

Canada's Digital and Al Industries

Advancing strategic opportunities with Canadian partners

May 21, 2025





A trusted partner

- Projected 2nd best in the G20 for doing business the next five years (2025-29)
- Named <u>2nd most attractive</u> for <u>foreign direct investment</u>
- Recognized in the Top 10 most peaceful countries
- Consistently <u>listed</u> in global Top 5 for best quality of life
- Stable political environment and strong and growing international alliances
- World leader in Al
 - first country to create a national AI strategy in 2017
 - Montréal Declaration for a Responsible Development of Artificial Intelligence
 - Voluntary AI Code of Conduct launched in 2023
- Multicultural and inclusive society
- Deeply collaborative environment between academia, industry, & government





World-Class talent

Skilled Talent Pool and Growing R&D Output

- 1.1M tech workers (approx. 6.4% of total workforce)
- Ranked #8 for talent by Global Al Index
- Global leader in advancing women in Al
- 1st among G7 for AI research publications per capita since 2019
- Attracting international students (#3 globally) & fast-tracking digital workers
- Two-way mobility opportunities between Canada and the EU
 - Mitacs Global Research Award building joint R&D capacity
 - Canada now a formal partner of MSCA RISE under Horizon 2020

Dynamic Innovation Ecosystem

- Global Research Hubs: Mila, Amii, Vector Institute
- Multinational R&D labs
- 3 "Godfathers of AI" in Canada: Hinton, Bengio, LeCun
- Aidan Gomez, co-founder Cohere, co-authored "<u>Attention is all you need</u>" foundational paper in modern AI credited helping the creation of ChatGPT





Robust and expanding infrastructure

Data Centre Boom:

- Substantial investments in AI-ready data centers with over 100 existing facilities across 20+ cities
- National digital research infrastructure leadership driven by the <u>Digital</u> Research Alliance of Canada
- MOXY (operated by <u>CANARIE</u>) a direct interconnection point between Canadian NRENs and Europe's research and education community

Strategic Investments:

- \$2B <u>Sovereign Al Compute Strategy</u> launched in 2024 designed to boost domestic compute capacity
 - up to \$700M to build Canadian AI data centres
 - up to \$1B to build large sovereign supercomputing infrastructure
 - up to \$300M to provide affordable access to compute for SMEs
- Public-Private partnership advancing 5G technologies for nextgeneration telecommunications networks





Embracing digital technologies

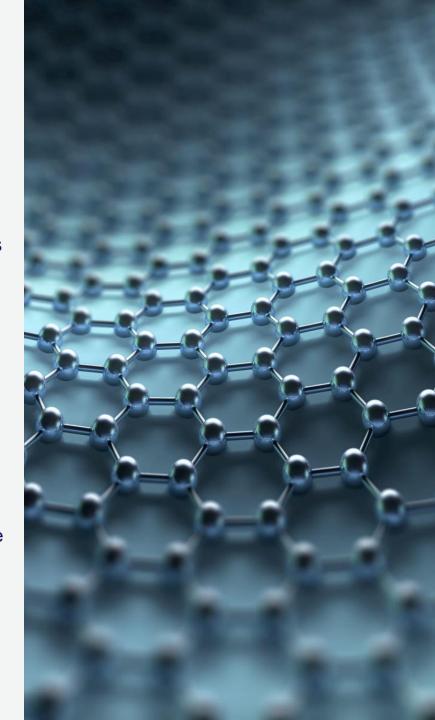
Digital Economy Surge

- Digital transformation market USD \$104B → USD \$492B by 2030
- Canada's digital economy CAGR ~9% through 2025, driven by rapid adoption of e-commerce, investments in AI, adoption of digital technologies
- ICT contributed \$125.5B (5.7%) to Canada's GDP in 2023

Strong adoption in sectors such as FinTech, AgTech, aerospace, healthcare

Leader in quantum technologies, cybersecurity innovation, and proactive stance on ethical Al and data governance

- National Quantum Strategy \$360M investment launched in 2023 being advanced through three pillars: research, talent and commercialization
- Globally one of the highest densities of quantum companies per capita and deepest pools of quantum talent
- BC-founded D-Wave world's first commercial quantum computing company
- Thales investment in Canada with establishment of National Digital Excellence Centre
- Founding member of the Global Partnership on Artificial Intelligence (GPAI)





Supporting the innovation ecosystem

- Canada home to over 670 Al startups and 30 Generative Al companies
- Global Innovation Clusters, NRC-IRAP, Strategic Innovation Fund, Innovative Solutions Canada, Regional Development Agencies
- Budget 2024 the Government of Canada announced an additional \$2.4B to secure Canada's Al leadership
- New dedicated federal Artificial Intelligence and Innovation Minister
- \$8.64B of VC funding in Canadian AI in 2022
- 30+ innovation zones, incubators and accelerators across the country
 - ex. Creative Destruction Lab, global footprint with locations in the US, Europe, and Australia. Participating companies having generated over \$28B in equity value
 - Collectively catalyzing over \$4B in economic activity across major Canadian cities





Innovation in action

Examples from the Canadian innovation ecosystem

Toronto-Waterloo Corridor "Canada's Silicon Valley"

- Largest tech cluster in N. America outside Silicon Valley
- High concentration of AI companies and strong research (University of Waterloo)
- Thriving startup ecosystem and incubator supports (ex. MaRS Discovery District, Communitech, Velocity)

Montreal Al Ecosystem

- Home to world-renowned Al researchers, ex. Yoshua Bengio
- Significant number of AI startups and research labs strong in deep learning and NLP
- Scale Al's role in unifying the ecosystem:
 - > \$700M invested
 - 130+ projects

Vancouver Creative Industries Hub

- Global leader in gaming, animation and visual effects
- Accelerated growth in cleantech, virtual/augmented reality and life sciences
- DIGITAL a key pan-Canadian ecosystem convener:
 - > \$780M invested
 - 180+ projects

"...Canada is a compelling choice for European technology and industry leaders offering a highly attractive environment and burgeoning opportunities for international collaboration."



DIGITAL – What We Do

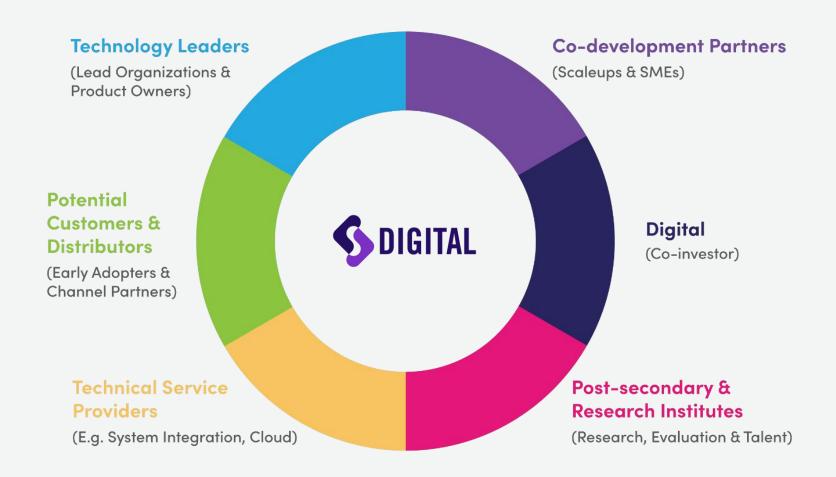
- DIGITAL, one of Canada's Global Innovation Clusters, is accelerating the growth and success of Canadian companies enabling access to capital, talent and customers.
- We solve some of society's and industry's greatest challenges across mining, forestry, agriculture, health and life sciences, housing and skilling.
- Through our model of collaborative innovation, bringing together innovators, industries, researchers, community, government partners to build world-class, made-in-Canada digital technology solutions

Enabling Canada's Al advantage through a \$506M investment portfolio, piloting quantum solutions in real-world applications and driving innovation in genomics across health and natural resources with \$82M invested to date

- We co-invest with our industry partners to de-risk tech development and accelerate commercialization.
 - And we do it fast.



Our partners – How we do it





A snapshot of DIGITAL's outcomes since 2018



190+

Commercial Products and Services

161 SME owned



18,300

Learning & Development Placements



\$786M

Invested in Canadian Innovation \$506M Invested in SME Innovation

(\$324M DIGITAL Co-Investment Leveraged)



734+

IP Generated to-date

543 SME owned



\$1.4B

New Funds Raised

\$764M by SMEs



100%

Of Active Teams
Exploring International
Opportunities

Data Driven Surgical Mining

THE PROBLEM

Demand for metals and critical minerals as building blocks for green and digital technology solutions in the global transition towards a lower carbon future continues to grow.

SOLUTION

 Creating real-time digital twin models of deposits to prescribe a course for surgical, low-impact extraction, informing how and where to drill while using conventional drilling equipment.



- Unlocking over \$6 trillion in global value for narrow vein deposits of metals and critical minerals the world needs
- · Green technology solution helping to unlock stranded deposits and support the clean energy transition sustainably and quickly













Quantum-Safe Critical Infrastructure Protection

THE PROBLEM

Making our critical infrastructure systems more secure by preparing for future cyber threats, including those from quantum computers.



 Developing a made-in-Canada cryptography solution to secure critical infrastructure systems at serious risk of cyber attacks against quantum-era cyber threats.

IMPACT

- Starting with a real-world electric utility deployment, demonstrating a scalable, quantum-safe system designed for minimal disruption and broad adoption across critical sectors
- Quantum Bridge Technologies pioneering in symmetric cryptography solutions for quantum-safe communication a pitch winner at Hannover Messe 2025













Global Clinical Network for Infectious Diseases

THE PROBLEM

Antimicrobial resistance (AMR) is responsible for 5 million deaths around the world annually. The World Health Organization (WHO) named AMR as a "Top 10 Global Health Threat"

SOLUTION

• The first global platform that allows frontline healthcare workers and healthcare organizations to access current clinical guidelines for treatment of hundreds of infections.

IMPACT

- Platform adopted by the WHO and deployed in nearly every country in the world
- Expected to be second largest adoption of Canadian health technology in history































Canada Wide. Global Impact. Always ahead of the curve.

Contact:

Jen Mielguj Director, Intellectual Property & Partnerships <u>jmielguj@digitalsupercluster.ca</u>

