ECONOMIC VIEWPOINT

Will Canada Unleash AI's Productivity Potential, or Sit Too Long on the Sidelines?

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- ▶ In this report, we assess the immense opportunities and potential risks presented by artificial intelligence (AI) and what they could mean for Canada's economy.

- ▶ Most studies find that over half of all jobs in advanced economies are exposed to AI. But we should be wary of predictions of major layoffs across the board. AI has the potential to create new occupations and tasks. The transition will require public involvement, including upskilling current and future workers.

- ▶ AI's productivity gains are beginning to show anecdotally in some industries, but a society-wide improvement on this front is likely still a few decades away.

- ▶ AI also introduces a range of challenges, limitations and risks. These include the potential for technological disparities between larger and smaller firms, financial market volatility, cybersecurity concerns, threats to critical infrastructure and political interference. Managing these risks will require careful consideration paired with strategic and agile policymaking.

- ▶ Regulation and policymaking for the AI era are still in their early stages, but legislation recently enacted in the European Union may serve as a blueprint for other countries. Canada does not currently have an AI-specific regulatory framework in place, but one is being reviewed in the House of Commons.

- ▶ Canada is a world leader in AI research but lags many of its international peers with respect to early AI adoption and commercialization.

- ▶ While Canada boasts top AI talent, its AI ecosystem was not built with adoption in mind, and that is where action is clearly needed. Greater adoption of AI by government bodies to tackle social and environmental issues could accelerate startup creation and drive commercialization of made-in-Canada AI solutions.

- ▶ Ultimately, to solve some of the world's most pressing challenges, it will be imperative to combine the best aspects of human intelligence and creativity with the power of AI.

> **Box 1: Definitions**
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> **Artificial intelligence (AI)** refers to the series of techniques that allow a machine to simulate human cognition, namely to learn, predict, make decisions and perceive its surroundings.
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> **Traditional AI** has a narrow focus with the purpose of performing a defined task based on an expected set of inputs. It can be broadly categorized as expert systems, decision trees and natural language processing. Examples include spam filters, voice assistants and search engines.
>
> **Generative AI (GenAI)** takes traditional AI one big step further by adding the capability to create something new. Large language models (LLMs) are trained on enormous sets of data, learn the underlying patterns, then generate original output in the form of text (e.g., ChatGPT), music, images (e.g., DALL·E), video and computer code.
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> **GPT** stands for generative pre-trained transformers, a type of large language model used in natural language processing tasks.
>
> Sources: Forbes (2023), US Chamber of Commerce, Montréal Declaration for a Responsible Development of AI (2018)

Artificial intelligence (AI) is emerging as a milestone technology force with the potential to redefine the global economic landscape, and very rapidly. Engagement with AI technologies is skyrocketing, with OpenAI's ChatGPT recording 1.8 billion monthly visits on average. Optimists claim the technology is only nascent. According to Sam Altman, CEO of OpenAI, we have yet to reach the inflection point of diminishing marginal returns. More sophisticated models are expected to handle a broader range of tasks and boast more refined human-like creativity.

Artificial general intelligence (AGI)—a form of AI that has the ability to understand, learn and apply knowledge in a way that is indistinguishable from human intelligence—appears to be within reach, even though estimates as to when we'll get there vary widely among experts, ranging from a few years to several decades. By their forward-looking nature, financial markets give their own take on the promise of AI. Stock prices for companies involved in hardware and software capabilities have skyrocketed, the prime example being NVIDIA, which has seen its market capitalization nearly triple over the past year. This is just the tip of the iceberg when it comes to the impact of AI, as AI adoption remains relatively low outside the tech industry. That is nothing new when it comes to disruptive innovations, with research finding that it typically takes over a decade before the business world derives tangible value from an innovation and restructures around it.

So what will Canada's journey into an AI future look like? Is Canada ready to harness AI's full potential? Will Canadian businesses and policymakers act swiftly to integrate AI, or will they lag behind, risking further exacerbating existing productivity and competitiveness shortcomings? The current landscape shows a mixed picture. While Canada boasts a strong research ecosystem and a talented pool of AI professionals, the adoption of AI across industries remains uneven and relatively slow compared to leading AI nations like the United States and China.

The stakes are high. As AI technologies become more embedded in everyday life and work, the economic implications of their adoption—or lack thereof—will become increasingly pronounced. Countries that successfully integrate AI into their economic fabric will likely experience significant productivity gains, sustainable growth and improved living standards. Some studies estimate that widespread AI adoption could add as much as 1.5 percentage points to annual US productivity growth, which would be in line with previous transformative technologies. Conversely, those countries that delay or inadequately manage AI adoption risk widening prosperity gaps, with all the consequences that entails.

This report delves into the transformative potential of AI for Canada, the shifts it could bring to its workforce and society, and the strategic actions required to position Canada as a leader in the AI-driven economy. By examining the current state of AI adoption, the barriers to its implementation and the policy measures needed to overcome these challenges, we aim to provide a comprehensive overview of what lies ahead for Canada in the age of AI.

AI Has the Potential to Transform the Economy

Some Jobs May Disappear, Others Will Emerge, Most Will Change

Estimates vary, but most studies find that over half of all jobs in advanced economies are exposed to AI. A recent International Monetary Fund (IMF) report argued that about half of exposed jobs would benefit from AI integration, while the rest could see diminished labour demand as greater integration of the technology enhances productivity. Similarly, research by Goldman Sachs reported that roughly two-thirds of US occupations are exposed to automation, with AI replacing between one-quarter and one-half of their workload. These findings suggest the

transition for workers from exposed sectors to emerging ones will necessitate substantial investments in retraining programs.

But we should be wary of predictions of major layoffs across the board. Not all productivity enhancements reduce labour demand, and Acemoglu and Johnson show that history is filled with professions like accounting where technological advances created new tasks that increased employment. By the same token, AI has the potential to augment and complement human capabilities, skills and knowledge. It will also create new occupations and tasks (e.g., AI programmers, quality supervisors of AI-created content, AI ethicists and data value-chain managers).

For now, a minority of private sector businesses (14%) cite replacing employees as a reason for adopting generative AI (graph 1). Still, given its language-based capabilities, we can expect its adoption to reduce labour demand for certain specific functions. A 2023 global survey by McKinsey found that 54% of business respondents expected GenAI adoption to decrease employee counts in the next 3 years in service operations, such as customer service and back-office support (graph 2).

Graph 1
A Minority of Businesses Cite Replacing Employees as a Reason for Adopting Generative AI
Value or potential value created by generative AI, Q1 2024

Percent of private sector business respondents

Category	Value
Accelerate development of creative content	68
Increase automation in tasks without reducing employment	46
Improve client or customer experience	38
Achieve cost efficiencies	36
Drive data-driven decision making	30
Automate tasks to replace employees	14
Minimize workforce recruitment and retention challenges	9
Other	4

Statistics Canada and Desjardins Economic Studies

Graph 2
Employment in Service Operations Could Drop, but Don't Expect This across the Board
Effect of GenAI adoption on number of employees, by business function, next 3 years

% of respondents*

Business function	Decrease	Little or no change	Increase	Don't know
Service operations	54	23	12	10
Supply chain management	45	32	14	9
HR	41	30	17	11
Manufacturing	40	33	12	15
Marketing and sales	39	33	17	12
Strategy and corporate finance	37	28	25	10
Risk	31	37	20	12
Product and/or service dev.	30	35	20	15

* Respondents were asked about only the business functions in which they said their organizations have adopted AI.
McKinsey Global Survey (1,684 participants, April 2023) and Desjardins Economic Studies

Industry Use Cases Abound

The impact of AI (and especially generative AI) is expected to be greatest in tech companies and other industries that rely heavily on knowledge work, such as finance, life sciences (medicine, pharmaceutical), professional services and education. The financial sector is expected to see the fastest growth rate in AI spending by 2027 (Kearns, 2023). Combined with other technologies such as sensors and robots, AI also holds much potential in agriculture, supply chain logistics and manufacturing. Table 1 below provides some use cases of AI applications by industry.

Table 1
Industry Use Cases Abound

SECTOR	APPLICATIONS
Sales, customer service and marketing	• AI for CRM (e.g., Salesforce's Einstein GPT aids customers in sales, marketing and customer management) • Conversational AI chatbots (reducing incoming calls, wait times, costs) • Personalized marketing and recommendations, driving up sales • Intelligent virtual assistants • Marketing material writeup; identification of the key steps of a marketing campaign • Graphic design (e.g., Adobe Firefly (AI tool in Photoshop)) • Sentiment analysis; analysis of recurring complaints
Logistics, transportation and warehousing	• Optimization of supply chains, routes, inventories, resources and energy • Prediction and anticipation of costs and delays • Sensor and imagery data analysis (real-time monitoring and prevention of accidents, supply chain disruptions, theft of material, etc.) • Autonomous safety features embedded in vehicles • Autonomous robots and vehicles in warehouses • Risk mitigation, predictive maintenance (e.g., in aviation, for public transit)
Agriculture and agri-food	• Precision agriculture (robots applying herbicides in a targeted manner) • Image recognition by drone for soil quality assessment • Prevention of food contamination
Finance and insurance	• Fraud detection, prevention of money laundering • Market forecasts and analysis (e.g., Bloomberg LLM) • Automated decision-making (insurance underwriting, credit approval) • Algorithmic trading • Robo-advising
Healthcare and life sciences	• Expansion of medical professionals' responsibilities using AI tools to support diagnosis, decision-making and recommendations (e.g., nurses) • Prevention (e.g., real-time monitoring, detection of warning signs for stroke) • Diagnostic support (image recognition (Alzheimer's, cancer, etc.)) • Pharmaceutical research and new drug development • Intelligent prosthetics • Workflow, task and schedule optimization
Translation	• Translation via generative AI • Real-time translation
Education	• Adaptive learning tools (that adapt to student learning styles and progress) • AI-powered software to learn languages
Manufacturing	• Predictive maintenance • Identification of root causes of manufacturing defects • Connected appliances and connected home product manufacturing
Information technology	• Programming: writing, translating and revising code • Creation of "intelligent" characters in video games
Construction	• Forecasting and quantitative assessment of environmental footprint • Data-driven design to minimize carbon footprint • Supply chain management, identification of new materials

*CRM: Customer relationship management; LLM: Large language model.
IMF, Stanford University, McKinsey, different websites and Desjardins Economic Studies

For these use cases to be implemented, however, businesses need to have properly digitized their operations, with a clear strategy on collecting, organizing and governing data. Indeed, without digitalization, organizations will have no datasets on which to train algorithms, therefore preventing any possibility to leverage AI in the future. Laggards in digital transformation risk widening the gap with leaders in their industry at home and abroad, putting their long-term prospects in peril. It is perhaps unsurprising that the construction industry, which trails others in digital maturity (at least in Canada), is currently at the bottom of the pack for AI adoption.
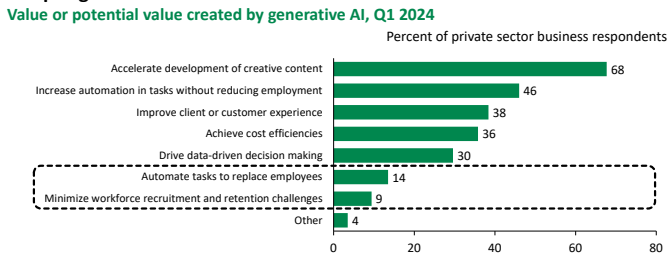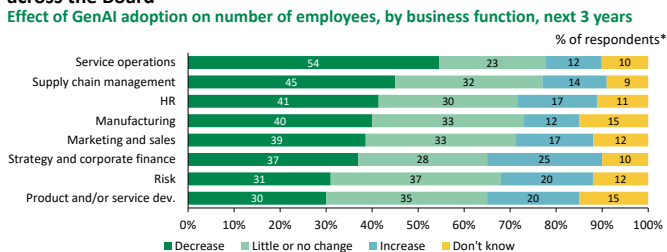
We'll See Productivity at the Micro Level Well before the Macro Level

"You can see the computer age everywhere but in the productivity statistics," quipped Robert Solow in 1987. Analogously, investments in AI technology may not immediately result in observable increases in labour productivity—and may even decrease it during the transition period. We've highlighted that the lag between the time a disruptive technology emerges and when it has its full impact on productivity is usually measured in decades. Reasons include steep learning curves to integrate and utilize AI effectively, challenges integrating or overhauling existing systems, mismatched AI tasks and capabilities, insufficient workforce training, fixed organizational structures, active resistance by employees and customers, concerns with data quality and privacy, and hurdles to meeting government regulations. Against that backdrop, policymakers will have a role to play in incentivizing adoption, ethical governance, worker upskilling and the principled use of AI to ensure social acceptance. Depending on their success and the complexity of tasks AI will eventually be able to complete, AI could boost annual productivity growth in the US by 1.5 percentage points over a 10-year period according to Briggs and Kodnani's baseline scenario. The Canadian Chamber of Commerce (CCC) estimates that GenAI could boost productivity growth by 0.1 to 0.6 percentage points annually over a 10-year period, assuming accelerated adoption. In all, we don't expect a measurable impact in macroeconomic data until the end of this decade.

At the micro level, there are already signs of increased productivity from AI applications. The most commonly adopted AI use cases involve contact centre automation, marketing and sales personalization and customer acquisition (McKinsey, 2023). For GenAI, use cases focus on creating original content—first drafts of documents, computer code, images and videos—and as such hold productivity-enhancing potential for more creative tasks. IMF studies show that lower-skilled participants benefit most from AI. For instance, poorer programmers saw a greater increase in productivity from having an "expert programming assistant." Similarly, Acemoglu and Johnson (2023) contend that where human productivity is hampered by a lack of specific knowledge or expertise, AI holds much potential. Relatedly, by enhancing expertise, GenAI tools could broaden the scope of activities of medical personnel like nurses.

Navigating AI's Limitations, Risks and Ethical Boundaries Is Essential for its Success

While AI has many potential benefits, it also introduces a range of challenges and risks that require careful consideration.

Integration Costs and Barriers Could Lead to Significant Technological Disparities

Small and medium enterprises (SMEs) often struggle with the high upfront costs of technological adoption, including both insufficient financial resources and a lack of skilled personnel, as we've previously reported. And while GenAI itself may have low subscription prices, the cost of ensuring internal data and systems are AI-compatible may be prohibitive. Large corporations with resources to invest in AI could therefore dominate some market sectors.

Overreliance on AI Could Lead to Market Volatility

Automation may react to market changes in unforeseeable ways. Overreliance on AI for decision-making in financial markets may give rise to homogenous trading behaviour, creating feedback loops. Multiple systems reacting instantaneously to capitalize on the same information could lead to rapid, large-scale swings in stock prices. A reduction in human oversight also increases the risk of algorithmic errors, disrupting market stability.

AI's Impact on Cybersecurity Is Uncertain

As AI systems become more integrated into critical infrastructure and industries, the attack surface for potential cyber threats expands dramatically. These include data theft, manipulation of AI algorithms and takeover of AI systems for malicious purposes. Protecting these systems from cyber threats requires robust security measures, continuous monitoring and updating of AI systems. SMEs may be particularly exposed without dedicated resources to stay on top of advances in this area.

Conversely, AI also plays a pivotal role in enhancing cybersecurity. AI-driven security systems can predict, detect and respond to cyber threats with greater speed and efficiency than traditional methods.

AI Might Leave Canada Vulnerable to Physical Attacks

AI systems are set to become increasingly integrated into critical infrastructure like power grids and transportation systems. The potential for sabotage designed to disrupt these systems could have catastrophic consequences. For instance, a targeted attack on AI-controlled energy systems could lead to widespread power outages affecting millions of people and causing significant economic damage. There isn't yet broad consensus on what types of physical infrastructure could be most at risk of and in need of protection from AI-based attacks in the near term. However, the US Department of Homeland Security recently announced the establishment of an Artificial Intelligence Safety and Security Board with the mission of developing recommendations to responsibly leverage AI technologies while preventing and preparing for AI-related disruptions to critical infrastructure.

There's a Risk of Political Interference

AI's capability to process vast amounts of data can be exploited to manipulate public opinion or interfere in political processes,

a risk underscored by instances of social media manipulation during elections. AI-driven bots and algorithms have been used to spread disinformation, impacting voter behaviour and public sentiment. As AI technology rapidly advances in creating highly realistic images, videos and audio, distinguishing whether a political leader genuinely said or did something offensive—or if someone maliciously fabricated it to discredit them—becomes increasingly challenging.

The Ethical Use of AI Will Be Essential to Build Trust

The ethical use of AI is paramount to its acceptance and effectiveness. AI systems must be designed to ensure fairness, accountability and transparency, particularly in sectors like law enforcement and judicial systems. AI systems trained on imperfect data sets can exacerbate existing biases, as evident in several reported cases where AI used in policing disproportionately targeted racialized communities. Addressing bias in AI algorithms is key to preventing discriminatory outcomes and maintaining public trust in AI technologies.

AI's ability to collect, analyze and store vast amounts of personal data also raises privacy concerns. Ensuring that AI respects privacy norms and complies with regulations on the handling of personal data is therefore crucial.

Where Does Canada Stand?

### The US and China Dominate International AI Rankings

A variety of rankings exist to identify the companies and countries that are leading the AI race (table 2). In nearly all cases, the US and China top the charts. They are home to private companies investing colossal sums in AI. Web giants including Alphabet (Google), Apple, Facebook, Amazon and Microsoft in the US and Baidu, Alibaba, Tencent and Xiaomi in China accumulate billions of datapoints that fuel AI algorithms.

Table 2

Canada Is among the Top 10 in International AI Rankings

CRITERIA	INVESTMENT, INNOVATION, IMPLEMENTATION	GOVERNMENT READINESS	AI PATENTS PER 100,000 INHABITANTS	PRIVATE INVESTMENT IN AI
SOURCE	TORTOISE, 2023	OXFORD INSIGHTS, 2023	STANFORD UNIV., 2022	STANFORD UNIV., 2023
#1	US	US	South Korea	US
#2	China	Singapore	Luxembourg	China
#3	Singapore	UK	US	UK
#4	UK	Finland	Japan	Germany
#5	Canada	Canada	China	Sweden
#6	South Korea	France	Singapore	France
#7	Israel	South Korea	Australia	Canada
#8	Germany	Germany	Canada	Israel
#9	Switzerland	Japan	Germany	South Korea
#10	Finland	Netherlands	Denmark	India

Oxford Insights, Stanford University (2024), Tortoise Media, different websites and Desjardins Economic Studies

Developments in AI are not confined to private companies, however. Many states, including Canada, have adopted strategies to orchestrate AI efforts. Singapore was one of the pioneers, announcing a national AI strategy in 2019. Canada is a clear leader, having been the first country to establish a national AI strategy in 2017, and is well positioned in many rankings. Furthermore, the 2021 Global Tortoise Index put Quebec in 7th place, between Germany and Israel. (Canada ranked fourth.) That said, both Canada and Quebec lagged on infrastructure and operational environment.
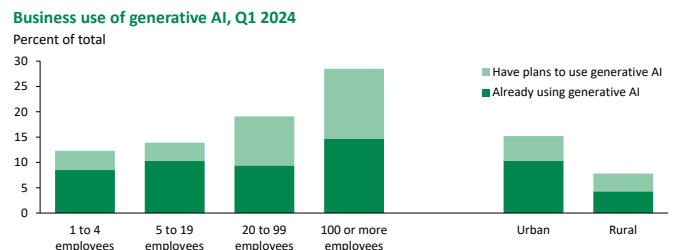
Business Adoption of AI Is Limited in Canada

Within Canada, business sector adoption of AI remains limited. In 2022, 6.3% of businesses said they used AI (Statistics Canada), in the middle of the pack among OECD countries. A more recent Statistics Canada survey found some improvement, with 9.3% of businesses currently using GenAI and 4.6% planning to use it. But adoption varies widely across industries (graph 3) and is significantly more likely to be used in larger and urban firms (graph 4).

Graph 3

Generative AI Adoption across Industries Is Mixed

Business use of generative AI, Q1 2024

Percent of total
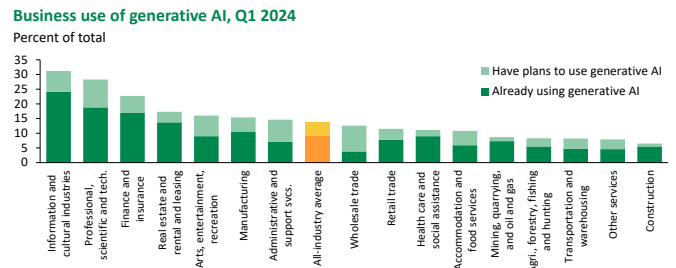
Statistics Canada and Desjardins Economic Studies

Graph 4

Large and Urban Businesses Are More Likely to Be Using Generative AI

Business use of generative AI, Q1 2024

Percent of total

Statistics Canada and Desjardins Economic Studies

Provincial Comparisons

Canada's AI research expertise is well known and established in many parts of the country. Notable research organizations include Mila in Montreal, Amii in Edmonton and the Vector

Institute in Toronto. Moreover, the Canadian Institute for Advanced Research (CIFAR) delivers programs to attract and retain academic research talent as part of the Pan-Canadian AI Strategy, advises AI firms domestically and collaborates with researchers abroad.

Early GenAI adoption has been concentrated in a few areas, but not necessarily those areas with a larger research presence. Responses from a 2024 survey conducted by Statistics Canada and the CCC indicated that Ontario had the largest share of businesses already using or planning to use the technology at 18%, while BC also scored relatively well at 15%. Unsurprisingly, large cities like Toronto and Vancouver registered some of the strongest adoption rates, while Halifax also fared well. By contrast, Edmonton—home of Amii—and Montreal—the centre for Mila and the federal government's AI "Supercluster"—came in at just 13% and 10%, respectively.

The CCC links early GenAI adoption more closely with industry composition. Information and culture, professional services and the financial sector—all of which have high levels of employee educational attainment and an outsized presence in Ontario and BC—rank highly with respect to incorporating AI into current and future operations.

Considerations for Policy and Regulation in Canada
Given the range of AI-related risks discussed above—and potentially catastrophic impacts—crafting laws to appropriately regulate the technology is multi-faceted.

Timing is at the centre of many debates about regulation. The rapid pace of AI adoption and its potentially enormous impacts argue for quick passage of baseline legislation that can be easily amended should the need arise. However, advances expected to come quickly in the coming years suggest law-making needs to be broad and flexible and may need more time to calibrate. There are also some concerns about overregulating new tools that could—if appropriately wielded—drive huge technological and standard of living improvements.

Several principles consistently come up in expert policy recommendations. There's broad consensus on the need for governments to closely track high-capacity, high-risk AI systems and impose stiff penalties for non-compliance with the law. That developers bear responsibility to demonstrate the safety of their systems is also widely accepted, as is the necessity of international collaboration on enforcement mechanisms.

The AI Act recently passed in the European Union is widely viewed as landmark legislation that will pave the way for other jurisdictions' regulatory ambitions. It's broad in scope—applying to anyone developing, creating, using or reselling AI in the EU rather than to specific areas of AI—and implementation of its provisions will begin within months and be staggered over time. Key elements of the Act include transparency obligations for

high-risk AI systems, restrictions on government surveillance and fines for using outlawed AI. Passage of the Act already appears to have moved the needle elsewhere. The US state of Colorado recently signed into law a bill regulating AI based on the EU Act. Japan is now also considering new regulations for large-scale AI system developers.

Canada does not currently have an AI-specific regulatory framework in place, but one is being reviewed in the House of Commons. The Artificial Intelligence and Data Act (AIDA)—intended to govern the development of AI systems in Canada—was first proposed in 2021. Like the EU law, protection against biased output and the potential adverse consequences of high-impact systems are a focus. There are, however, questions about whether AIDA has been adequately updated to account for the significant advances in AI technology made since its introduction.

Where Are We Headed?

AI Is Likely to Become Commonplace at Home and Work
The launch of ChatGPT in November 2022 marked a seismic shift in public consciousness, propelling the once-obscure field of generative artificial intelligence into the spotlight and shaping global conversations about technology, ethics and the future of work. Canada is likely to see AI become more pervasive in daily life and the workplace. To solve some of the world's most pressing challenges, it will be imperative to combine the best aspects of human intelligence and creativity with the power of artificial intelligence.

Canadian Businesses Need to Accelerate AI Adoption
Experts agree that Canada has a strong research ecosystem for AI and has successfully attracted an excellent AI talent pool. Those are clear advantages to build on going forward. However, the ecosystem was not built with AI adoption in mind, and that is where action is clearly needed.

For one, computing capacity needs to be upgraded (table 3). Federal budget 2024 included a new $2.4B investment to

Table 3
Canada Lags Its G7 Peers on AI Computing Capacity

RANK	COUNTRY	UNADJUSTED COMPUTE PERFORMANCE CAPACITY	PER CAPITA PERFORMANCE
1	US	90.4	10.6
2	Japan	16.3	7.6
3	Italy	8.5	5.6
4	Germany	6.2	1.9
5	France	4.2	2.4
6	UK	2.0	1.2
7	Canada	1.0	1.0

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enhance AI compute and infrastructure. This is a positive step to address the computing capacity hurdle, which is currently hampering startup and scale-up activity.

Second, policymakers should implement measures to accelerate the creation of AI startups—low-hanging fruit given our talent and research leadership. For this startup ecosystem to flourish, governments have an ignition role to play: they can be "anchor clients" themselves, regularly contracting AI startups. Indeed, government bureaucracy and major sectors like the healthcare system could benefit greatly from AI's potential for streamlining and improving customer service. Unleashing AI to tackle pressing social issues like energy efficiency, homebuilding acceleration and aging-related health challenges (see our recent report) is another way governments could leverage local firms that specialize in AI. This would drive commercialization of homemade AI solutions adapted to local needs. This would likely have positive spillovers, crowding in more talent and private investments in AI. Canada could also learn from other countries like South Korea, whose public services rely much more heavily on AI. For instance, its government is providing companies with experimental labs equipped with the data, computing power and memory needed to support medical imagery analysis to improve the quality of medical services and epidemiological investigation (OECD, 2022).

Third, governments should make an effort to level the playing field for AI talent acquisition. When it comes to attracting top AI talent, Canadian SMEs struggle to compete with large foreign tech companies on compensation, and SME surveys show that a lack of specialized skills are among the primary barriers to AI adoption.

Lastly, it's vital that governments encourage education and upskilling to prepare the workforce—including government staff and policymakers— for AI. Training for policymakers should cover not only AI's potential benefits, but also its risks and the necessary guardrails to prevent the potential negative social impacts previously discussed.

Conclusion: Canada's Prosperity Is at Stake

The breakneck speed of AI technological development demands immediate action. While experts agree we are building the plane while flying it, there appears to be no other option. AI-driven growth opportunities abound, and the technology's potential to turn around our sagging productivity makes it an opportunity Canada simply cannot forgo. Failure to act or even delayed action could spell major loss of prosperity for Canadian businesses and the nation as a whole. Worse, it could undermine security and stability if Canada is not sufficiently equipped to face threats. As the future of business success will increasingly be driven by data and knowledge work, businesses' failure to adopt AI more broadly (and build the required skillsets to do so) will widen the productivity gap between Canada and other countries.

For Canada to remain competitive, there needs to be a concerted effort by both the public and private sectors to encourage AI adoption and share risks, akin to the collaborative approaches used to accelerate the development of clean technologies. Efforts should include a strategy to upgrade computing capacity in Canada, foster AI startups and implement measures to make sure Canadian companies can be competitive in attracting top AI talent globally.

Governments must focus on education and upskilling to prepare the workforce for AI. Policymakers themselves ought to be fully aware of the potential benefits and risks of AI. Ensuring a robust regulatory framework that strikes the right balance between fostering innovation and ethical AI use is essential in order to maintain public trust while leveraging AI's positive effects. Overall, our analysis suggests that Canada does have the potential to harness the transformative power of AI to drive sustainable growth and improve living standards. As Steve Jobs once said, "Innovation distinguishes between a leader and a follower." Proactively embracing AI could position Canada as a global leader in an economy that may be heavily AI-driven over the next decades.