covers multiple strategic areas for AI readiness—digital infrastructure, innovation and economic integration, human capital and labor market policies, and regulation and ethics.<sup>19</sup> The report underscores the collective performance these factors and determines the preparedness of any nation to the structural changes brought by AI. One of the findings was that wealthier G20 countries are generally better prepared than low-income G20 countries to adopt AI. That said, there exists considerable variation across countries.



Basic needs



Ease of doing business



Start-up environment



Technology adoption



Business &  
govt investment

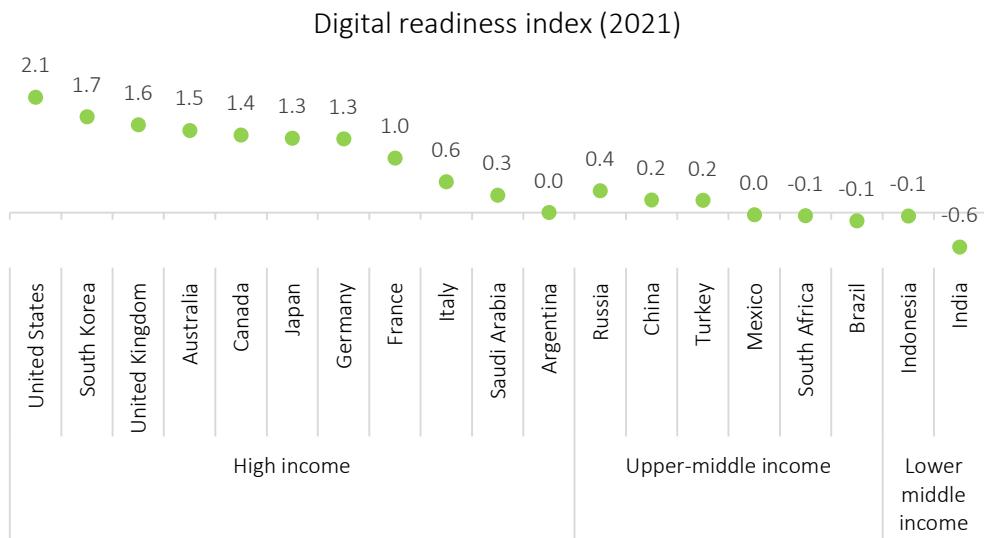


Human capital



Technology adoption

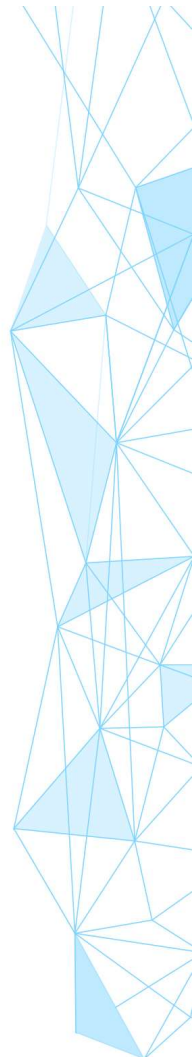
<sup>19</sup> IMF, Gen-AI: Artificial Intelligence and the Future of Work, January 2024  
<https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379>

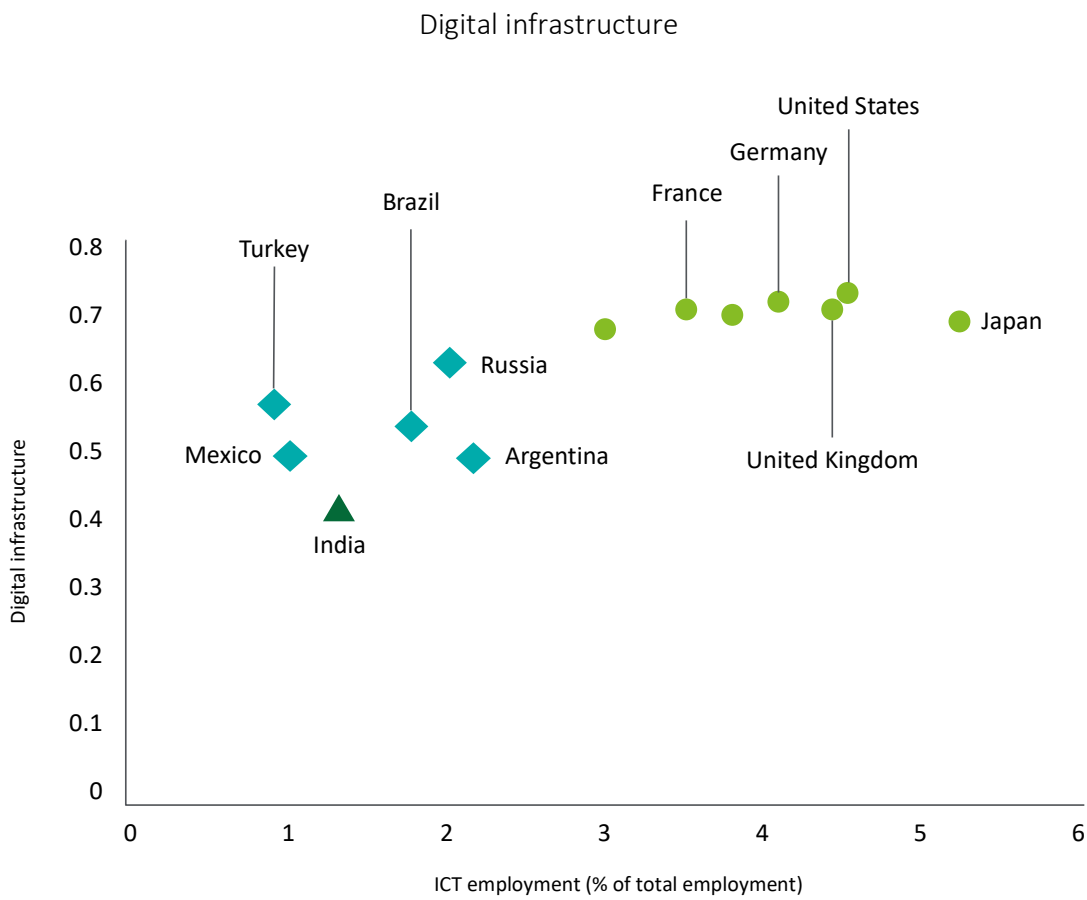


**Notes:** A country’s digital readiness score is determined by examining seven components which are standardized and summed to obtain an overall digital readiness score. **The score for each component is derived using metrics which have been selected based on their representation of key components that contribute to each area of readiness and their ability to be compared across all countries examined.**

Source: [CISCO, Cisco Digital Readiness Index](#)

Again, better digital readiness improves the labor market to adapt better to the changing dynamics. This could be because better digital infrastructure provides an evolving workforce with a competitive advantage, to acquire AI skills and adapt to new roles and opportunities. Among the G20 countries, high-income countries are ahead in terms of digital infrastructure, and according to a study by IMF, provide these countries the edge to create more ICT employment opportunities as well as their share in total employment is higher.





Note: Digital infrastructure is computed by averaging a rich set of sub-indicators including (accessible, affordable, and secured internet access and matured e-commerce infrastructure) compiled by 8 institutions within and across countries, on a scale from 0 to 1, with higher values representing more favorable AI preparedness.

Source: [Gen-AI: Artificial Intelligence and the Future of Work, Jan 2024](#)

## Case study 4: BetterPlace

BetterPlace Safety Solutions Private Limited is committed to creating a better workplace for others and is also leveraging AI to revolutionize their internal operations and enhance the services they provide, which is evident across several key areas.

### **AI Powerhouse: From Course Creation to Global Customer Support**

BetterPlace utilizes AI across various aspects of its business. Generative AI streamlines the creation of training courses, while AI-powered resume parsing ensures optimal candidate-job matching. Furthermore, breaking down language barriers, AI translation services make educational content accessible in multiple languages.

Internally, AI streamlines customer support, offering quicker and more accurate responses to inquiries. AI empowers strategic decision-making through comprehensive product research and competitor analysis. Additionally, AI-powered marketing campaigns leverage data insights for targeted messaging, and sales teams gain real-time access to product information during customer calls.

### **Building a Strong Foundation: Overcoming Challenges for Successful AI Integration**

BetterPlace encountered several challenges while implementing AI solutions.

Ensuring high-quality data for training AI models is critical for success. However, generating this data efficiently can be a challenge. BetterPlace addressed this by employing a two-pronged approach. First, they utilized artificial data generation techniques. This allowed them to create synthetic data that mimicked real-world scenarios, effectively supplementing their existing data sets. Second, they implemented a continuous monitoring pipeline within their production environments. This pipeline constantly monitors the performance of AI models, allowing them to identify and address any data quality issues that may arise over time.

Secondly, rolling out new AI models can be disruptive, potentially impacting customer operations. Careful planning and execution are crucial to minimize disruption. BetterPlace adopted a gradual rollout strategy. This involved deploying AI models in phases, starting with a limited scope before gradually expanding as confidence increased. Throughout the process, they meticulously tracked key performance metrics. These metrics provided valuable insights into the effectiveness of the AI models and allowed them to identify any areas needing improvement.

Lastly, the legal implications of using publicly available datasets can be complex, especially when dealing with datasets lacking explicit usage licenses. Staying compliant with evolving regulations is an ongoing challenge. BetterPlace recognized the importance of navigating the regulatory landscape. They proactively engaged their legal team to vet data sources and assess the legal implications of utilizing them. Only after securing the necessary approvals did they proceed with leveraging the data sets.

# The blueprint for national AI adoption

National strategies for AI adoption are key to ensuring that its development is human-centered, and the benefits are widely distributed and sustainable. In general, this comprehensive plan strives to constructively manage the integration of artificial intelligence across society, accounting for opportunities and challenges. A recent analysis by the OECD AI Policy Observatory identified over 50 existing national strategic and government-wide initiatives for trustworthy AI.<sup>20</sup>

A robust AI adoption strategy should include a clear vision, strong infrastructure, effective data management, comprehensive skilling initiatives, supportive regulatory frameworks, and adequate funding.<sup>21</sup>

More specifically, a clear vision requires governments to take the lead in defining long-term goals for AI adoption. These goals should focus primarily on ensuring that technology contributes to economic development, healthcare improvements, and educational advancements. In addition, the strategy should detail infrastructure investment plans that include high-speed internet connections, cloud computing, and cutting-edge technologies.

As seen throughout this report, AI's impact on the job market is not a mere shift but a profound transformation. This transformation necessitates significant changes to education and training programs to equip the workforce with AI-related skills. National strategies should not only anticipate this shift but also fundamentally adjust education and training programs to prevent mass job displacement and help ensure that workers can transition into new roles in an AI-driven economy.

The rapid pace of AI advancement also demands flexible regulatory frameworks, as well as government strategies focused on balancing innovation and ethical AI use, tackling topics such as bias, privacy, and accountability. Governments should also detail the financial resources they are budgeting for AI research and development, offering grants and tax incentives to spur private sector investment.

The following country-by-country overview explores the strategies of some G20 countries, highlighting their objectives, key initiatives, and the broader implications for global AI development. The purpose is to provide insights into what governments are prioritizing in their adoption strategies.

## Brazil's national strategy for Artificial Intelligence (EBIA)

Recognizing the transformative potential of Artificial Intelligence (AI), Brazil launched its National Strategy for Artificial Intelligence (EBIA) in April 2021. This strategy outlines a comprehensive approach to fostering domestic AI development and ensuring its responsible use.

The EBIA addresses several key topics. One concern is building a strong AI workforce. The strategy aims to cultivate domestic AI talent through academic funding, scholarships, and specialized AI degree programs. Additionally, it recognizes the need to attract and retain international AI experts.

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<sup>20</sup> OECD, How countries are implementing the OECD Principles for Trustworthy AI, October 2023  
<https://oecd.ai/en/wonk/national-policies-2>

<sup>21</sup> WEF, A Framework for Developing a National Artificial Intelligence Strategy, August 2019  
[https://www3.weforum.org/docs/WEF\\_National\\_AI\\_Strategy.pdf](https://www3.weforum.org/docs/WEF_National_AI_Strategy.pdf)



Furthermore, the EBIA acknowledges the potential disruption AI poses to the job market. To mitigate this, the strategy proposes initiatives to equip the general workforce with the necessary skills to navigate the changing work landscape through lifelong learning programs and a focus on digital skills development.

The strategy goes beyond talent development by recognizing the need for a robust AI ecosystem. This includes programs to incentivize private sector adoption of AI technologies, with targeted investments in strategic sectors, financing for AI startups and small and medium-sized enterprises (SMEs), and the creation of AI clusters to foster collaboration.

Ethical considerations are paramount in the EBIA. The strategy calls for the creation of governing bodies to establish ethical frameworks for AI development and use. This includes funding research into "explainable AI" that promotes transparency and allows for human oversight.

## Canada: Pan-canadian Artificial Intelligence strategy

According to an IBM report, 37% of IT professionals in large companies in Canada report having actively deployed AI in their business. The AI skills gaps (41%) remain a top barrier to adoption, followed by data complexity (24%) and high costs (24%).<sup>22</sup> The Pan-Canadian Artificial Intelligence Strategy has invested over US\$ 2 billion since 2017 to support AI and digital research and innovation.<sup>23</sup>

Since its launch, the Pan-Canadian Artificial Intelligence Strategy has enabled the Canadian government to maintain its position as a global leader in AI. Phase 2 of the strategy was announced in 2022 with funding of more than US\$ 443 million. The strategy includes investments in AI research, supporting AI adoption across different industries, and fostering a diverse and inclusive AI workforce. The government also emphasizes the importance of ethical and responsible AI development.<sup>24</sup>

## China: New generation Artificial Intelligence development plan (AIDP)

The World Economic Forum (WEF) reports highlights that China's AI market is projected to exceed US\$ 61 billion by 2025. Venture capital entities have invested some US\$ 120 billion in China's AI ecosystem according to the OECD data.<sup>25</sup> In July 2017, China's State Council issued the New Generation Artificial Intelligence Development Plan (AIDP).<sup>26</sup> This document, along with Made in China 2025 released in May 2015, forms the foundation of China's AI strategy. The New Generation AI Development Plan<sup>27</sup> focuses on advancing AI research, promoting AI applications in various industries, and developing a skilled workforce for the AI economy. The government is working to strengthen AI technology standards and regulations to ensure ethical and safe AI development; China's framework has a dual commitment to fostering innovation and upholding national security, ethical standards, and societal values.

## French national strategy for AI

A recent survey by France Travail, a French governmental agency, showed that 35% of establishments consulted use artificial intelligence technologies. The report also revealed a positive impact on productivity,

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<sup>22</sup> IBM, Canadian businesses saw uptick in AI Adoption in 2023 vs. global peers, January 2024

<https://canada.newsroom.ibm.com/2024-01-10-Canadian-businesses-saw-uptick-in-AI-Adoption-in-2023-vs-global-peers>

<sup>23</sup> PMC Canada, Securing Canada's AI advantage, April 2024

<https://www.pm.gc.ca/en/news/news-releases/2024/04/07/securing-canadas-ai>

<sup>24</sup> PMC Canada, Securing Canada's AI advantage, April 2024

<https://www.pm.gc.ca/en/news/news-releases/2024/04/07/securing-canadas-ai>

<sup>25</sup> OECD, AI policies in China, March 2024

<https://oecd.ai/en/dashboards/countries/China>

<sup>26</sup> New America, China's 'New Generation Artificial Intelligence Development Plan, August 2017

<https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/>

<sup>27</sup> China Science and Technology Newsletter, Next Generation Artificial Intelligence Development Plan, September 2017

<http://fi.china-embassy.gov.cn/eng/kxjs/201710/P020210628714286134479.pdf>

with 72% of employers using AI reporting enhanced employee performance.<sup>28</sup> France was an early promoter of the adoption of AI technologies, launching a US 1.7 billion investment initiative in tech start-ups and promoting skills development.

The French National Strategy for AI was published in November 2021 as part of the "France 2030" plan. This strategy follows up on the first phase of the strategy, "AI for humanity," which was implemented in France from 2018 to 2022. The second phase of the national AI strategy puts special emphasis on expanding the pool of AI-trained talents, a crucial competitive advantage, and accelerating France's research and development potential for economic success.

Additionally, the strategy supports the growth of the AI ecosystem at the national level through a public-private partnership, focusing on the following key objectives:

- Enhancing the nation's skills
- Establishing France as a leader in embedded AI and trustworthy AI
- Accelerating the integration of AI into the economy

Globally, the strategy strives to significantly strengthen French training and research centers into international hubs of AI expertise. This pillar focuses on supporting the digital transformation of French SMEs.<sup>29</sup>

## Germany: National Artificial Intelligence Strategy

Germany first published its National Artificial Intelligence Strategy in 2018 and updated it in 2020. The updated report focuses on the following fields of action: research, knowledge and expertise, transfer and application, regulatory framework, and society.

The German Federal Government committed to increasing the planned expenditure of EUR 3 billion for the promotion of AI by an additional EUR 2 billion, resulting in a total of EUR 5 billion by 2025. The aim is to establish Germany as a leading AI location<sup>30</sup> as a research center, to build up the competitiveness of German industry, and to promote the many ways to use AI in most parts of society<sup>31</sup>.

## Japan's AI strategy

Japan has consistently embraced AI integration, envisioning its role in society through a set of social principles, as explained by the Stellenbosch University Japan Centre.<sup>32</sup> Rather than restricting AI, Japan focuses on using it to promote human dignity, diversity, and inclusion. This philosophy is detailed in the 2019 document "Social Principles of Human-Centric AI," which outlines the country's goals for responsible AI use.<sup>33</sup> Currently, Japan has no regulations limiting AI use. Instead, it provides strategy and goal-based guidelines, such as "The AI White Paper," Japan's National Strategy for AI (2023),<sup>34</sup> and the "Draft AI

<sup>28</sup> Les employeurs face à l'Intelligence Artificielle, France, June 2023

[https://www.francetravail.org/files/live/sites/peorg/files/documents/Statistiques-et-analyses/Documentation/Divers/P%c3%b4le%20emploi\\_Pr%c3%a9sentation\\_Enquete%20Intelligence%20Artificielle\\_2023.pdf](https://www.francetravail.org/files/live/sites/peorg/files/documents/Statistiques-et-analyses/Documentation/Divers/P%c3%b4le%20emploi_Pr%c3%a9sentation_Enquete%20Intelligence%20Artificielle_2023.pdf)

<sup>29</sup> Digital Skills and Jobs Platform, France - National Strategy for AI, August 2023

<https://digital-skills-jobs.europa.eu/en/actions/national-initiatives/national-strategies/france-national-strategy-ai>

<sup>30</sup> KI National Strategy for AI, Artificial Intelligence Strategy of the German Federal Government, December 2020

[https://www.ki-strategie-deutschland.de/files/downloads/Fortschreibung\\_KI-Strategie\\_engl.pdf](https://www.ki-strategie-deutschland.de/files/downloads/Fortschreibung_KI-Strategie_engl.pdf)

<sup>31</sup> Federal Ministry for Economic Affairs and climate Change, Artificial Intelligence, 2018

<https://www.bmwk.de/Redaktion/EN/Artikel/Technology/artificial-intelligence.html>

<sup>32</sup> SUJC, Japan's Strategy for Building a Robust Domestic AI Ecosystem, April 2024

<https://www0.sun.ac.za/japancentre/2024/04/12/japans-strategy-for-building-a-robust-domestic-ai-ecosystem/>

<sup>33</sup> Cabinet Office, Government of Japan, Social Principles of Human-Centric AI, February 2019

<https://www.cas.go.jp/jp/seisaku/jinkouchinou/pdf/humancentricai.pdf>

<sup>34</sup> Taira-m, Japan's National Strategy in the New Era of AI, April 2023

[https://www.taira-m.jp/ldp%e2%80%99s%20ai%20whitepaper\\_etrans\\_2304.pdf](https://www.taira-m.jp/ldp%e2%80%99s%20ai%20whitepaper_etrans_2304.pdf)

Guidelines for Business” (2024).<sup>35</sup> These documents emphasize principles and voluntary compliance by industry and citizens over legally binding restrictions.

Japan’s AI strategy includes investments in research and development, promotion of AI technology in various industries, and facilitation of AI adoption in everyday life. The government also emphasizes human resource development to ensure the workforce is prepared for the AI-driven economy.

## South African national AI plan

According to data from Google Trends, AI was searched more than ever in the country in 2022, with South Africans searching for the term 90% more than in 2021.<sup>36</sup> Corporate interest in AI is also rising as shown in a recent survey of South African IT decision-makers at 100 large enterprises, with 45% of respondents indicating they aren’t using it yet but hope to do so in future, while only 10% surveyed had no intention of using GenAI.<sup>37</sup> The government published a strategy in October 2023 to respond to this rapidly rising interest and advance AI adoption in the country.<sup>38</sup>

The South African National AI plan relies on boosting the application of AI in the government and economy and strengthening digital skills through research and development. It promotes a Government-as-Platform approach to increase the uptake of AI in both the public sector and the broader economy. Specifically, the plan is divided into four core priorities: providing the state with predictive maintenance, diagnostic capabilities, analytical models for policy and regulatory systems, and automated service delivery channels.<sup>39</sup>

The South African strategy stresses that significant national efforts are required to effectively scale AI initiatives to avoid missing out on the opportunities AI can bring to South Africa’s economic development and productivity expansion.

## South Korea: Korea national adoption strategy

South Korea is a leader in the international AI landscape, with an emphasis on research and development, a thriving tech environment, and a dynamic startup ecosystem. The Korea National Adoption Strategy focuses primarily on maintaining global competitiveness, forming strategic industry alliances, fostering supportive government policies, and rapidly integrating AI across various sectors.<sup>40</sup>

The government's vision, as elaborated in the strategy, is to use AI as a driver of national transformation, a tool to bolster the economy. This strategy, similar to other countries, prioritizes ethical development and responsible use through 100 government-wide action tasks and nine distinct sub-strategies. Additionally, in 2020, the government unveiled the ‘Digital New Deal’ Korea, outlining 12 goals across four sectors. This plan details significant government investments aimed at creating 903,000 new jobs by 2025.<sup>41</sup>

<sup>35</sup> Ministry of Internal Affairs and Communications Ministry of Economy, Trade and Industry, AI Guidelines for Business, January 2024  
[https://www.meti.go.jp/shingikai/mono\\_info\\_service/ai\\_shakai\\_jisso/pdf/20240119\\_4.pdf](https://www.meti.go.jp/shingikai/mono_info_service/ai_shakai_jisso/pdf/20240119_4.pdf)

<sup>36</sup> Google, AI trend, 2024  
<https://trends.google.com/trends/explore?date=2022-01-01%202022-12-31&geo=ZA&q=AI&hl=en>

<sup>37</sup> World Wide Worx, The SA Generative AI Roadmap, 2024  
<https://gadget.co.za/wp-content/uploads/2024/04/SA-GenAI-Roadmap-2024.pdf>

<sup>38</sup> Department of Communications and Digital Technologies (DCDT), South Africa’s Artificial Intelligence (AI) Planning: Adoption of AI by Government, October 2023  
[https://www.dcdt.gov.za/images/phocadownload/AI\\_Government\\_Summit/National\\_AI\\_Government\\_Summit\\_Discussion\\_Document.pdf](https://www.dcdt.gov.za/images/phocadownload/AI_Government_Summit/National_AI_Government_Summit_Discussion_Document.pdf)

<sup>39</sup> Department of Communications and Digital Technologies (DCDT), South Africa’s Artificial Intelligence (AI) Planning: Adoption of AI by Government, October 2023  
[https://www.dcdt.gov.za/images/phocadownload/AI\\_Government\\_Summit/National\\_AI\\_Government\\_Summit\\_Discussion\\_Document.pdf](https://www.dcdt.gov.za/images/phocadownload/AI_Government_Summit/National_AI_Government_Summit_Discussion_Document.pdf)

<sup>40</sup> The Government of the Republic of Korea, National Strategy for Artificial Intelligence, October 2019  
[https://wp.oecd.ai/app/uploads/2021/12/Korea\\_National\\_Strategy\\_for\\_Artificial\\_Intelligence\\_2019.pdf](https://wp.oecd.ai/app/uploads/2021/12/Korea_National_Strategy_for_Artificial_Intelligence_2019.pdf)

<sup>41</sup> Ministry of Science and ICT Korea, Press Release, The Digital New Deal Is to Lead Digital Transition in the World After COVID-19, 2020  
<https://www.msit.go.kr/eng/bbs/view.do?sCode=eng&mId=4&mPid=2&pageIndex=&bbsSeqNo=42&nttSeqNo=443&searchOpt=&searchTxt=>

## United Kingdom AI strategy

The UK government has invested heavily in facilitating AI adoption and is now upscaling training and skills development. It recently announced an investment of £7.4 million to train small and medium-sized companies to develop their technical skills and/or understanding of AI to be able to develop, deploy, or use AI in their role.<sup>42</sup>

In 2022, the UK government published statistics showing that AI adoption was already widespread among UK businesses and was expected to rise dramatically over the next decade. Specifically, the government estimated in 2022 around 15% of all businesses had adopted at least one AI technology, which translates to 432,000 companies. In addition, some 2% of businesses were piloting AI, and 10% planned to adopt at least one AI technology in the future, equating to 62,000 and 292,000 businesses, respectively.<sup>43</sup>

The government also estimates that around 7% of existing UK jobs could be displaced over the next five years, rising to around 18% after 10 years and nearly 30% after 20 years – equivalent to around 2.2 million jobs.

On the investment side, the government has allocated over £2.3 billion to various AI initiatives since 2014. In the 2023 budget, the UK government committed almost £1 billion to AI research.<sup>44</sup>

In 2021, the government published its National AI Adoption Strategy, basing it on three key principles:

- Investing in and planning for the long-term needs of the AI ecosystem, with the stated objective of making the UK a computer science and AI superpower.
- Supporting the transition to an AI-based economy.
- Taking an informed and balanced approach to regulating AI technologies, by encouraging innovation whilst protecting public and fundamental values.<sup>45</sup>

## United States: AI national adoption strategy

While the United States is a leader in AI development and adoption at many levels, according to the U.S. Census Bureau, only 3.8% of U.S. businesses reported using AI to produce goods and services as of late 2023, with the highest adoption in the Information sector (13.8%). Adoption rates, though, are expected to accelerate rapidly. According to an IBM report, 59% of companies recently surveyed are deploying or exploring AI and have accelerated their investments in the past two years, driven by more accessible AI tools and the need to reduce costs and automate processes.<sup>46</sup> The healthcare and financial sectors are leading in adoption.

Common barriers to AI adoption include a lack of skilled individuals, unclear return on investment metrics, the complexity of AI systems, and concerns over privacy and ethics.

In May 2023, the U.S. government published its updated National Adoption Strategy. The revised AI plan builds on those from 2016 and 2019, reaffirming eight strategies and introducing a ninth to emphasize international collaboration with certain countries. These strategies include long-term investments in AI,

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<sup>42</sup> Government of UK, Department for Science, Innovation & Technology, Flexible AI Upskilling Fund pilot application guidance, May 2024

<https://www.gov.uk/government/publications/flexible-ai-upskilling-fund/flexible-ai-upskilling-fund-pilot-application-guidance>

<sup>43</sup> Government of UK, AI activity in UK businesses: Executive Summary, January 2022

<https://www.gov.uk/government/publications/ai-activity-in-uk-businesses/ai-activity-in-uk-businesses-executive-summary>

<sup>44</sup> Government of UK, National AI Strategy, December 2022

<https://www.gov.uk/government/publications/national-ai-strategy>

<sup>45</sup> Government of UK, National AI Strategy, December 2022

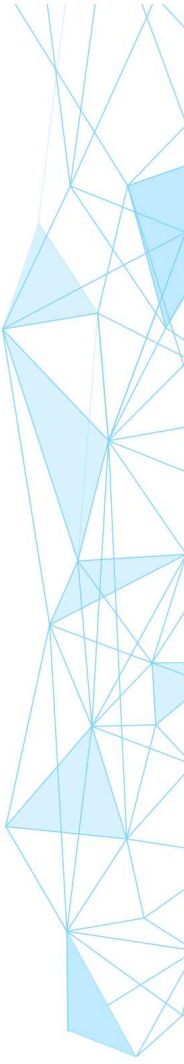
<https://www.gov.uk/government/publications/national-ai-strategy>

<sup>46</sup> IBM Global AI adoption Index, 2023

<https://www.multivu.com/players/English/9240059-ibm-2023-global-ai-adoption-index-report>

enhancing human-AI collaboration, and addressing ethical risks to ensure AI systems reflect national values and promote equity. Additional strategies focus on designing trustworthy AI systems, developing high-quality datasets for AI training, creating evaluative techniques and standards, improving workforce development for an AI-ready workforce, fostering public-private partnerships for sustained AI R&D investment, and prioritizing global partnerships for responsible AI progress.

The strategy also focuses national efforts on AI research and development through initiatives such as the American AI Initiative. This aims to maintain leadership in AI, drive economic growth, enhance national security, and improve quality of life.



# Conclusion: Navigating the AI revolution through a collaborative imperative

The digital revolution is reshaping economies and labor markets for decades, but the emergence of GenAI marks a turning point. Unlike previous technological advancements, AI presents an unprecedented pace of change, offering both immense opportunities and significant challenges for G20 countries, and world economies overall.

This report explored the multifaceted impact of AI, however, successfully harnessing the power of AI requires overcoming several hurdles. As showcased, G20 countries face a range of challenges in their AI adoption journeys. Disparities exist in crucial areas like infrastructure, investment levels, and talent pools. Additionally, effective regulatory and policy frameworks that promote innovation while mitigating risks like cybersecurity and privacy concerns are critical.

However, these challenges can be transformed into opportunities through strategic action. By investing in robust digital infrastructure, fostering a culture of research and development, and establishing clear and adaptable policies, G20 countries can pave the way for sustainable and inclusive AI growth.

One of the most pressing concerns surrounding AI is its potential impact on labor markets. While job displacement is a possibility, the report emphasizes the crucial role of skills development and reskilling initiatives. G20 countries can equip their workforces with the necessary skills to not only adapt to an AI-driven future, but also thrive in it.

The case studies presented in this report, featuring successful national AI strategies from leading G20 members like the United States, Germany, and South Korea, provide valuable benchmarks for other countries. However, the report underscores the need to go beyond existing strategies. Increased investment in AI research, development, and education, along with state support for businesses and individuals navigating the transition, is crucial for a sustainable and inclusive adoption process.

## The Power of Public-Private Partnerships

The business sector plays a pivotal role in AI adoption. As highlighted by the stories of IBM, Globant, and Synthesis Software Technologies, businesses are not only early adopters of AI but also key players in job creation and skills development.

Effective dialogue and collaboration between public and private actors within G20 ecosystems will be essential in maximizing the positive impacts of AI. Open communication and coordinated efforts will ensure that AI fosters innovation, economic growth, and a future where no one is left behind.

This report serves as a call to action for G20 leaders and stakeholders. By proactively addressing the challenges, fostering collaboration across all sectors, and prioritizing responsible and inclusive AI integration, G20 countries can leverage the transformative power of AI to usher in an era of shared prosperity and progress for all.



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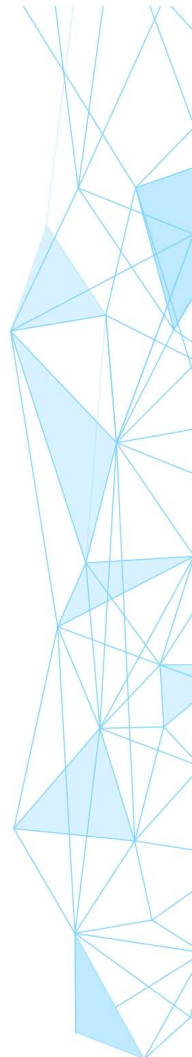
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