September 6, 2024

The Honourable François-Philippe Champagne
Minister of Innovation, Science and Economic Development Canada
C.D Howe Building
235 Queen St
Ottawa, ON K1A 0H5

Re: Consultation on Artificial Intelligence (AI) Compute

Dear Minister Champagne,

The Ontario Chamber of Commerce (OCC) is the indispensable partner of business and Canada's largest, most influential provincial chamber. It is an independent, non-profit advocacy and member services organization representing a diverse network of 60,000 members. The OCC's mission is to convene, align and advance the interests of its members through principled policy work, value-added business services and broad engagement to drive competitiveness and inclusive, sustainable economic growth.

We commend the federal government's $2 billion investment in launching a new AI Compute Access Fund and Canadian AI Sovereign Compute Strategy and its efforts to consult with diverse stakeholders to ensure Canadian developers, innovators, and businesses have the necessary computing power.

Canada is globally recognized for its growing AI ecosystem, with 1,500 Canadian companies developing AI solutions, and representing 10% of the world's top AI researchers. Despite its R&D strength and talent, Canada lacks the necessary publicly available computing infrastructure to support scaling innovations vital to the country's economic growth.

To maximize Canada's capabilities as a global AI powerhouse, the federal government should focus on solving capacity limitations by building and expanding AI Compute (AIC) infrastructure and capacity, strengthening supply chains, and improving access to the compute infrastructure through business supports.

Based on feedback from our AI Hub Steering Committee, which represents industry, non-profit and academic partners, the OCC proposes the following recommendations to enhance Canada's AI compute advantage and support the adoption of AI to drive economic growth and productivity in the digital economy.

Expand domestic AIC capacity

Canada is home to over 100 companies involved in semiconductor R&D for vehicle and generative AI. However, it trails behind other G7 nations in computing investment, resulting in reliance on foreign AIC infrastructure and cloud services, which raises data sovereignty risks and potential disruptions. Canada must expand its domestic AIC capacity and infrastructure while collaborating with international partners to build an interoperable network that aligns with global standards. This will enhance affordable access to computing power, crucial for start-ups, SMEs, and other organizations to foster inclusive growth.

Recommendations:

1. Invest in computing power by developing and expanding High-Performance Computing (HPC) infrastructure and sustainable data centres, specifically for graphics and tensor processing units (GPU/TPUs22).
2. Accelerate domestic semiconductor manufacturing capabilities to ensure a critical and stable supply of essential hardware components for AIC.
3. Adopt a value-based-procurement (VBP) approach that focuses on maximizing long-term value rather than minimizing short-term costs and focusing on outcomes (such as quality, lifecycle costs, sustainability, living standards, supply chain resilience and economic development).
4. Improve access to procurement opportunities for small, local, Indigenous, and diverse-owned businesses on AIC hardware and equipment.
5. Develop domestic AI supercomputing capacity through multi-year partnerships with local vendors (where possible), using multiple suppliers.
6. Consult with international stakeholders and trading partners on policy tools and best practices for expanding computing infrastructure that align with other successful global models and standards.

Build more resilient supply chains

The pandemic demonstrated that Canada's supply chains are vulnerable and significantly strained during disruptions, threatening economic growth and competitiveness. While larger competing economies have made significant investments in AI supply chains—from chipset design to commercial cloud services—Canada lags, impacting SMEs' access to affordable AIC. To safeguard economic resilience and promote growth, the federal government must focus efforts on strengthening supply chain resiliency through improved infrastructure and strategic partnerships.

Recommendations:

1. Ensure the necessary supply chain capacity exists across all modes and channels of distribution and expand the availability of logistics and warehousing facilities to support the efficient flow of domestic goods pertaining to AI-specific hardware and semiconductors.

2. Establish strategic partnerships with countries such as the U.K., France, and others within frameworks similar to the *European High-Performance Computing Joint Undertaking* (EuroHPC JU) to secure favourable purchasing power and access to AIC infrastructure procurement and cloud services.
3. Consult with industry, academia, and provinces and territories to identify gaps in AIC infrastructure and access and form a centralized model to match the coordinated investment and infrastructure development seen in the EuroHPC JU partnership.

Increase access via subsidies for Canadian SMEs and start-ups

Canada's AI compute gap restricts innovators, SMEs, and start-ups from scaling their AI ventures. This hampers broader AI adoption and limits the advancement of cutting-edge AI research. Offering subsidies and incentives can reduce the costs of adopting AI technology and accessing AI computing resources, directly contributing to the resilience and growth of Canada's burgeoning AI ecosystem.

Skills training is another critical factor in AI adoption and access. While expanding AIC infrastructure supports large-scale adoption, SMEs and start-ups do not have the talent to integrate AI into their operations successfully without upskilling and reskilling. These businesses already face difficulties attracting digital/tech talent, training staff on using AI and automation, and knowing how to start adopting and funding these technologies. Therefore, subsidies and incentives must also allow businesses to allocate resources to upskilling and reskilling programs.

Recommendations:

1. Provide business supports such as subsidies, tax credits for SMEs and small scale-up firms to offset the costs of AIC cloud computing and hardware procurement, beyond current Canadian Institute for Advanced Research (CIFAR) innovation funding. Offer direct subsidies through cloud service provider discount programs, in partnership with industry service providers. Supports should be adjusted based on firm type and size. This approach can streamline the allocation and procurement process and reduce the burden on public resources.
2. Allocate funding for hiring talent for SMEs and small scale-up firms for and upskilling and reskilling programs for staff to ensure they can successfully integrate AI in their operations.

Conclusion

To drive innovation and economic growth, we must strengthen Canada's growing AI landscape by expanding domestic AIC capacity, building resilient supply chains, and increasing affordable access to AI technology and computing resources. Developing a sovereign compute strategy will require collaboration with international partners like the U.K. and U.S. to secure favourable purchasing power, access to AIC infrastructure procurement and cloud services, and alignment with global standards to ensure we effectively address AIC gaps.

As the government launches the Strategy and the Fund, it must consider the potential impact of the upcoming *Artificial Intelligence and Data Act* (AIDA) on AI adoption and access.

A secure, responsible, and accountable AI governance framework should align with Canada's AIC infrastructure investments to support a growing R&D and SME ecosystem and unlock AI's potential to bolster Canada's global competitiveness and productivity.

Sincerely,

Daniel Tisch, APR, FCPRS, ICD.D
President and CEO
Ontario Chamber of Commerce