

Generating  
Innovation  
with Japan

MARCH 7<sup>th</sup> 2022



QUÉBEC  
QUANTIQUE

Enabling  
the Quebec  
Quantum Ecosystem

[quebec-quantique.ca](http://quebec-quantique.ca)



## Mission

To use quantum sciences and technologies as a lever for the economic and social development of Quebec and position the latter as one of the leaders in the field on the national and international scene.

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## Vision

To ensure that quantum technologies are adopted by a majority of Quebec organizations by 2030.

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## What we do

**Mobilize and ensure** concerted action among local players in the field around innovative and structuring projects for the province of Quebec;

**Promote** the influence of the Quebec ecosystem in Canada and abroad; attract talent, companies, investors, researchers and students;

**Act as a gateway** to facilitate the qualification of requests from outside the Quebec ecosystem;

**Contribute** to the monitoring, awareness and strategic reflection on economic development opportunities for Quebec;

**Communicate** the actions and results of the players involved.

Québec Quantique brings together players from the Quebec quantum ecosystem. Among the members of the group: INTRIQ, the Institut quantique and all Quebec universities working in the field of quantum sciences and technologies, INO, Prompt, PRIMA, Numana, ACET-Banque Nationale, Centech, Entrepreneuriat Laval, Quantino, C2MI and CMC Microsystems.



The ministère des Relations internationales et de la Francophonie is a major financial partner in the international outreach initiatives of Québec Quantique.



The ministère de l'Économie et de l'Innovation is the main financial partner of Québec Quantique.

# Quantum in Quebec



# Quebec and the Canadian Ecosystem

## CANADA

- [BDC](#)
- [National Research Council](#)
- [CMC Microsystems](#)
- [Quantum Industry Canada](#)

## British Columbia

- [Stewart Blusson Quantum Matter Institute](#)
- [Quantum BC](#)
- [Quantum Algorithm Institute](#)

## Alberta

- [Quantum Alberta](#)
- [Institute for Quantum Science and Technology](#)

## Ontario

### Quantum Valley

- [Transformative Quantum Technologies \(TQT\)](#)
- [Institute for Quantum Computing](#)
- [Quantum Valley Investment](#)
- [Quantum Valley Ideas Lab](#)
- [Quantum Information and Quantum Control](#)
- [Creative Destruction Lab](#)

## Québec

- [Québec Quantique](#)
- [Institut Quantique](#)
- [INTRIQ](#)
- [C2MI - MiQro Innovation Collaborative Center](#)
- [IBM Quantum Hub](#)
- [Centech](#) , [ACET](#) , [Quantino](#), [Entrepreneuriat Laval](#)
- [INO](#)

## The quantum tech sector in Quebec is:

**\$200M**

over 8 years by the  
**Quebec government in  
investments** to develop the  
sector (2019 – 2027)

**60+**

**companies**  
developping Quantum 2.0  
technologies or enabling  
technologies for the sector.

**50+**

**players**  
(support organisations,  
institutions and investors)

**30,000**

**university students** enrolled in  
programs related to quantum  
technologies

# Quebec has all the right ingredients

- **World-class researchers** and research centers covering the various sub-sectors of quantum technologies;
- An **Innovation Hub** dedicated to quantum science and technology;
- **Infrastructures** covering the entire value chain and allowing the complete development of quantum technology innovations, from design to industrial deployment;
- **Access to funding** and several support organizations to create synergies and leverage for companies in the sector;
- Undeniable **expertise in interdisciplinary research** on quantum technologies, advanced materials, photonics and artificial intelligence;
- And, an **exceptional talent pool**.



## MONTRÉAL

**Quantum Communication**  
**Digital Technologies**  
**Artificial Intelligence**

INTRIQ  
Polytechnique  
Université de Montréal  
McGill  
Centech  
PRIMA  
Prompt  
Numana

## QUÉBEC

**Photonics**

COPL | Université Laval  
Entrepreneuriat Laval  
INO | Quantino

## GATINEAU

**Cyber Security**  
CyberQuébec  
In-Sec-M

## SHERBROOKE | BROMONT

**Quantum Sciences & Technologies**  
IQ | Université de Sherbrooke  
C2MI  
3iT  
Espace IBM Q  
ACET

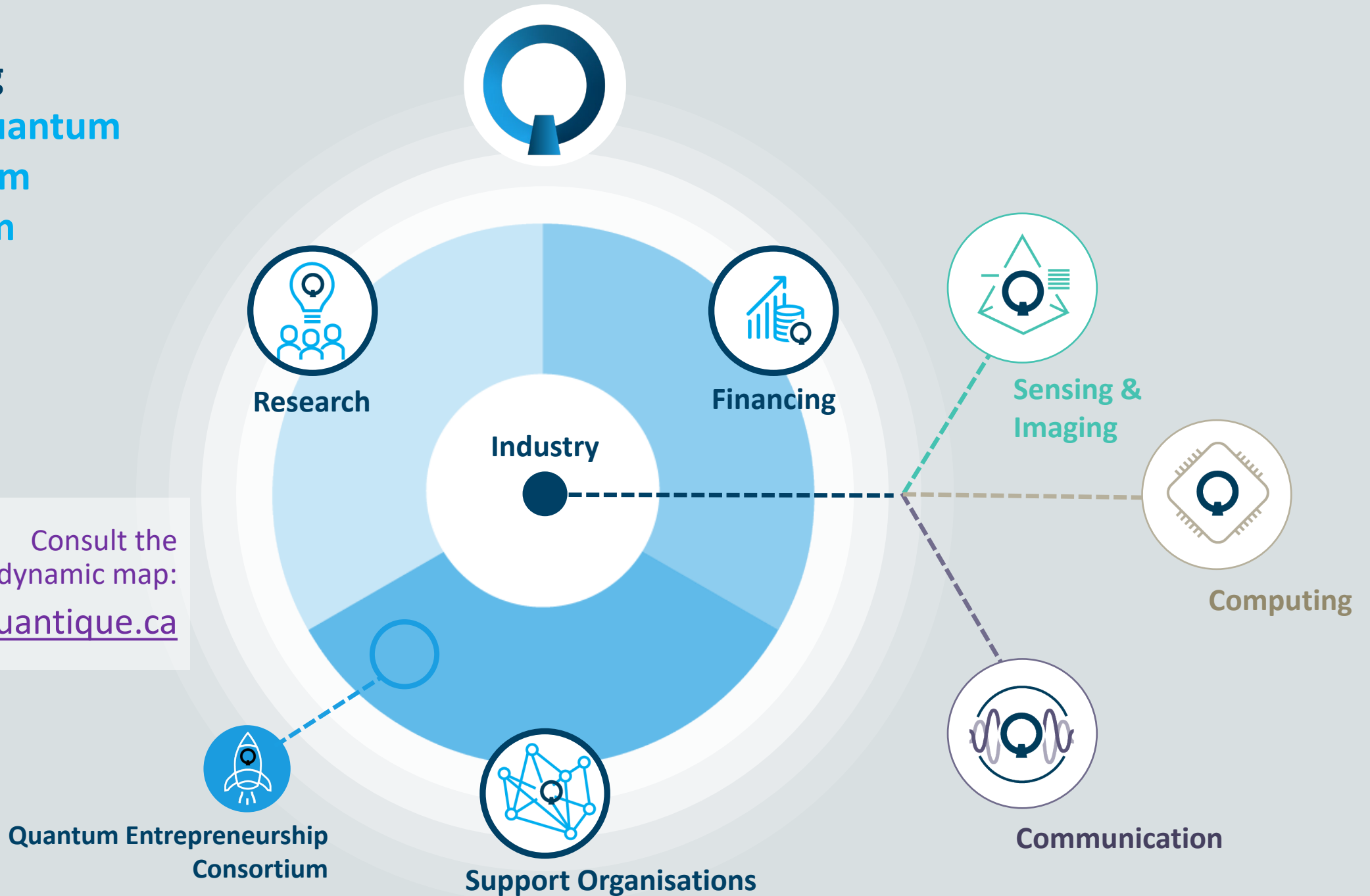
**INNOVATION HUBS**

Several key players and expertise throughout the province



# Mapping of the quantum ecosystem players in Quebec

Consult the dynamic map:  
[quebec-quantique.ca](http://quebec-quantique.ca)



# Startups Interested in Japan



Developing quantum electronics and quantum microwave sensors for applications such as quantum radars



Developing a solution for establishing a quantum communication link within a standard fiber optics infrastructure



Developing a hardware and software solution to accelerate the discovery and development of new materials



Design and manufacture superconducting quantum processing units (QPUs), quantum control electronics as well as ultra-low temperature cryogenics systems which host QPUs



ZONES D'INNOVATION QUÉBEC

\$690M recently announced for  
2 Innovation Zones in Quebec





\$255M

**FUTUR CAMPUS BIOPHILE**  
 Projet en symbiose avec l'environnement

- Incubateur-accelérateur avec services d'accompagnements et formations
- Services professionnels
- Appartements temporaires pour le personnel
- Garderie
- Lieu de rassemblements, d'échanges, d'entraînements et espaces de travail extérieurs
- Réseau de sentiers pédestres et pistes cyclables



**TERRAINS INDUSTRIELS DISPONIBLES**  
Phase 2



**RÉSERVE NATURELLE**  
206 hectares protégés



**ZONE DE DÉVELOPPEMENT AÉROPORTUAIRE**  
600 000 pi<sup>2</sup> disponible



**C2MI / UNIVERSITÉ DE SHERBROOKE**  
Laboratoires de recherches



**TERRAINS INDUSTRIELS DISPONIBLES**  
Phase 1 : 12 M pi<sup>2</sup> prêts à construire



**PROJETS DOMICILIAIRES**  
en développement  
1 100 portes à proximité

**BROMONT**  
INSPIRE L'ACTION



QUANTUM SHERBROOKE

\$435M



**INNOVATIVE MANUFACTURING**

- 3 Usine CINQ
- 4 Espace Quantique 1

IT ZONE

Ville de Sherbrooke

Espace-INC

**DOWNTOWN**

- 5 Entrepreneurship headquarters

**INNOVATION - ACELP PARK**

- 1 Technological innovation and circular economy Hub (CITEC)
- 2 Institut quantique

Cégep de Sherbrooke

Sporobole (Cultural digital hub)

Multimodal hub

Chambre de commerce et industrie de Sherbrooke

Collaborative workspaces

Entrepreneurship headquarters

Sherbrooke Innopole  
Destination Sherbrooke  
Entreprendre Sherbrooke  
UdeS business partnership group (9 partners)

CTA Advanced Technology Centre BRP - UdeS

Scale up Centre

ACET National Bank

3IT Interdisciplinary Institute for Technological Innovation

Solar park

Éco-quartier Humano District (Sainte-Famille)

Université de Sherbrooke

Productique Québec

Specialized tools

Improved productivity, automation, and digitalization

Automated equipment design and manufacturing

FORMER INDUSTRIAL ZONE TO BE REDEVELOPED FOR INNOVATIVE MANUFACTURING

REVAMPED OLD RAILWAY STATION

ST. FRANCIS RIVER BANKS TO BE REVAMPED

MONT-BELLEVUE

# Quantum Sherbrooke

Organisation/infrastructure	Projet	Investissement	Aide financière
IBM - Ordinateur quantique	Déploiement d'un ordinateur quantique	130,5 M\$	68 M\$
CMC Microsystèmes	Collaboration - plateformes infonuagiques quantiques	8,1 M\$	3,6 M\$
Université de Sherbrooke	Innovation, partenariat et entrepreneuriat	10,7 M\$	8,4 M\$
	Projets collaboratifs - entreprises et milieu universitaire		
Cégep de Sherbrooke	Coexistence travail-études	650 000 \$	452 500 \$
	Stages en entreprises de la ZI - étudiants du collégial		
Institut quantique	Construction du bâtiment	15,1 M\$	6,7 M\$
Chaîne d'innovation intégrée	Fonctionnement 3IT	3,1 M\$	1,4 M\$
Chaîne d'innovation intégrée II - Quantique/3IT	Agrandissement et achats d'équipement	14,1 M\$	12,7 M\$
PINQ - Achat d'équipements	Machines de calcul classiques pour des projets de PME	16,1 M\$	14,5 M\$
PINQ - Fonctionnement	Budget de fonctionnement pour 3 ans	1,9 M\$	1,5 M\$
Chaire de recherche	Chaire de recherche Alexandre Blais	2,0 M\$	1,4 M\$
Chaires de recherche	Chaires de recherche Numérique et quantique	3,0 M\$	2,4 M\$
Subventions FRQNT	Soutien au déploiement de la ZI Sherbrooke quantique	3,5 M\$	3,5 M\$
Sherbrooke quantique	Gouvernance, fonctionnement et animation de la ZI	7,1 M\$	6,3 M\$

**30%  
GOV**



A photograph of an IBM Quantum System One cryogenic chamber. The chamber is a large, dark, rectangular structure with a glass front door. Inside, a complex, multi-layered cryogenic system is visible, illuminated by a bright light source from above. The IBM logo is visible in the top left corner of the chamber's frame. The text "IBM Quantum System One" is visible in the bottom left corner of the chamber's frame.

# IBM Research launches the first Discovery Accelerator in Canada



# Quantum Sherbrooke

Announced in February 2022 and building on over 20 years of research excellence Sherbrooke Quantique is to receive \$435 million have been confirmed for the Quantum Sherbrooke Innovation Zone with \$131 million injected by the Government of Quebec to support 13 projects including IBM's fourth quantum computer outside the United States. Other companies that have confirmed investments are 1QBit, Pasqal, and Eidos-Sherbrooke, which will inject a combined \$205 million over the next five years.

## One key element of the innovation zone is:

**Espace Quantique 1:** a multi-tenant space with access to specialized quantum labs that will be opened to businesses of all sizes giving access to cryogenics labs for solid-state based quantum technologies, electronics testing facilities, soldering and micro-soldering equipment, sample preparation rooms and, mechanical rooms

# Collaborative Opportunities

## **University/Academia:**

- Highly qualified people training (graduate students and new undergraduates in Quantum Science degree)
- Collaborative network across Quebec/Canada
- Access to innovation /IP
- Financial engineering

## **Local Government/City:**

- Access to office and dedicated cryogenic facilities (Espace Quantique 1 + DevTeQ)
- Facilitated access to numerous services

## **Quebec Government:**

- Innovation zone co-construction
- Strong support to facilitate/enhance foreign Investment projects
- Links with other key projects/innovation zones

## **Government of Canada:**

- Build on the Canadian quantum and semiconductor strategies



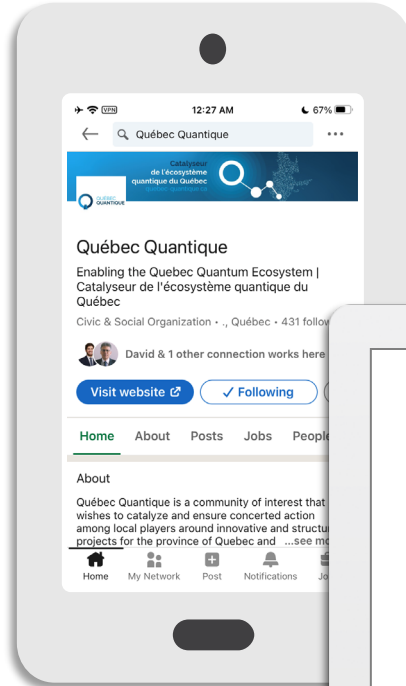
Inspired by the The Engine model built by MIT,  
**Espace Quantique 1** is located near key players in Quantum Sciences

**Multi-tenant space with access to specialized quantum labs**  
private offices, co-working spaces and a networking space

# ESPACE QUANTIQUE 1



Don't miss out  
on any quantum related  
news in Quebec



Job Board,  
Internships and  
Study Programs



[LinkedIn](#)



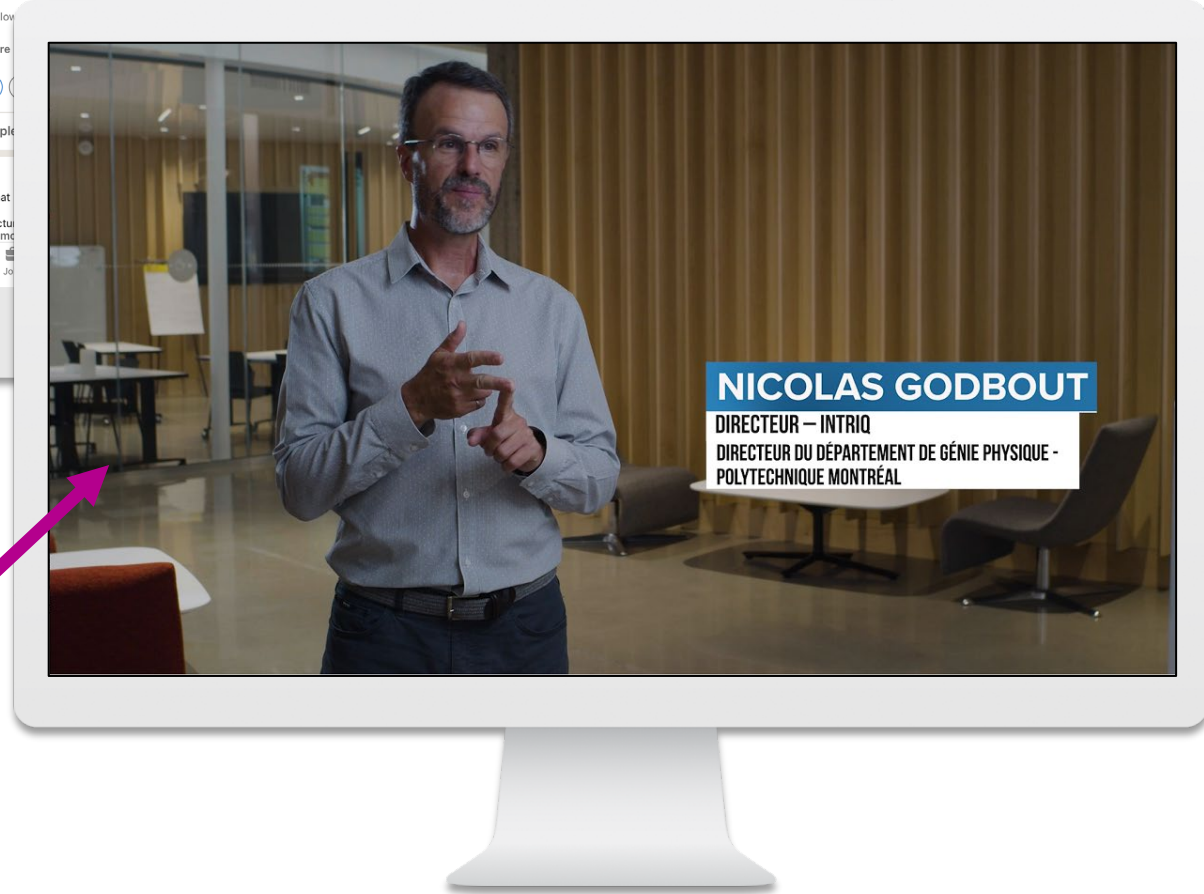
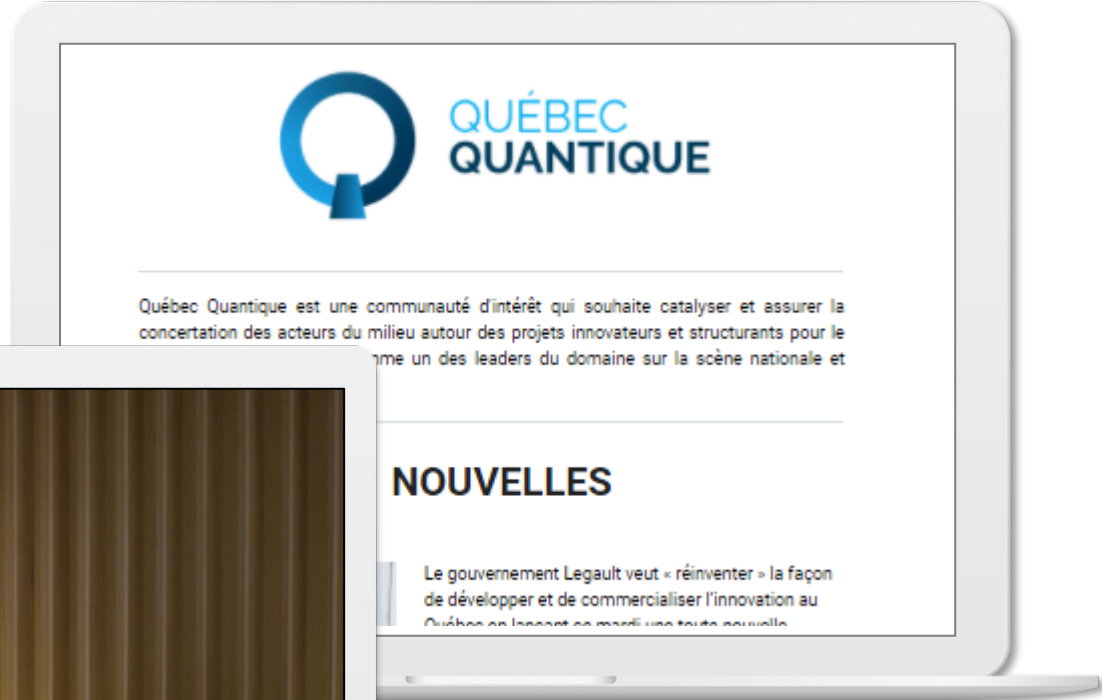
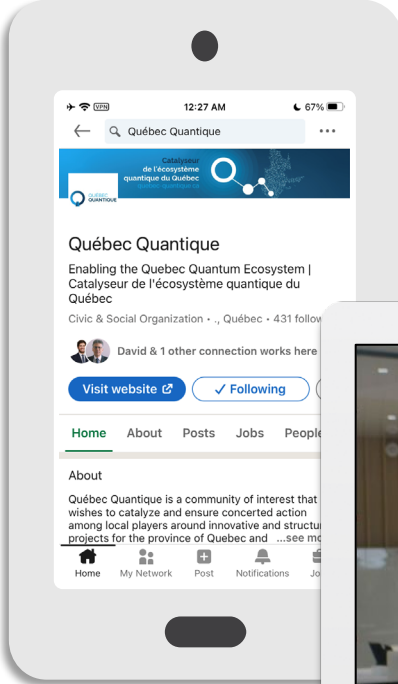
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