

# Responsible adoption of technologies key to Canada's quantum future: new expert panel report

## News Release

November 30, 2023 – Ottawa, ON

Quantum technologies are poised to play a major role in Canada's future, from its national security to its economic standing. While Canada is among the global leaders in quantum research, it nevertheless faces challenges in the adoption of these technologies as they approach market readiness. *Quantum Potential*, a new expert panel report from the Council of Canadian Academies (CCA), outlines a responsible approach to quantum-technology adoption — a critical step toward ensuring Canada's global competitiveness in the decades ahead.

"A century of quantum physics research propelled a technological revolution that now supports the foundations of modern society," said Raymond Laflamme, chair of the Expert Panel on the Responsible Adoption of Quantum Technologies. "As quantum technologies emerge, it's essential to think carefully about how policy should shape their adoption by end users — and how Canada might best navigate the accompanying challenges and opportunities."

*Quantum Potential* considers quantum computing, sensing, and communications, three categories of quantum technology at varying levels of maturity. While these technologies may strengthen digital infrastructure, improve data security, and optimize processes across a range of economic sectors, they also pose significant risks, such as misuse by malicious actors. Risks associated with quantum technologies span ethical, legal, social, and policy realms; without sufficient consideration, they may compromise public trust in quantum technologies, limit research funding, and stifle innovation.

The adoption of quantum technologies in Canada may require programs designed to stimulate demand — including government procurement, pro-competition policies, and the cultivation of a quantum-ready workforce. To date, government support has encouraged the development of quantum technologies, with significantly less attention to stimulating technology diffusion and adoption.

As part of its assessment, the expert panel reviewed the Government of Canada's National Quantum Strategy, released early this year. *Quantum Potential* spotlights ethical, legal, social, and policy issues posed by quantum technologies as critical considerations for their responsible adoption by public and private sectors across Canada.

"While the timeline for widespread adoption of quantum technologies may be unclear, Canada's quantum readiness depends on our deepest consideration of the risks and benefits these technologies pose," said Eric Meslin, President and CEO of the CCA. "*Quantum Potential* provides essential guidance toward a future shaped by a new wave of innovative technologies."

Innovation, Science and Economic Development Canada, the National Research Council of Canada, and three other supporting federal departments asked the CCA to assess opportunities and challenges related to the adoption of quantum technologies in Canada. *Quantum Potential*

explores the commercialization potential of quantum technologies, articulates Canada's position within the global quantum value chain, and examines those conditions and policy levers that might promote their responsible adoption.

Visit [www.cca-reports.ca](http://www.cca-reports.ca) to download the report.

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