

OCTOBER 2015

HOW ORION EMPOWERS ONTARIO

A STUDY BY THE
CONFERENCE BOARD OF CANADA



ONTARIO'S BACKBONE OF INNOVATION

In an era of data-intensive projects, blended learning and cloud-based technology, fostering the future economy of Ontario requires a robust, scalable and sustainable digital infrastructure. That seamless, critical infrastructure is the backbone of innovation: the Ontario Research and Innovation Optical Network (ORION).

Founded in 2001, ORION is a self-sustaining, non-profit organization dedicated to connecting research, education and innovation (RE&I) institutions in Ontario. Through a high-speed, fibre optic network stretching 6,000 kilometres across the province, ORION enables more than two million students, teachers, researchers, innovators and other users to learn, teach, work and conduct research on one of the largest and fastest RE&I networks in the world.

Through its physical and institutional connections, ORION has become an integral part of the province's innovation ecosystem. In order to better measure, understand and leverage the value of ORION, we commissioned a study from the Conference Board of Canada to reveal ORION's socioeconomic impact on Ontario. The impact was explored through both qualitative and quantitative perspectives. The subsequent report is summarized in this document, and demonstrates ORION's relationship as a **Partner**, **Catalyst** and **Innovator** in its technological services.

Partner: ORION connects Ontario's research and innovation community

ORION partners with its research, education and innovation community members to support an ecosystem that has an impact greater than the sum of its parts. ORION plays an essential role in facilitating collaboration between research facilities and high-performance computing centres, and introducing strategic stakeholders to each other. By providing the constructive connections that link the cornerstones of Ontario's knowledge economy, **ORION helps the province's innovation community develop, accelerate and deploy new discoveries, partnerships and products.**

From Thunder Bay to Ottawa to Windsor to Sault Ste. Marie, ORION connects 21 communities across Ontario through 28 connection points. The future of the innovation economy requires collaboration in order to creatively tackle the complex issues ahead. Open data, bridging the digital divide, and transforming education are some of the world's greatest challenges to resolve--all requiring a joint effort. Ready to equip its community, ORION is the reliable partner that connects these groups to one another.

"ORION IS ENSURING THE SUCCESS OF OUR SCIENTISTS, RESEARCHERS AND INNOVATORS IN BRINGING HOME-GROWN DISCOVERIES TO MARKET MORE QUICKLY."

Reza Moridi,
Minister of Research and Innovation &
Minister of Training, Colleges and Universities

**“ORION IS A STATE-OF-THE-ART
SYSTEM THAT OFFERS
SEAMLESS COMMUNICATIONS.”**

Dr. Ken Evans
President and CEO,
Indoc Research
(formerly Ontario Cancer Biomarker Network)

the best, most reliable digital infrastructure, seamless access to the most sophisticated online tools and the world's smartest people – there is no limit to what they can do. ORION and its services are exactly the catalyst needed to accelerate this future, these solutions.

Innovator: ORION enhances its connectivity with valuable services

ORION is the only high-speed, fibre optic network specifically committed to supporting research, education and innovation in Ontario. **Recognizing that users have the ability to unleash possibilities with connectivity, ORION offers more services over its network**, and as such, innovates the very value of a fibre optic connection.

As cloud technology becomes more crucial, ORION is overlaying cloud and software service delivery over the ORION network. Through the ORION Nebula – a suite of reliable, commercial, third-party services – ORION users are able to access high-performance, cloud-based software and hosted services at extremely competitive prices. And, by already being on the ORION network, these services are provided over a secure, reliable, private network, thus significantly reducing the telecommunications costs of accessing the cloud. ORION's strategic Nebula service offerings innovate connectivity to provide more than simple broadband. It makes going to the cloud that much easier and strategic; it's the way forward.

Catalyst: ORION helps build Ontario's innovation ecosystem of today – and tomorrow

Helping to further Ontario's leadership in the innovation ecosystem, ORION is a catalyst that advances its connected institutions to become global knowledge economy leaders. **ORION's network supports tomorrow's world-class innovations that are made in Ontario.**

When our best thinkers have the tools they need –

ADVANCING ONTARIO'S INNOVATION ECONOMY: ORION'S SOCIOECONOMIC IMPACT REPORT



ORION has been compared to the air we breathe – critically important, but rarely recognized for its role.

With this in mind, ORION selected the Conference Board of Canada (CBoC) to conduct an expanded study to an earlier economic assessment. ORION chose an organization aligned with its own commitment to building a more dynamic and competitive economy through not-for-profit applied research. CBoC is a specialist in economic trends and is a trusted source for governments, industry and public sectors to produce independent, evidence-based findings that propel insight.

Based on the CBoC's findings, this present report reflects a deeper understanding of ORION's social and economic impact within the RE&I ecosystem.

The CBoC measured "impact" of ORION by estimating the specific role that connectivity plays through the value of a connected organization's research, education and innovation activities.

Economic Impact

ORION enables the activity of more than 2 million users on our network, which contributes billions to Ontario's gross domestic product (GDP) every year. This continues to grow as more opportunities are cultivated in Ontario's knowledge economy.

- Research-related activities of ORION-connected institutions have a direct impact of more than \$4.4 billion in Ontario's GDP – just one part of ORION's national economic contribution of \$8.7 billion.
- The annual direct GDP contribution by ORION-enabled users in the professional, scientific and technical services sector alone is \$891 million.
- Though ORION is a small, self-sustaining non-profit, the activities relying on the ORION network boosted Canada's GDP by \$1.1 billion between 2010 and 2013, an average annual increase of 4.8% per year.

- Within Ontario, the research-related activities of ORION-connected institutions contributed 142,000 workers to the province's employment count—roughly 2% of all activity in Ontario.
- Without ORION, there would be a \$780 million shortfall in the economic output of Ontarians in the information and culture, professional scientific and technical, education, and public administration industries.

Social Impact

ORION levels the playing field in Ontario by providing more equitable access to digital tools, services and knowledge, better equipping tomorrow's leaders.

- More than half of Ontario's school board staff and students are on the ORION network, along with more than 500,000 post-secondary educators, students, faculty and researchers.
- ORION helps bridge the digital divide as countless students, educators and researchers, including those in Ontario's North, harness ORION's dedicated, private pipeline for virtual collaboration and conferencing, and other digital tools.
- Post-secondary education institutions develop Canada's future experts, and ORION's broadband enables connected institutions to attract and develop researchers and prepare graduates for a data-intensive, competitive workforce.

What's Next

As demonstrated by quantitative and qualitative means, ORION enables indelible impact in Ontario. This only further supports the fundamental importance and influence of connectivity on the economy as a critical infrastructure.

By working with community stakeholders, municipalities, hospitals and libraries, ORION is helping to build intelligent communities, and subsequently, small- and medium-sized businesses. This is enabled when ORION extends the power and potential of its network to more Ontarians across the province. And ORION continues to boldly embark upon new opportunities that will dramatically improve our network footprint and capacity.

As Canadian broadband use is predicted to steadily increase, providing reliable connectivity to each person in Ontario is crucial. It is the difference between Ontarians actively participating in the 21st century knowledge economy, or falling behind.

In view of this trend, ORION continues to proudly support its users in their collaborative endeavours with cutting-edge digital infrastructure and leadership, enabling transformation and discovery.

THERE'S MORE AVAILABLE

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