



Thematic Series for
Policy-Makers

Canada's AI Future: Harnessing Strengths, Addressing Gaps, and Charting a Path Forward



IVADO

Impact of AI on Canada's Economy

From AI Research Leader to AI Startup Nation: Canada's Next Challenge

Part of | Thematic Series for Policy-Makers

Canada's AI Future:

Harnessing Strengths, Addressing Gaps,
and Charting a Path Forward

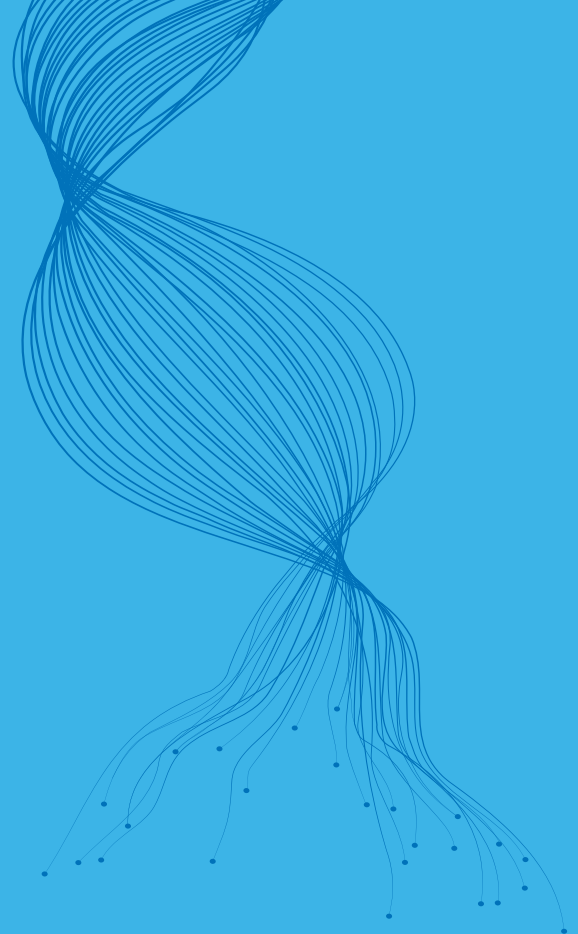


Key takeaways

- Despite world-class AI research capabilities and an emerging momentum in commercialization, Canada tends to underproduce AI startups, missing opportunities in a fast-growing sector and failing to maximize positive impacts on communities and industries.
- Three barriers block progress: conversion challenges (e.g., students do not see the opportunity in entrepreneurship, researchers are not incentivized to commercialize); weak demand (government procurement is complex, large companies prefer established international vendors); and funding gaps (access to capital is complicated, tax rules favour foreign investment).
- Solutions include fostering entrepreneurship through expanded student venture programs and academia-industry collaboration; creating domestic demand via streamlined government procurement and startup-specific pathways; and improving funding by reforming tax policies that discourage early-stage investment and treating AI computing costs as standard R&D expenses under the Scientific Research and Experimental Development (SR&ED) program.

Why the creation of new local AI companies is important for Canada

Artificial intelligence (AI) is what economists call a general-purpose technology, i.e., a formidable “engine for growth” that will be increasingly “pervasive, improve over time, and lead to complementary innovation.”¹ AI has already become one of the most important technologies of our time. A 2025 UN Trade and Development report projects that the global AI market value will increase from USD\$189 billion in 2023 to USD\$4.8 trillion by 2033—a 25-fold jump in just a decade.²



What are “new AI companies?”

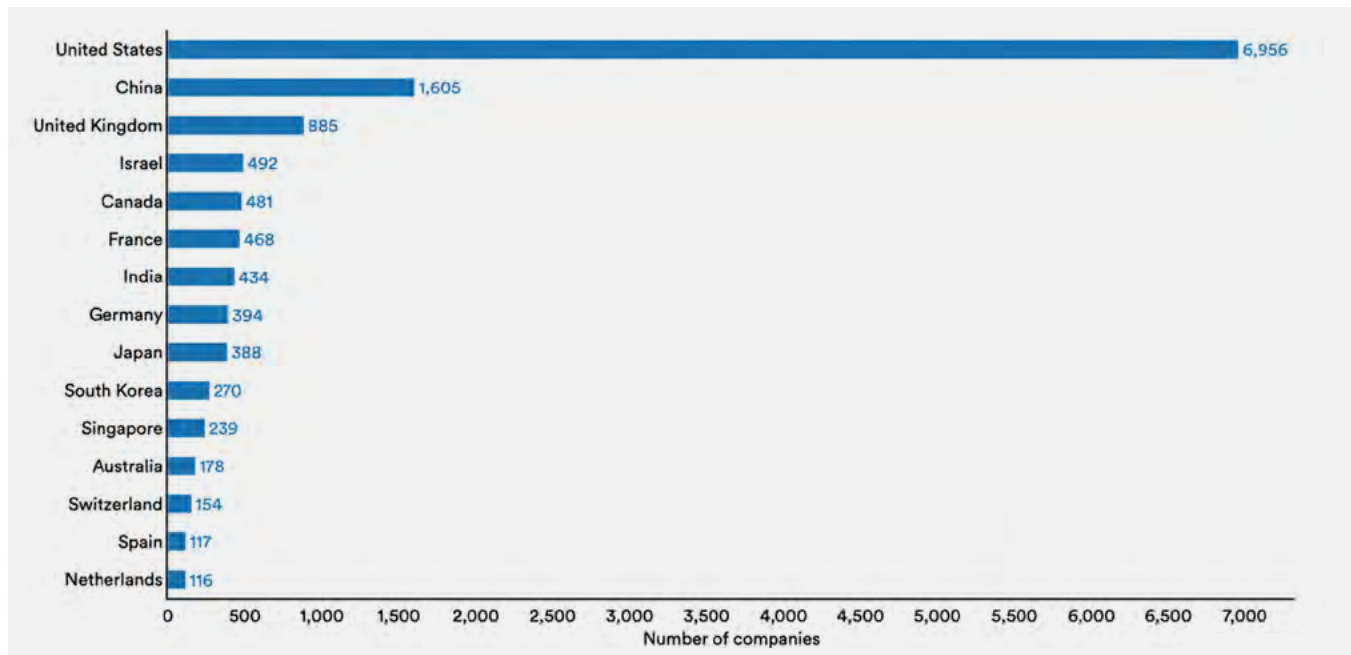
In this document, a “new AI company” or “AI startup” is defined as a “newly funded AI company.” An example is a Canadian startup that puts AI or machine learning at the heart of its value proposition, and that has recently obtained external financing—usually in the form of venture capital, private investment, or institutional fundraising—exceeding USD\$1.5 million.

Canada must ensure it is positioned to take advantage of this enormous market opportunity by creating new companies that will sell their AI-powered products and services across the country and the world. Creating vigorous AI startups will deliver direct economic benefits across multiple dimensions. First, new AI firms create job opportunities for highly paid resources like data scientists; machine learning engineers; product managers; salespeople; R&D professionals with dual knowledge who can apply AI in fields like chemistry, marketing or medicine; ethics specialists who can produce and deploy AI in a responsible manner; and change-management experts who can lead the major transformations required for a technology like AI to produce positive impacts in an organization. In some cases, these companies hire top Canadian talent that might otherwise have migrated to Silicon Valley or other international AI hubs. Second, AI startups can draw significant domestic and international investment capital. Third, the launch of AI startups puts competitive pressure on their rivals and forces them, in turn, to develop and adopt new knowledge

and technologies. Fourth, launching dynamic AI startups is essential to maximize the highly positive impacts that AI can have on Canada's industries and communities. Canada should not—and cannot—rely solely on foreign firms to realize these benefits. Indeed, local AI startups can understand the regulatory landscape, grasp the cultural nuances, and serve the needs of Canadian customers in ways that foreign players often cannot. They are uniquely positioned, because of their domestic presence and the fact that AI tools are never truly standardized and finished,³ to translate breakthrough discoveries from key research institutions like Mila, the Vector Institute, Amii, IVADO and others into the solutions that transform industries like agriculture, healthcare, and financial services. Canadian startups ensure that AI solutions are developed with Canadian values and priorities in mind, and contribute to the country's technological security and sovereignty.

“*Fostering new AI business creation is essential to address some of Canada's unique challenges like improving healthcare delivery in remote communities; optimizing resource extraction in Canada's tough Northern environment; enhancing language-processing capabilities in French and Indigenous languages; and developing solutions to address climate change that suit Canada's geography.*”

Figure 1:

Number of newly funded AI startups by country, 2013–2024

Source: *The 2025 AI Index Report*, HAI, Stanford University

Canada's AI paradox: Research excellence, startup shortage

Despite Canada's world-class AI research capabilities (see Challenge 1) and an emerging momentum in early commercialization (with firms such as BrainBox AI, Cohere, or Waabi), data reveal that it is not creating as many AI startups as it should. In fact, 2013–2024 statistics⁴ show that Canada trails significantly behind the United States, China, and the United Kingdom in creating new AI startups, while performing at roughly the same level as Israel and France (see Figure 1). The fact that, during this period, Canada produced 14 times fewer AI startups than the U.S. and 11 fewer than Israel is especially concerning given that Canada has only eight times fewer people than its southern neighbour and four times more than Israel.

Also worrying is the fact that countries that Canada previously outpaced have now surpassed it: in 2024, entrepreneurs created 74 new AI startups in India, 67 in Germany, and 52 in South Korea, but only 51 in Canada. Moreover, the gap between Canada and the United States grew larger in 2024, as 21 times more new AI startups were created there than here.

Canada will need to make targeted efforts to translate its strengths in AI research into commercial ventures and success. Actions based on recommendations to help Canada markedly increase the number of new AI startups launched annually (and reduce the number of startups sold at low valuations to foreign buyers because their owners could not secure funding to grow them domestically) are essential for maintaining the nation's competitive position in this transformative technology sector, and for generating the ripple effects that will positively impact Canada's economy and society.

Challenge 1

Converting Canada's research excellence into viable AI startups

According to international rankings such as those produced by Tortoise Media,⁵ Canada continues to show exceptional strength in AI research, although from 2021 to 2024, it fell from sixth place in that respect to ninth. The world-class research conducted at institutions like CIFAR, Mila, the Vector Institute, and Amii, as well as by research, training and knowledge mobilization entities like IVADO and the Acceleration Consortium (supported by the federal government's CFREF program⁶), unfortunately, is not translating into enough new AI startups being funded. Canada is struggling to leverage its rich intellectual capital into viable AI startups.⁷

Several interconnected factors explain this poor conversion rate. First, many Canadian students and researchers lack the entrepreneurial reflex that drives innovation in other countries. Unlike their counterparts in Silicon Valley or other major entrepreneurial hubs, they often view careers in academia or employment in well-established firms or government as the primary post-graduation pathways. Large organizations offer job security and high salaries, which often discourage people from starting risky new businesses.



Canada is the only G6 country where non-graduates are more likely to be starting or running a new business than graduates.⁸



Talent retention is another challenge, as potential startup founders (e.g., Canadians and foreigners studying in Canada) sometimes prefer to seek opportunities outside Canada, in jurisdictions where entrepreneurship is more actively embraced and supportive startup ecosystems are maintained.⁹ Locations with a critical mass of existing AI companies—such as San Francisco or London¹⁰—offer opportunities that make them more attractive to some ambitious graduates and professionals.

Commercial skills gaps further compound this challenge. Teams that do (or try to) launch new AI startups may possess deep technical backgrounds but lack the essential business development, marketing, and sales expertise required to grow successfully. Some AI-trained founders even prove reluctant to cede leadership roles to CEOs with more experience or management skills. This skills imbalance creates a paradox resulting in technically sophisticated Canadian startups being outcompeted by foreign ventures with less advanced technology but more professional management.

The lack of industry-academia collaboration or emphasis on creating the right conditions for entrepreneurship in academia may also limit the translation of research into the creation of new AI startups. University-industry cooperation is “central to accelerating

knowledge spillovers and innovation”¹¹ but AI partnerships between academia and nascent or smaller firms are often difficult to establish, especially outside large cities and in sectors like the humanities and social sciences. Many institutions do not emphasize working with firms, reduce the teaching load of researchers who work with external entities, or consider such work as a criterion for promotion.¹² Also, as Québec’s Conseil de l’innovation notes, because the status of the “entrepreneurial student” is not recognized here as it is in other countries (like France), “students may face a trade-off between engaging with entrepreneurship and completing their curricular activities.”¹³ As well, university intellectual property (IP) policies tend to favour licensing technologies to established companies, which is a challenge to creating university-based startups.

Action 1

Improve training and the environment for entrepreneurship

To correct the fact that 60% of Canadian adults who “see good opportunities would not start a business for fear it might fail,”¹⁴ Canada should begin entrepreneurship education much earlier to create a generation of entrepreneurial thinkers. Early exposure to entrepreneurship concepts through the consolidation of existing programs like the Summer Company Program or Junior Achievement Canada would help normalize entrepreneurship as a viable career path rather than a risky alternative to traditional employment. Launching campaigns to

showcase successful entrepreneurs in AI and other fields, especially women, members of visible minorities, and possibly graduates from non-technical fields, would also inspire students, and encourage them to pursue entrepreneurship.

More students should have the opportunity to acquire experience in creating and running student ventures in AI. This means university programs like Queen’s Master of Management Innovation & Entrepreneurship program,¹⁵ specialized incubators like the Creative Destruction Lab (whose Montréal branch, for example, focuses on launching firms in AI and other advanced sectors), or general initiatives like Futurpreneur Canada should be consolidated or expanded. To encourage the development of new generations of AI entrepreneurs, all university faculties and departments (not just business-focused ones) should create courses where students can earn credits for working in or on their own AI business.¹⁶

AI researchers should be given greater operational freedom. This means allowing the use of sabbaticals for entrepreneurship purposes without requiring tenure, and enabling these researchers to spend more time on industry-facing challenges rather than traditional teaching obligations. Such flexibility would help retain top talent in Canada’s academic system while encouraging them to pursue commercial applications of their research. These reforms should include adjusting promotion and tenure criteria to value commercialization activities alongside traditional research metrics.

Canada should create stronger incentives or rules for industry-academia collaboration, which would simultaneously improve the relevance of AI research, familiarize industry

with cutting-edge technologies, reduce the perceived risks of adopting AI, and provide natural opportunities for training and mentorship. For example, new funding programs could support collaborative research between academia and user organizations to solve real-world challenges, and access to current funding could depend, in some instances, on the participation of private firms, government organizations, or civil-society not-for-profits in AI research conducted by scholars.

Canada needs to foster robust communities of practice to provide the practical support and emotional reinforcement that aspiring entrepreneurs in AI need wherever they live. While existing institutions and support programs (e.g., HEC Montréal's Next AI) offer valuable technical and business assistance, they often lack the peer-to-peer backing and mentorship that AI entrepreneurs most need during challenging periods. Creating a pan-Canadian network of AI entrepreneurs where the latter could share experiences and learn from the successes and failures of others would help address the isolation that many AI entrepreneurs currently experience.

Challenge 2

AI startups have trouble finding domestic clients

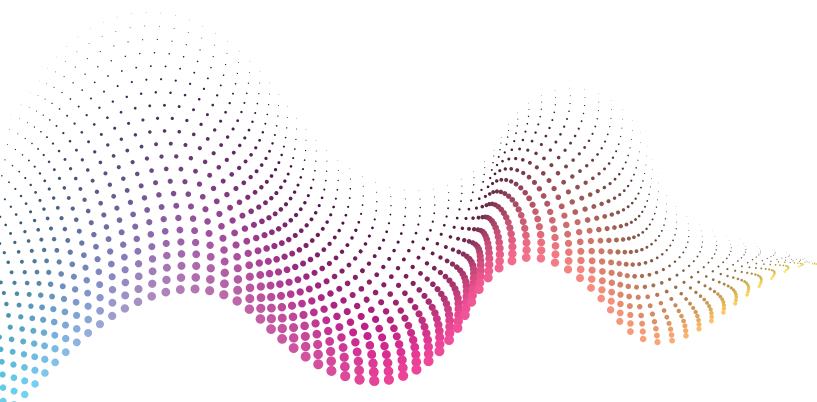
Canada lacks many large, sophisticated domestic clients that would serve as a natural springboard for new firms, which erects a significant barrier to the creation and growth of domestic technological startups. This customer gap, which is highly pronounced in the AI sector, encourages some promising Canadian AI entrepreneurs to launch their businesses elsewhere, or forces local startups to spend valuable time and energy looking abroad for their first major clients. This can weaken their capacity to attract financing at an early stage.

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*It might seem that the globalization of competition would diminish the importance of home demand. In practice, however, this is simply not the case.*¹⁷

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In Canada's private sector, major incumbents in highly concentrated industries—such as Canadian banks, telecommunications companies, and resource extraction firms—are confident about investing in real estate and traditional products and services. However, when it comes to emerging technologies like AI, they typically prefer partnering with established international vendors rather than taking risks on unproven



Canadian startups. Their primary concern is long-term reliability and the ability of providers to meet obligations over time. Even when large domestic firms do consider working with startups, their decision-making process is slow. According to discussion participants (see last page), the average sales cycle for Canadian enterprises is 18 months—substantially longer than the four-month cycle typical in the United States. This risk-averse approach perpetuates a vicious circle: local AI companies struggle to secure marquee domestic clients, which hampers their ability to build the global credibility needed to compete internationally.

Canadian public administrations, like others around the world, are compounding this challenge by being notoriously slow to adopt AI technologies. Government procurement processes are lengthy, bureaucratic and costly for bidders who, for example, often must buy costly liability insurance, which favours established vendors with large teams and deep pockets. Federal, provincial, and municipal agencies that could serve as anchor customers for Canadian AI innovation also maintain conservative purchasing practices that prioritize proven solutions over innovative local alternatives. Programs put in place to correct these problems—e.g., Innovative Solutions Canada, a federal initiative designed to stimulate technology R&D and commercialization of Canadian innovations—while interesting, have not corrected all those issues.

Another factor contributes to the often-sluggish adoption of the AI products and services proposed by Canadian startups: the fact that citizen and consumer mistrust toward AI are among the strongest in the world here. For example, respondents in Asia and Latin America strongly believe that AI

will have more benefits than drawbacks (e.g., 70% of Mexicans and 62% of Indians), while 60% of Canadians think AI will carry more disadvantages than advantages (which puts them in the same group as Americans, 61%; Australians, 56%; and Britons, 54%).¹⁸ Concerns over ethics, privacy, job loss, and other AI risks are important, but the narrative from Canada's governments and media should focus more on the opportunities offered by this technology and the startups that develop it.

Action 2

Increase the demand for AI-startup products and services

Governments at all levels must play a more active role in identifying and supporting Canada's competitive advantages in AI while reducing barriers to the adoption of AI-startup products and services. First, reform could include creating specific pathways for the innovative AI solutions of startups. For example, pilot programs could be established to allow quick, controlled testing of their technologies. Creating regulatory "sandboxes" that provide more flexible operating conditions for startups and organizations integrating cutting-edge innovations could include streamlined approval processes for AI applications in regulated sectors, more flexible rules for data use, and expedited processes for bringing new AI solutions to market.

Second, governments should reduce insurance requirements for pilot programs and small-scale implementations in AI in government,

or provide insurance support mechanisms that enable startups to participate in procurement processes. Alternative approaches might include government-backed insurance pools designed for AI startups, or graduated insurance requirements based on project scale and risk levels.

Third, enhanced tax credits could be given to companies that adopt technologies developed by Canadian AI startups. For example, the federal government could extend the Scientific Research and Experimental Development (SR&ED) program into procurement. SR&ED tax incentives are intended to encourage businesses to conduct R&D in Canada.¹⁹ At this moment, SR&ED cannot profit the buyers of risky technologies, but the government should consider the possibility of enabling Canadian corporations that buy AI products or services from firms that profit from SR&ED credits to receive money back to offset the cost of these products or services.

Fourth, Canada should develop targeted approaches designed for the AI technology sector. The country could identify and focus on five to ten niche areas where it could achieve undisputed world-class expertise in AI, and develop comprehensive strategies that integrate research capabilities, talent development, market positioning, and international competitiveness. These niche areas should build on existing research strengths while addressing clear market opportunities. By concentrating resources and attention on specific domains rather than attempting to compete across all AI applications, Canada would be better positioned to achieve the critical mass necessary for leadership in startup creation and commercialization. Mechanisms could be built in to incentivize procurement of Canadian AI technology in these niche areas.

Challenge 3

Access to funding is often difficult

One of the most significant barriers facing Canadian AI startups is inadequate access to capital at early stages of development. While Canada excels at producing world-class AI research and talent, the country's ecosystem partly fails to provide the sustained financial support necessary for well-funded AI companies to emerge and scale effectively. Unlike their counterparts in Silicon Valley and other major tech hubs, Canadian AI entrepreneurs often struggle to secure the substantial funding rounds required to hire specialized talent, develop sophisticated AI products or services, move beyond proof-of-concept stages, and compete in the market.

“*Bearing in mind the challenges that Canadian entrepreneurs face, they are big risk-takers. The lower availability of financing means they often use their savings or mortgage their homes to finance their efforts.*”²⁰

Public funding can sometimes help AI startups launch, but various problems can hinder founders from taking advantage of these programs. Programs are often complicated, which means it can be difficult for startups to apply. Even when they do, bureaucratic grant processes, though well-intentioned and important, often delay crucial support by months or years—time that fast-moving

AI startups cannot afford to lose in rapidly evolving markets.

Moreover, tax policies that penalize capital gains can discourage successful entrepreneurs and investors from reinvesting their returns in the next generation of AI startups. Perhaps most problematically, Canada's tendency to spread limited resources across too many ventures means that truly exceptional companies may not receive the concentrated support necessary to break through. As a matter of fact, Canada's governments may have inadvertently weakened the AI startup ecosystem by enabling companies that should fail to survive artificially on government support. While well-intentioned, this approach allows startups to survive six to seven years in Canada versus two to three years in the United States, preventing the healthy recycling of talent and resources that drives innovation. Canadian entrepreneurs who struggle through extended regulatory processes for years without achieving market success often lack the energy to start over, unlike their American counterparts who face earlier failures.

Action 3

Close the funding gap

To improve access to funding for AI startups, Canada's governments should review fiscal and tax policies that currently discourage early-stage investing in them. First, given that the capital gains tax structure creates a significant disincentive for successful entrepreneurs and investors to redeploy their capital domestically (experienced investors who understand AI technologies face higher tax rates in Canada compared to jurisdictions

like Israel or the United States, naturally directing their capital elsewhere), reforming capital gains treatment for AI startup investments would retain more investment capital in Canada's innovation ecosystem.²¹

Second, the SR&ED tax credit program (previously mentioned) represents an underused opportunity to support AI companies' most significant expense: computational resources, which can surpass 50% of their costs. Currently, companies can claim SR&ED credits for R&D expenses and engineering talent, but the process for claiming GPU computing hours remains unnecessarily complex. The solution is straightforward: treat computing infrastructure costs the same as other R&D expenses within SR&ED. This approach would eliminate the need for new bureaucratic processes while providing immediate relief for AI startups' largest operational expenses. Additionally, the entire SR&ED framework requires acceleration, with processing times that could be reduced by approximately 70% through streamlined approval processes.

Canada could reform its regulatory and tax credit systems to differentiate between innovative startups and established companies, recognizing that identical regulations may inadvertently favour large corporations over emerging innovators. Current R&D tax credit systems treat all companies uniformly, failing to account for the different challenges and contributions of innovative startups versus established enterprises.

Canada's approach of "giving everybody a fair shake" could be reviewed, as it sends negative signals to entrepreneurs and investors. Instead, governments should concentrate resources on companies that demonstrate clear market traction and private sector

validation. To achieve this, Canada could adopt investment frameworks that leverage private-sector expertise while providing government support. Alberta's Enterprise Corporation model offers a proven template: government investment is conditional on prior private-capital commitment, ensuring that market forces validate investment decisions before public funds are deployed. This approach attracts international venture capital firms by matching their investments while using private sector expertise to assess company viability. Expanding this co-investment approach across Canada would attract more international capital while ensuring government funds support genuinely market-viable AI startups.

Canada needs broader regulatory changes to attract international investors to the domestic AI ecosystem. This may include removing barriers for foreign investors to participate in Canadian AI startups, and creating incentives for international venture capital firms to establish Canadian operations. Success in attracting external investment capital requires an understanding of what drives investor location decisions, and removal of unnecessary friction from the investment process.

Conclusion

Canada has achieved remarkable success in AI, punching well above its weight class. Its early investments in AI education, research infrastructure, and talent development have created a foundation that many larger nations envy. Canadian researchers have been instrumental in key AI breakthroughs, and the country's universities consistently rank among the top institutions globally for AI research output and citations. Canada clearly possesses

the intellectual capital and capabilities necessary to compete at the highest levels of AI innovation.

However, Canada's ability to capitalize on the rapidly expanding AI market will depend critically on its capacity to translate research excellence into commercial success by creating and supporting more AI startups. While Canada excels at producing AI knowledge and talent, it still lags—despite an emerging momentum in certain areas—behind other nations in converting this advantage into thriving new AI startups that can capture market share and address domestic and global challenges. The country's relatively small number of new AI startups represents a missed opportunity that needs to be corrected.

The recommendations outlined here—from making it easier for AI students and researchers to start businesses to streamlining regulatory processes—provide a comprehensive roadmap for addressing Canada's weaknesses in AI startup creation. Ideally, these recommendations should be integrated into a new Canadian AI strategy that strengthens Canada's entire AI ecosystem and emphasizes AI commercialization and use, ensuring that the country's research excellence translates into business leadership and the global ascendancy of Canadian AI firms.

Discussion participants

This document is part of a series of publications that will be compiled into a report titled Canada's AI Future: Harnessing Strengths, Addressing Gaps, and Charting a Path Forward. It summarizes a discussion on the creation of new AI firms between the participants shown at right. This discussion was co-ordinated by IVADO, and moderated by Professor Ann-Frances Cameron (HEC Montréal). This text was drafted and further developed by IVADO's knowledge mobilization team.

Produced in collaboration with CIFAR and CEIMIA, Canada's AI Future series aims to mobilize Canadian multidisciplinary expertise to inform policymakers about the AI landscape. It seeks to support informed decision-making to foster innovation and guide the future of AI through precise public policy recommendations.

The initiative's editorial committee includes Catherine Régis (IVADO and holder of a Canada CIFAR AI Chair), Elissa Strome (CIFAR), Greg Mori (Borealis AI and Fraser University), Nicole Janssen (AltaML), and Sophie Fallaha (CEIMIA).



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2. See <https://unctad.org/news/ai-market-projected-hit-48-trillion-2033-emerging-dominant-frontier-technology>.
3. Unlike other products—e.g., a drug, a textile fibre, or construction material—AI tools constantly need to evolve according to new scientific knowledge or client data and needs.
4. See <https://hai.stanford.edu/ai-index/2025-ai-index-report>, chapter 4. These numbers may not be completely accurate, especially in the case of countries where English is not the sole language spoken, but they likely give a rough idea of the general position of each nation.
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15. See https://smith.queensu.ca/grad_studies/mei/index.php.
16. According to a recent study, 70% of Canadian universities offer such courses at the moment, but the extent to which these courses are available is not clear. See https://telfer.uottawa.ca/assets/documents/Entrepreneurship_Education_in_Canada_2021_Review.pdf.
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