

## The Platform for Digital and Quantum Innovation of Quebec (PINQ<sup>2</sup>) Proudly Announces the Historic Inauguration of an IBM Quantum System One Quantum Computer in Bromont

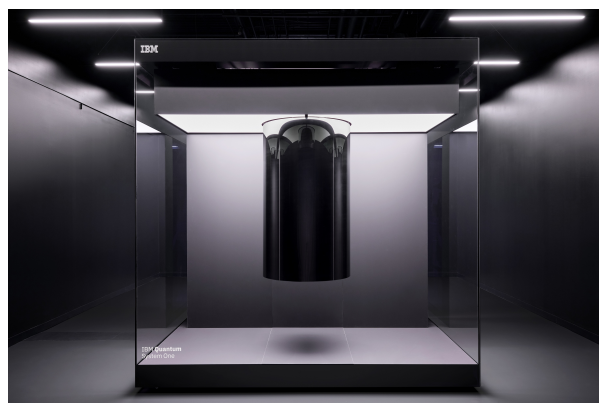
The arrival of the quantum computer in Quebec consolidates its leadership position, promotes research, develops quantum talent, and propels Quebec as a world reference in sustainable development.



*IBM and PINQ<sup>2</sup> launched Canada's first IBM Quantum System One at IBM Bromont. Officials from PINQ<sup>2</sup>, the Government of Québec, and IBM were on hand for the unveiling, September 22, 2023. (Credit: CP Images for IBM.)\**

**Bromont, Quebec, September 22, 2023** – The Platform for Digital and Quantum Innovation of Quebec (PINQ<sup>2</sup>), a non-profit organization (NPO) founded by the Ministry of Economy, Innovation and Energy of Quebec (MEIE – ministère de l'Économie, de l'Innovation et de l'Énergie du Québec) and the Université de Sherbrooke, along with IBM, are proud to announce the historic inauguration of an IBM Quantum System One at IBM Bromont. Quantum System One in Canada. To date, this is one of the most advanced quantum computers in IBM's global fleet of quantum computers.

This new quantum computer in Quebec reinforces Quebec's and Canada's position as a force in the rapidly advancing field of quantum computing, opening new prospects for the technological future of the province and the country. Access to this technology is a considerable asset not only for the ecosystem of DistriQ, the quantum innovation zone for Quebec, but also for the Technum Québec innovation zone, the new "Energy Transition Valley" innovation zone and other strategic sectors for Quebec.



"The installation of this IBM quantum computer is a giant leap that will promote the growth of Quebec's quantum sciences ecosystem and the development of our DistriQ innovation zones in Sherbrooke and Technum Québec in Bromont. This is a showcase for Quebec, which will be recognized as a force in quantum sciences, but also in international sustainable development." Pierre Fitzgibbon, Minister of Economy, Innovation and Energy, Minister responsible for Regional Economic Development and Minister responsible for Greater Montreal and the Montreal Region.

"The objective of DistriQ is to create the world's largest commercial quantum research infrastructure," explained Richard St-Pierre, General Manager, DistriQ, Sherbrooke's Quantum Innovation Zone. "PINQ<sup>2</sup>'s hybrid quantum computer is a unique and powerful asset that will allow the Innovation Zone's companies to reach their objectives; we are very proud of this partnership."

In addition to having access to an IBM Quantum System One, the high-performance computing centre (HPC) set up at the Humano District in Sherbrooke will enable PINQ<sup>2</sup> to offer a hybrid computing approach. This technological capability will provide businesses with a unique opportunity to access a full range of hybrid quantum computing service. PINQ<sup>2</sup> offers businesses an easy and seamless experience to assess the potential of digital and quantum technologies and innovations within their existing processes, with an emphasis on specific sectors such as healthcare, energy, manufacturing, the environment and sustainable development.

As part of the partnership between PINQ<sup>2</sup> and IBM announced in July 2023, the two organizations will lead a world-class quantum working group dedicated to exploring quantum computing to develop solutions to sustainability challenges. This working group will be supported by the valuable contributions of founding members: Hydro-Québec and the Université de Sherbrooke through its Institut Quantique.

"For the energy sector, the ongoing energy and digital transitions impose the need for increasingly efficient calculations in terms of R&D and application development, a need that will grow significantly in the coming years," said Christian Bélanger, Senior Director – Research & Innovation at Hydro-Québec. "At our research center, we are already working hard to tackle the challenges of the energy transition. We believe that quantum technologies that PINQ<sup>2</sup> gives access to offers promising prospects and rich opportunities for value creation in terms of energy and technological solutions for Hydro-Québec. We will most certainly be exploring and harnessing the potential of these technologies as they evolve."

## **Discovery Accelerator**

PINQ<sup>2</sup> is currently the only entity to offer access to an IBM Quantum System One situated in Canada, and PINQ<sup>2</sup> positions Quebec as the only other place in the world, outside of the United States, to be engaged in an IBM Discovery Accelerator associated with its own high-performance computing infrastructure and a quantum computer entirely dedicated to research and industrial innovation.

"Quantum computing is accelerating at a rapid pace. This is in large part due to a growing global ecosystem that continues to push the boundaries of what is possible," said Jay Gambetta, Vice President, IBM Quantum. "Our partnership with PINQ<sup>2</sup> to deploy an IBM Quantum System One in Quebec, Canada marks a significant

milestone in quantum technological and scientific progress, and enables the region's strong culture of innovation and talent to help extend the frontiers of quantum computing's potential."

### **A first Centre of Excellence in quantum software development**

PINQ<sup>2</sup> is also proud to announce the establishment of its Center of Excellence, aimed at accelerating the adoption of quantum technologies by providing accessible access to PINQ<sup>2</sup>'s infrastructure for businesses and researchers. The Center of Excellence will support a community dedicated to quantum software, making it easier to use, create, and foster dynamic collaboration, all while setting industry benchmarks in software engineering.

With the goal of making quantum technologies accessible to all, the Center of Excellence will evolve into a platform offering training opportunities, collaborative projects with universities and industry partners, and the development of open-source algorithms. As the inaugural partner in this initiative, the École de Technologie Supérieure (ÉTS) is contributing a team of researchers dedicated to democratizing best practices in quantum software.

### **A "historic turning point" for the province and the country**

"At PINQ<sup>2</sup>, our passion for digital and quantum innovation is our driving force," said Éric Capelle, General Manager of PINQ<sup>2</sup>. "The inauguration of an IBM Quantum System One quantum computer marks a historic turning point for Quebec and Canada. We are proud to play a key role in this technological revolution.

"In addition to this news, PINQ<sup>2</sup> is accelerating its services for businesses. We are working with a network of Canadian academic partners such as IVADO, Université de Sherbrooke, University of Saskatchewan, Quantum Algorithms Institute and Concordia University to collaborate with this industry and train quantum talent.

"We are also proud to announce the creation of a multidisciplinary team to accelerate the development of quantum business solutions through the Centre of Excellence in Quantum Hybrid Software Engineering, as well as the deployment on our platform of a first curriculum dedicated to professionals and available to PINQ<sup>2</sup> customers."

### **About PINQ<sup>2</sup>**

The Platform for Digital and Quantum Innovation of Quebec is a non-profit organization created by the Université de Sherbrooke and the ministère de l'Économie, de l'Innovation et de l'Énergie du Québec (Ministry of Economy, Innovation and Energy of Quebec) in 2020. Its mission is to support organizations in accelerating their digital transformation, to enhance collaboration, and to simplify technology transfers between industries and research, in addition to training the talents of tomorrow.

### **About IBM**

IBM is a leading provider of global hybrid cloud and AI, and consulting expertise. We help clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs and gain the competitive edge in their industries. More than 4,000 government and corporate entities in critical

infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to effect their digital transformations quickly, efficiently and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud solutions and consulting deliver open and flexible options to our clients. All of this is backed by IBM's long-standing commitment to trust, transparency, responsibility, inclusivity and service.

For more information, visit [www.ibm.com](http://www.ibm.com).

### **About IBM Quantum System One**

Quantum computing is an emerging technology that exploits the laws of quantum mechanics to solve certain problems that today's most powerful supercomputers cannot practically solve. IBM Quantum System One is the first integrated quantum system with a compact design optimized for stability, reliability and continuous use. It has been deployed in a number of sites around the world, in Germany, Japan, the United States and now Canada. Its 127-qubit utility processor will offer improved coherence times and lower error rates than IBM's previous quantum systems.

To read the press release in French, please [click here](#).

Pictured in image: L-R: Alessandro Curioni, IBM Fellow and Vice President Europe and Africa and Director IBM Research Zurich, IBM; Jamie Thomas, General Manager, Technology Lifecycle Services and IBM Enterprise Security Executive, IBM; Stéphane Tremblay, Chief Director, Bromont, Site Location Executive, IBM Canada; Nathalie Le Prohon, Director, IBM Technologies, Québec, IBM; Dave McCann, President, IBM Canada and Associate Director, IBM Consulting Canada, IBM; Isabelle Charest, Minister Responsible for Sport, Recreation and the Outdoors, Government of Québec; Jay Gambetta, IBM Fellow and Vice President, IBM Quantum, IBM; Pierre Fitzgibbon, Minister of Economy and Innovation and Energy, Government of Québec; Eric Capelle, CEO, PINQ<sup>2</sup>; Marie-Eve Boulanger, Program Manager – Quantum, PINQ<sup>2</sup>; Richard St-Pierre, Executive Director of DistriQ, Quantum Innovation Zone of Québec.

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Additional assets available online:  [Photos \(2\)](#)

<https://canada.newsroom.ibm.com/2023-09-22-The-Platform-for-Digital-and-Quantum-Innovation-of-Quebec-PINQ-Proudly-Announces-the-Historic-Inauguration-of-an-IBM-Quantum-System-One-Quantum-Computer-in-Bromont>