

## CANADA

Innovation from across the border



## Building a partnership for the future

Rooted in shared values and mutual interests, the relationship between Canada and its next-door neighbor, the United States, has grown beyond the economic and political spheres.

The alliance has opened a new chapter, one that lays out closer cooperation in high-tech and quantum computing.

In a press conference in March last year, Canadian Prime Minister Justin Trudeau unveiled a groundbreaking agreement: "Canada and the United States have agreed to put in force a system for building semiconductors."

The agreement signifies a strong commitment to bolstering their nations' technological prowess, strengthening their economic competitiveness, and boosting job growth across the region. The partnership, symbolized by IBM's decision to expand its semiconductor facility in Bromont, Quebec, underscores the intertwined destinies of these two North American powerhouses.

**Canadian Minister of Innovation, Science and Industry François-Philippe Champagne** stressed the importance of building a robust wireless infrastructure.

"Canadians deserve strong, secure, and reliable wireless networks and services," he said.

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## The North American semiconductor supply chain corridor



## HOW QUÉBEC IS SHAPING THE FUTURE

At the northern tip of North America's semiconductor corridor lies ground zero of innovation: Québec's digital technologies and quantum innovation zones. Positioned to create maximum impact, these zones benefit from synergies that transform new ideas into life-changing applications.

Imagine an ecosystem where over 500 partners, including academic institutions like **Université de Sherbrooke**, converge, driving innovation forward.

In Bromont, global tech giants play a key role in the North American semiconductor supply chain. The **Technum Québec** innovation zone hosts companies such as **IBM** and one of its largest semiconductor assembly and testing facilities globally and **Teledyne MEMS**, a world leader in the MEMS Pure Play foundry market and **C2MI**, Canada's largest dedicated semiconductor R&D centre.

Sherbrooke's quantum innovation zone, **Distriq**, is a thriving collaborative ecosystem, where innovators and start-ups come together to focus on quantum science. Here, world-leading companies including, **Multiverse Computing**, **Nord Quantique**, and **Qubic Technologies** change the future.

These innovation zones are critical components of global partnerships that advance digital and quantum technologies for the semiconductor industry. With extensive free trade agreements already in place, the time is right for a sectoral auto-pact style agreement. ■

Through investments in Ericsson Canada, the government affirms its dedication to improving the current 5G networks and building the future landscape of 6G technology.

“The United States is Canada’s top global investor. We are uniquely positioned to offer American companies unmatched benefits, including short supply chains, green energy, global market access, and seamless integration to home operations,” said **Invest in Canada CEO Laurel Broten**.

Meanwhile, Quebec has emerged as a hotbed of technological advancement, notably in digital technology and quantum computing. This high-tech ecosystem involves educational institutions, like Université de Sherbrooke; research facilities, such as C2MI; and a mix of dynamic companies, including IBM, Multiverse Computing, Nord Quantique, Qubic Technologies, and Teledyne MEMS.

“We are leveraging our existing expertise in microelectronics. Quebec is poised to spearhead quantum computing initiatives, cementing its status as a global innovation hub. By embracing cutting-edge technologies, Quebec not only propels economic growth but also enriches cross-sector collaboration, fostering synergies that drive progress across various industries,” said **Quebec’s Minister of Economy, Innovation, and Energy Pierre Fitzgibbon**.

As both nations navigate the complexities of the digital age, the US-Canada partnership has laid down the path toward a more interconnected and prosperous North America.

### Closer cross-border collaboration

This thriving bilateral partnership has fostered closer collaboration across all the provinces and territories in Canada. In Alberta, particularly in the capital Edmonton, there has been a surge in activity in technological innovation, lessening the province’s dependence on the oil and gas sector.

“What is unique about Alberta is that you can come here and make a difference at the table. If you don’t have a seat at the table, you create your own. The entrepreneurial spirit is alive, and we are a place where “co-opetition” is the norm, and competitors help each other. Alberta is the place to jump into the bigger markets, and we are strategically located in a geographic home that allows you to expand your business globally,” said **Edmonton International Airport (YEG) President and CEO Myron Keehn**.

The collaborative spirit and strategic positioning of Canadian cities like Edmonton have made them attractive destinations for many tech giants and startups looking for new, cost-effective locations to set up their businesses. The growth-conducive conditions have pulled in domestic and international companies.

None of this progress could have happened were it not

for Canada’s education system.

Institutions such as Université de Sherbrooke and École de technologie supérieure (ÉTS Montreal), both in the province of Quebec, emphasize their mission to cultivating innovation and collaboration so that good ideas can be transformed into powerful solutions and the technologies of tomorrow.

“At École de technologie supérieure, we do things differently and we’re proud of it. Our bold model has worked, and it drives us to push the boundaries of engineering. Our researchers and professors change the world every day, and our students are the engineering leaders of tomorrow. More than ever, our distinctive expertise is being recognized by companies and a variety of business partnerships and we want to go even further to better meet the growing needs of North America and the world,” said **ETS Montreal CEO and President Prof. François Gagnon**.

For Université de Sherbrooke, founded in 1954, the mission was driven by pragmatic needs in the community.

“Sherbrooke needed higher education. The community wanted a ‘complete’ university, which meant law, medicine, arts, science, and business. Local businesses, schools and hospitals also wanted our approach to be practical,” said **Université de Sherbrooke Rector Pierre Cossette**.

“So, at UdeS, we teach discovery research and its applications. We like to say we can go from the molecule to the patient or from the electron to the computer. We make complex areas of research, like quantum computing, accessible to both teachers and students. We generate start-ups and break down barriers to application in partnership with business,” he added. ■

### ETS MONTREAL: WHERE INNOVATION HAPPENS

École de technologie supérieure (ÉTS Montreal) is marking its 50th anniversary this year having built a solid reputation as a place where future leaders in technology and innovation are trained with practical training.

“At ÉTS Montreal, students enjoy innovating. We encourage them to embrace open science and innovation, and train them to become the next generation of highly skilled researchers and engineers,” said **ETS Montreal CEO and Director General Prof. François Gagnon**.

“Through entrepreneurial culture or industry internships, they develop life-changing products, from eco-friendly aircraft engines and electric vehicles to NFL helmets that reduce concussions, imaging technology solutions that provide 3D images of knee biomechanics, a minimally invasive modular heart pump, and almost invisible yarns for new fabrics and more,” Gagnon added.

ÉTS fosters technological exchange and innovation between Canada and the United States. An example of this collaboration is in the aerospace industry between Pratt and Whitney. With new challenges to face, ÉTS trains students to meet the future demand for inventors and problem solvers.

Another example of this cross-border partnership is with Ultra Electronics, with which ETS has a longstanding relationship. The partnership has led to the design of wireless systems for the U.S. military. ■

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