



BACKGROUND NOTE

CANADA-SINGAPORE AI + QUANTUM MISSION
& STRATEGIC ROUNDTABLE

Canada-Singapore Strategic Frontiers in AI and Quantum (AI+Q) Technologies



ASIA PACIFIC
FOUNDATION
OF CANADA

FONDATION
ASIE PACIFIQUE
DU CANADA



SGTECH
WHERE **TECH** MEETS

MAY 2026



ASIA PACIFIC
FOUNDATION
OF CANADA

FONDATION
ASIE PACIFIQUE
DU CANADA

About APF Canada

The [Asia Pacific Foundation of Canada](#) is an independent, not-for-profit organization focused on Canada's relations with Asia. Our mission is to be Canada's catalyst for engagement with Asia and Asia's bridge to Canada.

APF Canada is dedicated to strengthening ties between Canada and Asia through its research, education, and convening activities, such as our Indo-Pacific Initiative programming, the Canada-in-Asia Conference series, our Women's Business Missions to Asia, and the APEC-Canada Growing Business Partnership project fostering sustainable inclusive growth and poverty reduction. APF Canada also works with business, government, and academic stakeholders to provide Asia Competency training for Canadian organizations and students.

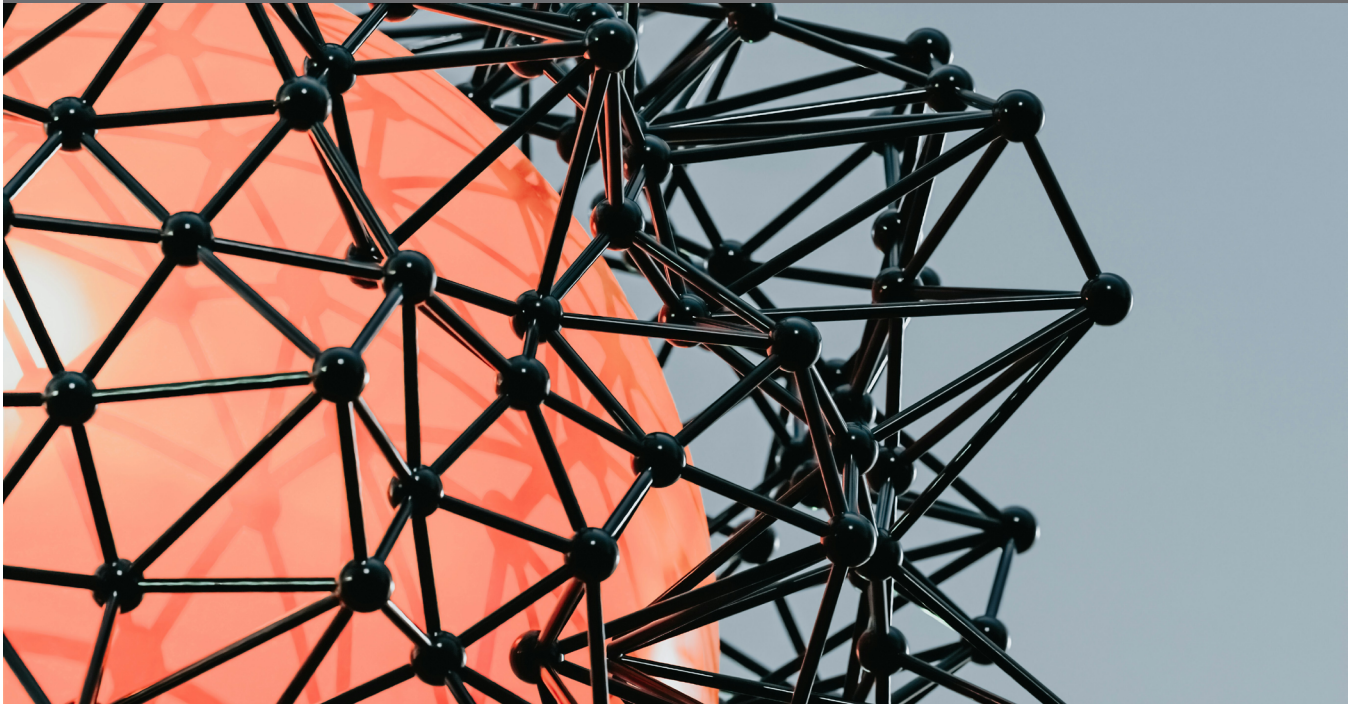
Our research provides high-quality, relevant, and timely information, insights, and perspectives on Canada-Asia relations for Canadians and stakeholders across the Asia Pacific. Our research work also includes regular Insights, Dispatches, Reports & Policy Briefs, Strategic Reflections, Case Studies, Explainers, and a weekly Asia Watch tracking the latest news on Asia that matters to Canada.



About SGTech

[SGTech](#) is the leading trade association for Singapore's tech industry. Representing over 1,400 member companies ranging from top multinational corporations, large local enterprises, vibrant small and medium-sized enterprises, and innovative startups, it is the largest community in Singapore where companies converge to advocate for change and drive what enables tech innovation and accelerates tech adoption to spur greater sustainability in the sector.

SGTech's mission is to catalyze a thriving ecosystem that powers Singapore as a global tech powerhouse.



A BACKGROUND NOTE IN SUPPORT OF THE CANADA-SINGAPORE AI + QUANTUM MISSION (MAY 18-22, 2026) AND STRATEGIC ROUNDTABLE (MAY 19, 2026) HOSTED BY APF CANADA IN PARTNERSHIP WITH THE APEC BUSINESS ADVISORY COUNCIL (ABAC) OF CANADA AND SGTECH IN SINGAPORE.

Canada–Singapore Strategic Frontiers in AI and Quantum (AI+Q) Technologies

Authors: Momo Sakudo and Song Fu

Edited by Amanda Doyle

Singapore and Canada are global leaders in artificial intelligence (AI) and emerging quantum technologies, bringing highly complementary capabilities supported by strong research ecosystems, government investment, and advanced digital economies. Canada’s depth in AI and quantum research, talent, and startups, combined with Singapore’s strengths in digital infrastructure, applied AI deployment, and regulatory innovation, creates a strong foundation for joint leadership in secure, scalable AI and Quantum (AI+Q) applications.

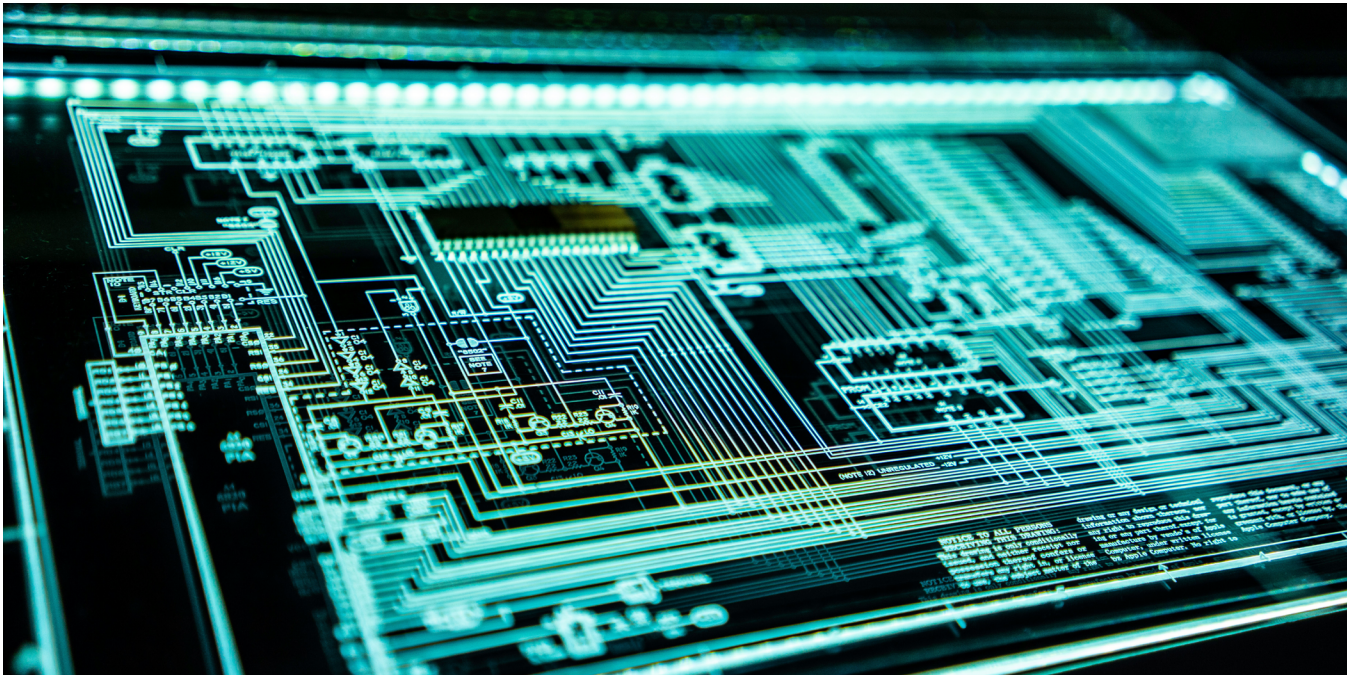
With the rapid development of AI+Q technologies, both countries are approaching an inflection point – quantum

computing is moving toward early “quantum advantage,” while AI adoption is accelerating across critical sectors. The convergence of these technologies presents immediate opportunities in the priority areas of:

- Defence and cybersecurity
- Maritime trade and logistics optimization
- Health care and life sciences

This mission and half-day working dialogue aims to bring together senior government officials, industry leaders, and researchers from Canada and Singapore to identify concrete AI+Q collaboration opportunities across the abovementioned priority sectors for Canada and Singapore.

These sectors are strategically important to both countries and represent areas where AI adoption is accelerating today, and quantum technologies are expected to deliver tangible impacts in the near to medium term.



Canada-Singapore AI and Quantum Policy Developments

Celebrating 60 years of diplomatic relations, the two countries share a long-standing foundation of trust, strong people-to-people ties, and a commitment to an open, rules-based international order, creating a solid foundation to expand collaboration in emerging and strategic sectors. In May 2024, Canada and Singapore issued a [joint statement](#) on bilateral co-operation in science, technology, and innovation, with a focus on areas including AI, digital technologies, biotechnology, green technologies, commercialization, and research collaboration between businesses and institutions. In 2025, the collaboration was further reinforced during a meeting between Prime Minister Mark Carney and Prime Minister Lawrence Wong who discussed opportunities to [deepen partnerships](#) in trade, energy, defence, cybersecurity, and sovereign technology innovation.

CANADA

Canada has accelerated its policy framework for artificial intelligence and quantum technologies in recent years, signaling a shift from research leadership to

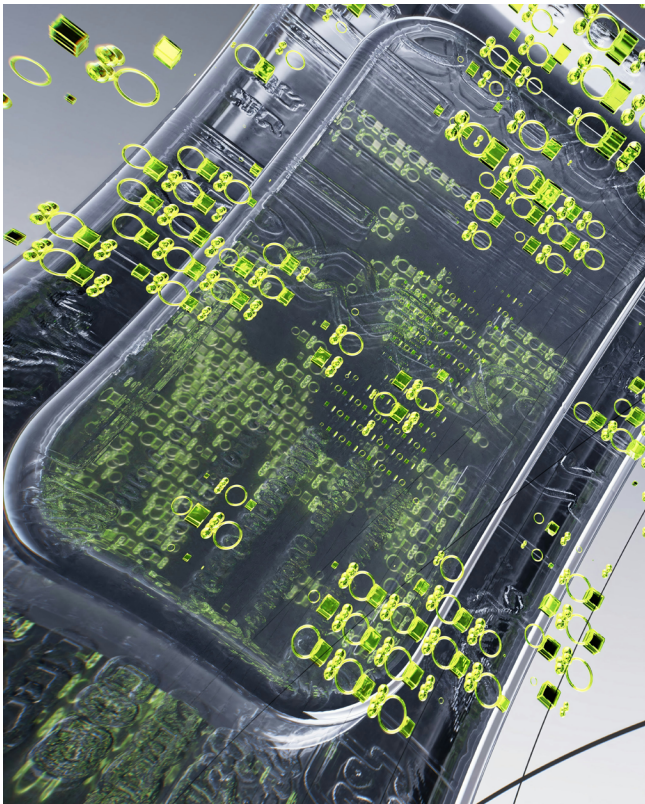
commercialization, governance, and national capability-building. Canada has continued to expand investments into compute capacity and AI adoption, alongside the creation of institutions such as the Canadian AI Safety Institute and the Federal Ministry of Artificial Intelligence and Digital Innovation in May 2025. Budget 2025 dedicated [over C\\$1 billion](#) to advance Canadian AI and quantum computing.

The [Pan-Canadian AI Strategy](#) was released in 2017 and was the first AI strategy globally. The Government of Canada is soon to release a refreshed AI Strategy to align with the rapid development of related technologies. While the date of the AI Strategy's release has yet to be announced, Canada's 2026 Spring Economic Update [unveiled the six pillars](#) of the forthcoming AI strategy.

In parallel, quantum technology has remained a national priority since the launch of the National Quantum Strategy in January 2023, backed by an initial C\$360-million commitment to support research, talent development, and commercialization, with additional funding measures introduced through subsequent federal budgets in 2024 and 2025. This sustained commitment reflects Canada's recognition that quantum sovereignty — the ability to develop, deploy, and govern

Background Note

foundational quantum technologies domestically and with like-minded partners — is essential to long-term economic resilience and national security.



SINGAPORE

The Singaporean government announced the [National AI Strategy 2.0](#) in 2023 that articulates its vision of steering AI for the public good through developing deep, highly specialized peaks of AI capability to maximize value creation and enable its people to use AI with confidence, discernment, and trust. This Strategy is further supported by two additional initiatives: the [National AI Research and Development \(NAIRD\) Plan](#), which provides investment of over S\$1 billion (C1.08 billion) in AI from 2025 to 2030, and the [Research, Innovation and Enterprise \(RIE\) 2030 plan](#), which aims to strengthen Singapore’s competitiveness and resilience through targeted support in key sectors and technologies like AI and quantum.

Singapore also has a separate [National Quantum Strategy](#), which is being implemented by the National Quantum Office (NQO). NQO co-ordinates and supports fundamental and translational research in

quantum through various strategic programs that cover almost the entire quantum computing stack from quantum processor foundry to applications in communication and sensor technologies. It is also worth noting that NQO has recently formed [a strategic partnership](#) with Quantinuum, which grants its researchers access to one of the most advanced quantum computers in the world.

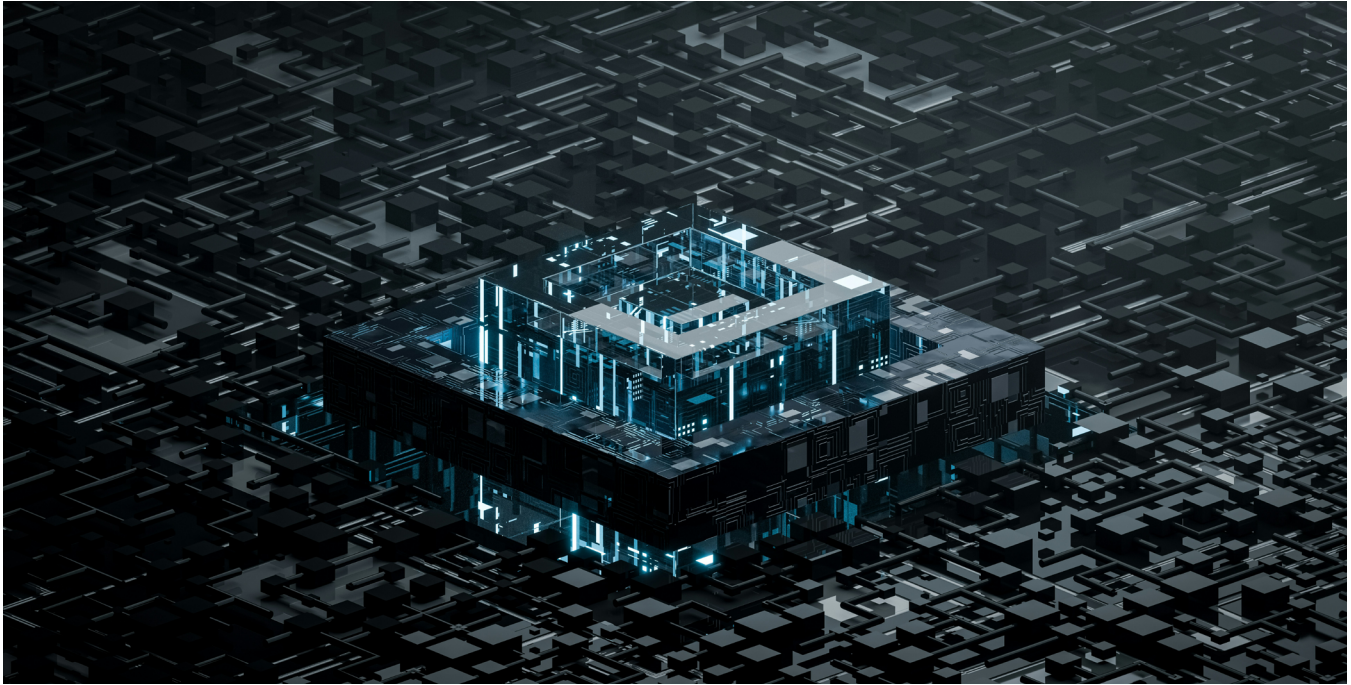
Defence and Security

AI and quantum technologies are foundational for the development of next generation defence capabilities, national security infrastructure, and cyber resilience. Governments globally are investing heavily in AI-enabled systems with enhanced AI-use in:

- Intelligence analysis and threat detection
- Cyber defence, surveillance, and situational awareness
- Autonomous and semi-autonomous systems

At the same time, governments are preparing for the disruptive implication of emerging quantum technologies, expected to have a significant impact on security through advances in quantum computing, quantum sensing, and quantum communications.

- **Quantum computing:** With the development of quantum computing, the “[harvest now, decrypt later](#)” threat is particularly acute for sectors handling long-lived sensitive data, including financial services, health care, defence, and government communications. This is prompting efforts to develop post-quantum cryptography (PQC) to secure government, financial, and infrastructure networks.
- **Quantum sensing:** High potential to enable precise detection capabilities in navigation, geological mapping, and anti-submarine warfare, which may reshape maritime and defence operations.
- **Quantum communications:** Quantum encryption and quantum-safe cybersecurity make command and control harder to disrupt, and easier to trust.



Canada has the [second-highest number of quantum SMEs globally](#) and a robust quantum ecosystem that the government aims to leverage for national security. The federal government launched the [Canadian Quantum Champions Program](#) in 2025 to anchor top-tier quantum firms in Canada and the [Quantum Safe Technologies Initiative](#) in 2026 to focus on emerging cybersecurity threats linked to quantum computing. The Canadian defence establishment is also seeking to set up [Defence Innovation Secure Hubs](#) to streamline collaboration on research and deployment of quantum technologies between industry and government entities.

Singapore's National Quantum Programme includes an ambition to identify and adapt quantum technologies for defence. The National Quantum Office and the Ministry of Defence has created the [Quantum Sensing Centre](#) to drive development of dual-use quantum sensing technologies. [National Quantum-Safe Network Plus \(NQSN+\)](#) was launched in 2023 to build a nationwide, interoperable quantum-safe network that can serve all businesses.

In addition to quantum, both countries are actively integrating AI capabilities into their defence capabilities. The DND/CAF [Artificial Intelligence Strategy](#) aims to transform the Canadian military into an AI-enabled force by 2030. This is further supported by multiple

Innovation for Defence Excellence and Security (IDEAs) [projects](#) focused on AI assisted decision making and human machine integration.

For Singapore, while [there hasn't been an official document](#) on Singapore's defence or military AI strategy, its defence AI adoption and integration effort is spearheaded by the [Digital and Intelligence Service](#), the digital service branch of the Singapore Armed Force, the [Defence Science and Technology Agency \(DSTA\)](#), and the [DSO National Laboratories](#), Singapore's largest defence research and development (R&D) organization. Singapore also partners with global industry leaders, such as [Shield AI](#), [Mistral AI](#), and the [Thales Group](#), to develop battlefield solutions across domains.

Canada-Singapore Defence Collaboration

The strong defence innovation ecosystems in Canada and Singapore, combined with shared challenges in securing digital infrastructure, maritime domains, and supply chain complexity provide the two countries an opportune moment for collaboration in an increasingly contested technological environment. In 2022, Canada and Singapore signed the [Defence Cooperation](#)

Background Note

[Arrangement](#) (DCA), creating a strong foundation for the two countries' militaries and navies to work together.

Areas for potential collaboration in AI + Q include:

- AI-enabled intelligence analysis and decision-support systems
- Advanced cybersecurity and post-quantum cryptography
- Autonomous maritime surveillance systems
- Quantum sensing for navigation and detection
- Simulation and modelling of complex security scenarios

Collaboration in these areas may accelerate the development of dual-use technologies that benefit both the defence and civilian sectors.

Maritime, Trade, and Logistics

In an increasingly interconnected international trading system, supply chains and logistics have become highly complex, connecting ports, shipping routes, rail systems, aerospace, and digital supply chain platforms. These complex systems generate vast datasets with optimization challenges that are well suited for AI and quantum technologies.

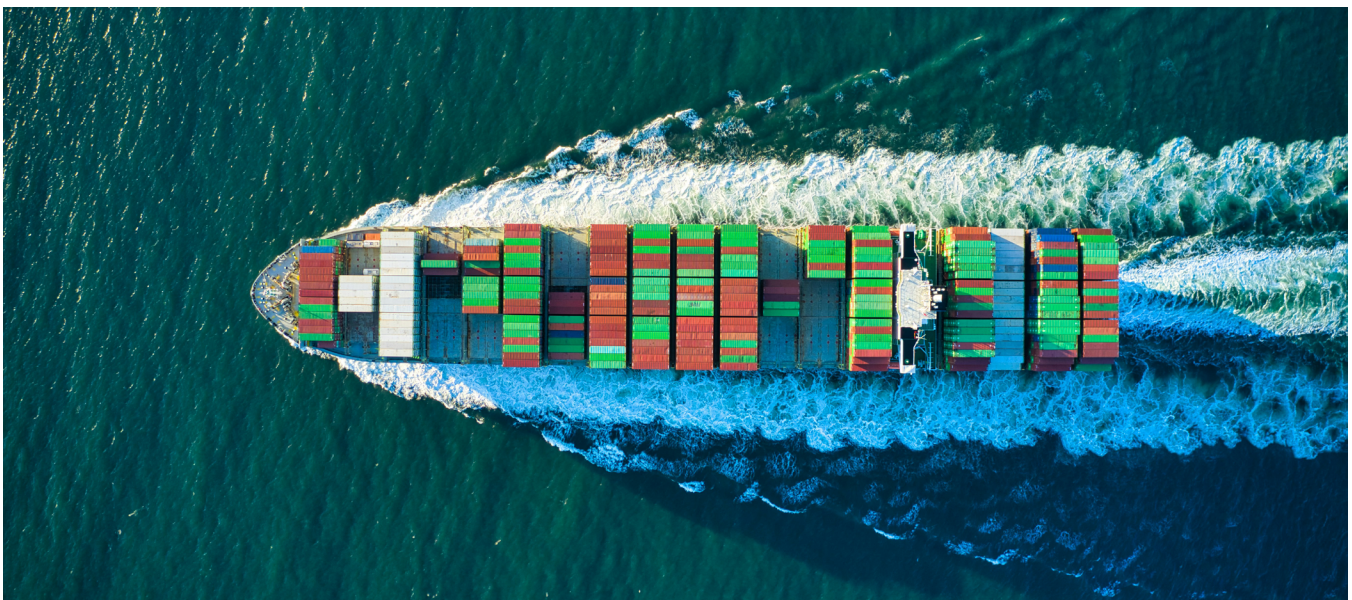
Canada and Singapore are both global leaders in the

ocean economy, where their interconnected maritime supply chains have become increasingly complex and fragile. AI and quantum technologies are particularly suited to strengthen the supply chain resilience, as they can reduce congestion and improve logistical efficiency and security via applications including:

- Predictive demand forecasting
- Shipping route optimization
- Automated port operations
- Predictive maintenance of infrastructure
- Cargo tracking and logistics visibility

Given the complexity of logistical challenges, quantum computing also has the potential to significantly improve optimization challenges such as routing, network design, fleet scheduling, and cargo optimization – all of which involve millions of variables. While the convergence of quantum computing and logistics is often framed around optimization capabilities, [security and PQC](#) is also a key priority in transportation and logistics, an especially vulnerable sector due to its current reliance on public-key cryptography for operational systems.

Canada possesses the world's longest coastline and boasts exceptional testing facilities, living labs, and innovation hubs for ocean technology, such as [the Launch](#), [the PIER](#), [COVE](#) and the [Centre for Ocean Applied Sustainable](#)





Technologies (COAST). These platforms, combined with Canada's [world class capabilities](#) across marine domain awareness, subsea robotics, autonomous systems, and smart ports, provide extensive opportunities to advance research and development into maritime AI and quantum technologies.

Singapore has a robust maritime economy, anchored by a well-established maritime cluster model centred on ports and shipping. Currently, the Singaporean government is constructing the [Tuas Port](#), which will be one of the world's largest fully autonomous container ports. The Maritime Port Authority of Singapore (MPA) is actively incorporating AI and other innovative solutions into its operations. It has developed a [Maritime Digital Twin](#) to provide Singapore's maritime community with a shared virtual environment to explore what-if scenarios, validate new concepts, and conduct risk management. MPA has also signed an MOU with [Amazon Web Services](#) to establish ASEAN's first maritime Artificial Intelligence (AI) and Machine Learning (ML) Digital Hub, which will enable MPA and industry players to build and test AI/generative AI solutions.

Canada-Singapore Trade and Logistics Collaboration

Singapore's position as one of the world's largest maritime hubs naturally pairs with Canada's global

commodity export networks and its critical role as a gateway between Asia and North America. As economies both highly reliant on trade, applications of AI and quantum technologies to improve supply chain efficiency will have a vast impact for Canada and Singapore. Areas of potential collaboration include:

- AI-enabled smart port technologies
- Digital supply chain platforms
- Quantum optimization of shipping routes and cargo allocation
- Predictive analytics for global trade flows
- Autonomous maritime systems

It is also worth noting that Singapore launched [The Digital Economy Partnership Agreement \(DEPA\)](#) in 2020, the world's first digital-only trade agreement that regulates issues related to the digital economy, including digital inclusion, data flows and protection, and artificial intelligence. Canada requested to join in 2022, and its exploratory discussions with DEPA members are ongoing.

Health Care, Life Sciences

Globally, health-care systems are facing mounting but interconnected pressures due to aging populations, strained infrastructure, rising costs, and rapid technology adoption. Consequently, AI and quantum technologies are expected to play a transformative role in the health care and life sciences industry and in 2025, the [global AI health-care market](#) size was estimated at approximately US\$36.67 billion – with expected growth to US\$505.59 billion by 2033. Key areas where AI is impacting health care include the following:

- Medical diagnostics
- Drug discovery
- Precision medicine
- Health care management systems

Similarly, quantum technologies are widely [anticipated to revolutionize health care](#) and life sciences by targeting gaps in AI applications that are limited by classical computing.

Background Note

- **Quantum chemistry:** Simulate molecular and biological systems with physical accuracy
- **Quantum sensing:** Detect real-time, non-invasive magnetic and bioelectric signals
- **Quantum communication:** Secure electronic health records, clinical workflows and AI pipelines in a post-quantum world

Canada-Singapore Health Care Collaboration

Canada has a vibrant digital health care ecosystem with layered support from government and civil society organizations. For example, the [Digital Technology Supercluster](#) program has invested more than C\$400 million in health care projects since 2018. Canada, due to its diverse population, open society, and inclusive health-care system, coupled with AI and quantum talent, innovation, and research, produces some of the richest and most trusted health data in the world. When harnessed, this data can dramatically improve access and quality of care, accelerate research and innovation, and unlock immense technological breakthroughs and immense economic benefits.

Singapore is currently a world leader in responsible AI adoption in the health care sector. Health care is seen as one of the four core sectors of its [national AI missions](#), and its health care providers are already [using AI](#) in their daily operations. To support this mission, Singapore health care regulators published the updated [Artificial Intelligence in Healthcare](#)

[Guidelines \(AIHGle 2.0\)](#) in March 2026, which provides clear instruction and guidance on AI adoption and development in clinical settings. Singapore's public health care cluster, SingHealth, recently launched a new [Artificial Intelligence in Medicine Institute](#) with Duke-NUS Medical School that aims to empower health care professionals to develop and apply AI-driven solutions.

Canada's rich health datasets and research ecosystem, combined with Singapore's strengths in clinical translation and regional market access, create a powerful pathway for joint commercialization in Asia. Areas for collaboration:

- AI-driven biomedical research platforms
- Clinical validation of AI diagnostic tools
- Quantum-enabled drug discovery
- Health data analytics and predictive modelling
- Digital health technologies

Both countries must also address the shared challenge of enabling data-driven health care while preserving privacy and public trust. Canada has taken a proactive approach to strengthening its data governance in the digital health sector. It has established a [Pan-Canadian Health Data Charter](#) to improve data collection and transparency and the [Pan-Canadian AI for Health \(AI4H\) Guiding Principles](#) for responsible and ethical adoption of AI in Canada's health systems. The federal government also recently introduced [Bill S-5, the Connected Care for Canadians Act](#), which aims to establish common standards to support protected and secure information exchange across various digital health platforms.

Beyond AIHGle 2.0 guidelines and the [Model AI Governance Framework](#), Singapore has also created [regulatory sandboxes](#) where AI tools can be trialed before they reach real patients in controlled spaces. These efforts are laying out the groundwork for AI that is not only innovative but also trustworthy, ensuring patients benefit safely from technological advances.



AI+Q Technological Sovereignty, Governance, and Trusted Deployment

Amid the changing landscape, technological sovereignty remains a central concern. For Singapore, this means maintaining trusted, resilient digital infrastructure despite external dependencies. For Canada, it includes securing domestic innovation pipelines and reducing reliance on foreign-controlled critical technologies. A bilateral approach enables both countries to strengthen supply chain resilience, co-develop trusted standards, and deepen co-operation among like-minded partners.

A credible AI+Q partnership must be grounded in robust governance. Singapore has emerged as a global leader in operationalizing AI governance through its [Model AI Governance Framework](#) and [AI Verify testing toolkit](#), which provide practical mechanisms for deploying trustworthy AI in industry. Canada brings complementary strengths in rights-based approaches, [ethical AI](#), and [international standards engagement](#).

Aligning these approaches offers an opportunity to shape interoperable governance models that balance innovation with accountability.

Joint efforts could focus on developing common assurance frameworks, certifying AI systems for cross-border use, and embedding trust into AI+Q deployments from the outset – particularly in regulated sectors such as finance, health care, and critical infrastructure.

The Path Forward

Canada and Singapore are well-positioned to build a commercially driven AI+Q partnership that advances innovation, economic competitiveness, and technological resilience. With complementary strengths, both countries have a strong foundation for deeper collaboration and market-facing opportunities.

The next phase of collaboration should focus on translating dialogue into tangible commercial outcomes through sustained government, industry, and research engagement. Priority areas could include joint R&D and commercialization initiatives, pilot projects and testbeds, cross-border investment opportunities, talent and research exchanges, and expanded private-sector

partnerships across defence, marine, logistics, and health care and life sciences.

By aligning priorities and accelerating trusted AI+Q deployment partnerships, Canada and Singapore can strengthen economic and regional security while positioning themselves as leaders in the emerging global AI+Q economy.

Additional Readings

[Summary Report: Canada-Singapore Defence Industrial Co-operation: A Matter of Execution](#)

Asia Pacific Foundation of Canada | April 14, 2026

Canada's Ocean Economy: Capabilities, Innovation & Global Leadership [attached]

[The potential benefits of AI for healthcare in Canada](#)

Mckinsey & Company | February 26, 2024

