



Press Release

Over \$10 Million Invested by the Government of Québec and the Government of Canada in a Quantum Communication Test Bed Available to Montreal, Quebec City and the DistriQ Quantum Innovation Zone in Sherbrooke

Montreal, October 23, 2023 — Pierre Fitzgibbon, Quebec Minister of Economy, Innovation and Energy, Minister Responsible for Regional Economic Development and Minister Responsible for the Metropolis and the Montreal Region today announced an investment of \$4 million in addition to the \$2.5 million contributed in 2022 to set up a quantum communication test bed. The Honourable Soraya Martinez Ferrada, Minister of Tourism and Minister responsible for the Economic Development Agency of Canada for the Regions of Quebec also announced \$3.6 million in federal funding. Numana, the non-profit organization responsible for the deployment and operation of the test bed, is confident that the benefits for the business community and the impacts of quantum communication on society and the economy in Quebec and across Canada will be substantial.

The quantum communication test bed: A tool for innovation

The quantum communication test bed will allow businesses and organizations to experiment with quantum technology–based systems and applications for telecom networks. Using this test bed will make it possible for them to try out new technologies without disrupting any of the complex digital infrastructure already in place.

This test bed is the only one of its kind in Canada. It will position Quebec as a national leader and potentially serve as a cornerstone for future quantum communication research across the country, as outlined in Canada's National Quantum Strategy.

A test bed that is open, collaborative, adaptable and scalable

The test bed will be available to startups, technology developers, academic institutions, research centres and businesses of all sizes operating in Quebec or anywhere else in the world. It will integrate emerging quantum communication technologies as they are rolled out into the market. The test bed infrastructure will be scalable and its parameters adjustable to meet the needs of participants and a wide range of verticals (health, finance, critical infrastructure, transportation, security, military operations, telecom, etc.). It will bring together key actors from across the ecosystem (developers, integrators, researchers, suppliers) and make it easier for them to work together in order to ideate and implement innovative solutions.

A multi-hub, multi-node and multi-usage test bed

Organizations interested in using the test bed will be able to do so from several locales, starting with the DistriQ Quantum Innovation Zone in Sherbrooke in October 2023, followed by Montreal and Quebec City in early 2024. Each hub will consist of multiple sites and offer a variety of features that can be leveraged to configure different network topologies and validate use cases. The test bed will integrate terrestrial, aerial and satellite network components. At one point in the future, depending on how markets and technologies evolve, the test bed hubs may be interconnected to establish a Quebec-wide quantum communication network.

Numana will oversee the deployment, operation and ongoing development of the test bed and make the equipment and infrastructure available to carry out various projects, based on the needs of the ecosystem. *“With this project, our ambition is to accelerate quantum technology in Quebec, and help the industry develop leading-edge products to transform the province into a true global leader in quantum communication. This project aligns with Numana’s new positioning as a technology think tank which analyzes disruptive technologies and conducts field projects to test them and accelerate their adoption,”* said François Borrelli, President and CEO of Numana.

“Quebec and Canada are carving out their space in the economy of the future, and our government is there to support them. Numana’s project will transform our economy, underpin our long-term growth and enhance our competitiveness going forward. By supporting this kind of innovation, we are contributing not only to giving Quebec small and mid-sized businesses and organizations a leg up in the marketplace, but also to strengthening our global leadership in this emerging field. Congratulations to Mr. Borrelli and the entire team behind this catalyst of technological innovation!”

The Honourable Soraya Martinez Ferrada, MP for Hochelaga, Minister of Tourism and Minister responsible for the Economic Development Agency of Canada for the Regions of Quebec

“The quantum communication loop of Numana represents a significant step towards enabling the creation of a unique network in Canada. This initiative reaffirms Quebec’s position as a key player in the fields of quantum and telecommunications, excellent news for the existing ecosystem”

Pierre Fitzgibbon, Quebec Minister of Economy, Innovation and Energy, Minister Responsible for Regional Economic Development and Minister Responsible for the Metropolis and the Montreal Region

Why now?

Accelerated developments in quantum computing are poised to have several positive impacts on businesses and organizations alike. However, they also represent a potential threat to digital infrastructure, making the data that is transmitted via communication networks more vulnerable. Preparedness is key: action plans need to be drawn up now to identify potential solutions to future cybersecurity risks. The Numana test bed is an opportunity to gain invaluable insight into how these solutions can help protect networks and avoid the need for costly remedial actions post-incident.

How Quebec stands to benefit from quantum communication

Mounting global interest in quantum computing could translate to significant positive repercussions for Quebec. As quantum research ramps up, major corporations and governments are investing heavily in the field, and solutions are starting to find their way into the marketplace. Quebec is home to a host of experts in photonics, optics, telecommunications, and cryptography, with a unique capacity to develop innovative products for the quantum communication market. The decisive impact of the photonics industry on the Quebec economy (22,000 jobs, 220 firms, \$3 billion contribution to the Quebec economy in 2019)¹ suggests that quantum computing has the potential to become a major driver of wealth generation for the province. The National Research Council Canada predicts that the quantum sector will become a \$139 billion industry in Canada by 2045, with more than 200,000 jobs and \$42 billion in returns. This translates to a potential contribution of 3% to the country's GDP.²

Leading corporations already on board

Bell, TELUS and Ciena are playing a central role in deploying the physical infrastructure of the test bed. Bell and TELUS are also providing access to their fibre optic network. These important companies will also be able to develop, design and test their own quantum roadmaps, develop the quantum expertise of their staff and deploy new ultra-secure services to meet the growing demand of the quantum industry, all while by collaborating with academic researchers and start-ups.

“The global interest in quantum communication and its possibilities is growing. Bell recognizes the importance of research in Québec and is excited to be part of it with the power of our fibre optic network. I am proud of the Bell Team and the unique research done with the University of Sherbrooke, aligning with our purpose of advancing how Canadians connect with each other and the world.”

Nicholas Payant, Vice President of Security, Corporate Systems and Operations, Bell

“Quantum computing will transform the way we process data and enable advances in many fields, such as the discovery of new medicines, the energy transition and artificial intelligence. We are proud to play an active role in the responsible development of quantum communication and to contribute to the technological dynamism of Quebec by creating an innovation hub that will bring together companies and researchers to contribute to the safe and responsible development of the quantum Internet.”

Benoit Simard, Vice-President, Products, TELUS Business Solutions

“Ciena’s strategic collaboration with Numana and participation in the quantum test bed will provide insights on innovative and emerging technologies important to our future. At the heart of this collaboration lies our commitment to fostering economic and technological advancements for Quebec and the other participants involved in this program. We are pleased and proud to be a founding enabler of what we expect to be an exciting and vital initiative that will push the boundaries of innovation in Quebec.”

Rodney Wilson, Chief Technologist for Innovation and External Research, Ciena

About Numana

¹ <https://www.optonique.ca/wp-content/uploads/2021/06/Rapport-executif-OCT-V06.pdf>

² [Canada's National Quantum Strategy](#)

At Numana, we're a catalyst for technological ecosystems. With our partners, we bring innovative people together to create more value for the technology industry and for Quebec as a whole. Founded in 2007, Numana is a non-profit organization that makes significant contributions to economic and social vitality by bringing stakeholders from the private, institutional, and public technology sectors together around common goals and joint initiatives. To learn more, go to <https://numana.tech/>.

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To obtain a video recording of the press conference address, arrange an interview with a Numana representative or request addition information, please contact:

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