QUANTUM TECHNOLOGY

Known as “Quantum Valley,” Waterloo is a global leader in quantum theory, experiment and commercialization.

WATERLOO: THE EPICENTRE OF THE QUANTUM REVOLUTION

With over 20 years experience, Waterloo is leading and developing technology in quantum computing, security, communication and sensing with world-class research and commercialization hubs. Including state-of-the-art facilities, world-renowned researchers, dedicated quantum investment and a highly-educated workforce, Waterloo is a globally significant quantum leader.

AT A GLANCE – WATERLOO’S QUANTUM TECHNOLOGY ECOSYSTEM

Quick Facts:

- Led by Waterloo, Canada ranks in the top 5 globally in quantum research & technology
- Waterloo has a high density quantum ecosystem, with leading theory, experiment and commercialization facilities within 5km (3mi)
- University of Waterloo (UWaterloo) is one of four leading centres for quantum research in North America and hosts the Transformative Quantum Technologies program to accelerate the development of new quantum technologies
- UWaterloo is home to the largest concentration of mathematical and computer science talent in the world

Quantum Research and Commercialization:

Institute for Quantum Computing (IQC)
A world-leader in quantum research, IQC’s research community has 220+ researchers advancing quantum science and technology. With top postdoctoral, graduate and undergraduate programs, IQC is training the future of the field.

Quantum Valley Investments (QVI)
Housed in two state of the art facilities with 160,000 sq ft of research and development space, QVI provides commercialization funding, expertise and support for researchers developing commercializable quantum technologies and applications.

Perimeter Institute
Perimeter Institute for Theoretical Physics is a leading centre for scientific research, training and educational outreach, with world-class expertise in quantum fields and strings, foundations, gravity, information, and condensed matter.

LOCALLY SIGNIFICANT COMPANIES

LOCAL

Looking to locate, relocate or expand?
QUANTUM TECHNOLOGY SPECIALIZATIONS

- QUANTUM INFORMATION
- QUANTUM ALGORITHMS
- QUANTUM CRYPTOGRAPHY
- QUANTUM INFORMATION PROCESSING
- QUANTUM SENSING
- QUANTUM MATERIALS

WATERLOO. COLLABORATIVE. INVENTIVE. ENTREPRENEURIAL.

- Due to significant investments, Waterloo has a unique global competitive advantage in quantum research and offers a deep ecosystem that supports innovation
- Future-proof talent pool of 72,000+ students from three internationally recognized post-secondary institutions – University of Waterloo, Wilfrid Laurier University, Conestoga College – which produce graduates with 2+ years relevant, real-world work experience
- Thriving start-up community – second highest density of start-ups in North America
- One of Canada’s most innovative regions, with an average of 15 patents granted per 10,000 people (11 times the national average)
- Supportive and collaborative ecosystem with AI and quantum clusters and 150+ research centres working together to make an impact and support a risk-taking approach to solving real world challenges
- Ranked #2 in Canada for AI research and #11 in the world for AI citation impact

Founded in 2015 in Waterloo, ISARA Corporation is not only part of the region’s growing high-tech sector: it’s also the largest company of its kind worldwide. ISARA develops quantum-safe security software that can be embedded into commercial products to secure data - now, and in the future. As such, it is leading a global collaborative effort to protect companies from the emerging quantum threat.

“We already had talent here, available capital, an industry that had been working on quantum computing very publicly for almost two decades, and so many opportunities to bridge business with all the pure academic research work being done in the region. That sort of ecosystem has enabled us to grow to where we are today,” says Scott Totzke, Chief Executive Officer & Co-Founder.