

Accelerating Ontario's Tech Sector

Presentation by Anne Bermonte, Assistant Deputy Minister
Innovation, Scale-Up and Regional Economic Development Division
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Innovation, Scale-Up and Regional Economic Division

MEDJCT's Innovation, Scale-Up and Regional Economic Division (ISRED) is Ontario's hub for developing strategies & programs to support regional innovation, advanced technology investments, ecosystem growth, and scaling of Ontario tech companies.

Strategic sector
engagements and
partnerships

Development and delivery of
frameworks and programs
that drive innovation

Regional economic
development

Ontario is Home to One of the Largest Technology Clusters in North America

ONTARIO'S IT INDUSTRY BY THE NUMBERS

NEARLY

25,000

HIGH-TECH **BUSINESSES**

320,000

IT WORKERS

64,000

ANNUAL STEM GRADS

\$65B

GDP ANNUALLY
IN THE **IT SECTOR**

\$7.4B

IN IT-RELATED
EXPORTS IN 2019

Ontario's Innovation Ecosystem Strengths



Innovation performance: Conference Board of Canada ranks Ontario as the most innovative province in Canada and Ontario ranks 9th overall among 16 OECD countries.¹



Highly skilled workforce: 70% have post-secondary education, higher than any other OECD country. Toronto ranks 4th in the North American Tech Talent market with the third largest talent pool (290K) after SF Bay Area (379K) and NY (345K) ²



Strong R&D ecosystem: Ontario businesses spend more on R&D than any other provinces. Similarly, Ontario universities spend most on R&D of all provinces.³



Vibrant and Growing Concentration of Tech Workers: Toronto Region added the highest number of tech jobs in the last 5 years) and has the third-largest tech concentration of 289,700 jobs (after Silicon Valley and New York) in North America. ⁴



Strong Venture Funding Environment: 2021 was a banner year for venture capital investment and Ontario was the 4th leading jurisdiction in North America (trailing California, NY and Massachusetts) with over \$8.4B raised, ahead of Texas and all Canadian provinces.⁵



Start-up and Scaling Ecosystem: Ontario is home to over 50% of Canada's fastest growing private technology companies (i.e., 58% headquartered in Ontario in 2019 and 50% in 2020). In 2021, Ontario created 8 new unicorns (scaling firms valued at \$1B+) bringing our total to 17. ⁶

Ontario's Innovation Ecosystem Challenges

- **Weakness in Tech Adoption Demand:** WIPO's 2022 Global Innovation Index ranked Canada 9th of 130 innovation inputs but only ranks #23 in innovation outputs, a proxy indicator for technology adoption.⁷
- **Focussed Talent Development:** While Ontario has a highly skilled workforce, there continues to be a challenge in keeping up with demand for talent that can develop and leverage critical technologies for business growth. Canada is estimated to have more than 305,000 unfilled jobs requiring digitally-skilled workers by 2023.⁸
- **Declining Patent filings:** Between 2014 to 2017, global Patent Cooperation Treaty (PCT) filings of patents have grown by 14% while filings from Canada shrank by over 22%. Canada's reduction in filings is the worst performance amongst the 152 member states.⁹
- **Declining Business Expenditure on R&D and Capital Stock:** Ontario business spending on R&D is just 1.3% of GDP, lagging the US by almost half (2.4%) and well below the OECD average (1.8%). Since 2001, it has declined by 33%¹⁰. Capital stock in Canadian factories are the lowest in 35 years.¹¹
- **Venture Capital rate below par:** While Ontario's venture capital investment as a % of GDP (0.18%, 2020) is higher than the Canadian average (0.13%), it is multiple times lower than competing OECD countries such as Israel, UK, US and Sweden and leading innovation jurisdictions such as California and Massachusetts.¹²
- **Weak Labour Productivity:** Ontario's labour productivity has consistent lagged compared to other advanced economies, it is 23% and 8% lower than US and UK, respectively.¹³

We Value the Relationships with Our Partners

Regional Innovation Centres



Commercialization & Advanced Technology Platforms



Capital

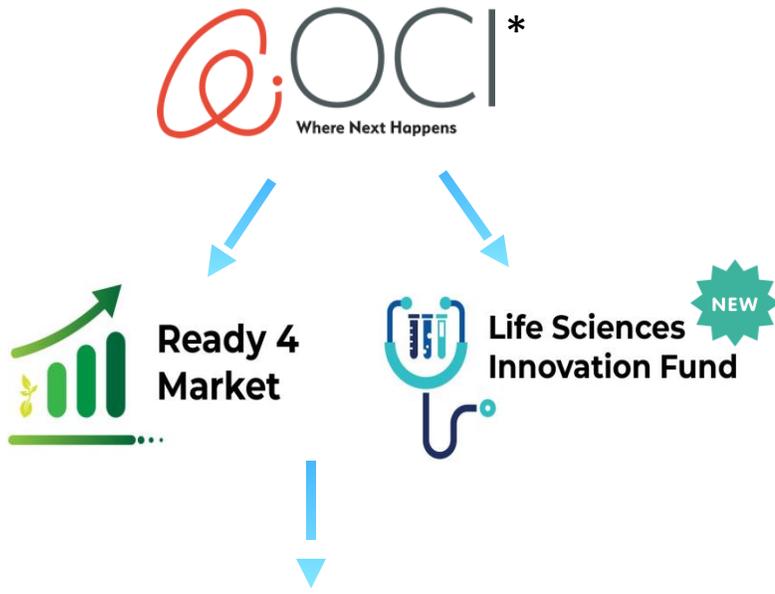


Industry Associations



Access to Capital

MEDJCT has 3 key delivery partners that support and catalyze venture capital investment activity:



18 companies supported

Over **1,800** jobs created/retained

\$1.9M in follow-on capital

MaRS IAF **

Graphite Ventures

Over **6,300** jobs created

\$1 invested = **\$22** per company

\$1.9B in follow-on capital

Venture Ontario ***

11 Venture Initiatives****

Employ approximately **7,300** people

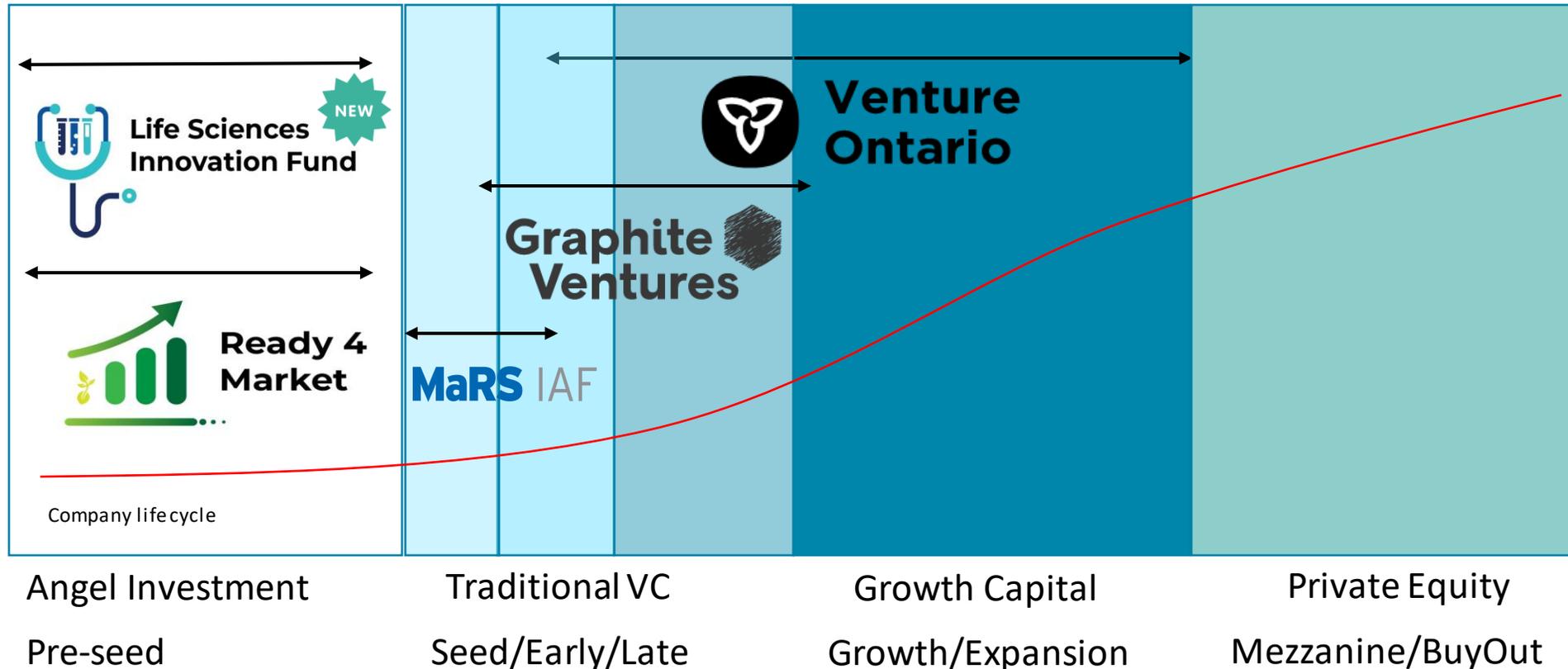
Generated **\$10.8B** in revenues

Recorded **\$2.9B** in R&D expenditures.

**** Publicly announced

MEDJCT's Venture Capital Programs and Investment Continuum

Ontario VC programs provide support for companies from the pre-seed stage through to the growth stage



Tech companies supported through MEDJCT's Innovation Ecosystem

ON PROGRAMS SUPPORTING FAST GROWTH COMPANIES		
OCI	Market Readiness/ Voucher/ Smart Start/ Talent Edge	
	OVIN	
OGCG	Direct/ Indirect Funds	
	MaRS Investment Accelerator Fund	
Regional Innovation Centres	MaRS Growth Services	
	MaRS Momentum	
	<ol style="list-style-type: none"> Invest Ottawa Innovation Factory Altitude Acc. Communtech SSMIC TechAlliance ventureLAB 	<ol style="list-style-type: none">
Vector	AI advisory support	

MEDJCT ADVISORY SERVICES	
Business Advisory Services (and Trade)	
	FinTech and Business Services
Innovation and Comms Tech Unit	
Life Sciences	
Industrial Materials, Clean & Low Carbon Tech	

Ontario Companies Enabling Smarter Cities

Using IoT to achieve energy efficiencies

ThoughtWire

- Founded in 2009 TO's ThoughtWire's IoT platform makes smarter, automated, safer and efficient cities, hospitals, and workplaces Support ~\$30M in VC funding (e.g. BDC,) and ~359K from OCI's Adv. health program, ~900K from Feddev to support growth

AI to power energy systems in smart cities

PEAK POWER

- Founded in 2015, Peak Power's AI-powered software creates intelligent energy systems in smart cities, aggregating battery storage, grid-interactive buildings, bi-directional EVs) Support: \$125K , OCI Market Readiness, ~\$500K, MaRS Accelerator

AI creates efficiencies across cities

EAGLE™

- Founded in 2018, AI platform provides traffic insights, shoppers heat map analytics, queue solutions, real-time retail checkout, AV access control, parking monitoring for supply chain etc
- Support: VentureLab

Connecting buildings within communities

Smart ONE

- TO's SmartOne connects building units to a wider community (access entrance, EV charging, car shares, smart parking, package delivery etc)
- Recognized: KPMG in Canada's 2022 Tech Innovator.
- Support: ventureLAB

Smart City and Smart Fleet solutions

GEOTAB.

- KW's Geotab's platform networks 1000's of vehicles with maps of hazardous driving areas, real-time data and traffic analysis, for route optimization.
- Support: OCI Voucher for Innovation and Productivity (\$20,000)
- +1000 employees, Geotab is the 2nd largest global telematics firm

Solutions to build Smart Cities

MIOVISION

- Founded in in KW 2005, Miovision provides tools to fix traffic issues, collecting traffic data and insights, helping cities / road network.
- Support: \$1.5M in 2021 from SW. ON Development fund towards a \$13M investment, creating 275 jobs, moving to a larger facility in KW
- ~300 jobs, offices in KW, Germany, serves +17,000 municipalities

High Definition Digital Mapping Solutions

Ecopia

- TO's Ecopia AI's high-definition vector maps for applications e.g . locations for broadband across rural Canada
- Support: OCI, 2014, ~\$80K, July 2022: Fed govt' \$8M to create a 3D vector map of cities in Canada – offering next-gen. digital mapping
- 2022, partnered with Illinois Transportation : HD map of 26 areas.

Self Driving Trucks enabling efficiencies

Gatik

- California and ON's Gatik self-driving trucks is enabling Loblaw's to deliver groceries
- Support (ON/AVIN, \$1M in Gatik to test)

The Path Forward: Accelerating Growth through Critical Technologies

Critical Technologies are fueling growth in Ontario

The Ontario government is investing nearly **\$107 million over the next three years** in new critical technology initiatives to support access to and the commercialization of these technologies.



Artificial Intelligence

is transforming all businesses and will contribute **USD \$15T+** to global economy by 2030.



Cybersecurity

underpins the digital economy and will contribute **USD \$1T+** to global economy by 2025.



5G Connectivity

is enabling 4th industrial revolution and will contribute **USD \$13T+** to global economy by 2035.



Quantum

technology promises new opportunities and will contribute **USD \$1T+** to global economy by 2035.



Robotics

are transforming manufacturing processes and will contribute **USD \$600B+** annually by 2028.



Blockchain

enables multiple groups to digitally share data securely with traceability and will contribute **\$3T+** by 2030.

Thank you!

Ministry of Economic Development, Job Creation and Trade



Anne Bermonte

Assistant Deputy Minister

Innovation, Scale-Up and Regional
Economic Development Division

OPPORTUNITIES FOR ONTARIO IN TECHNOLOGY

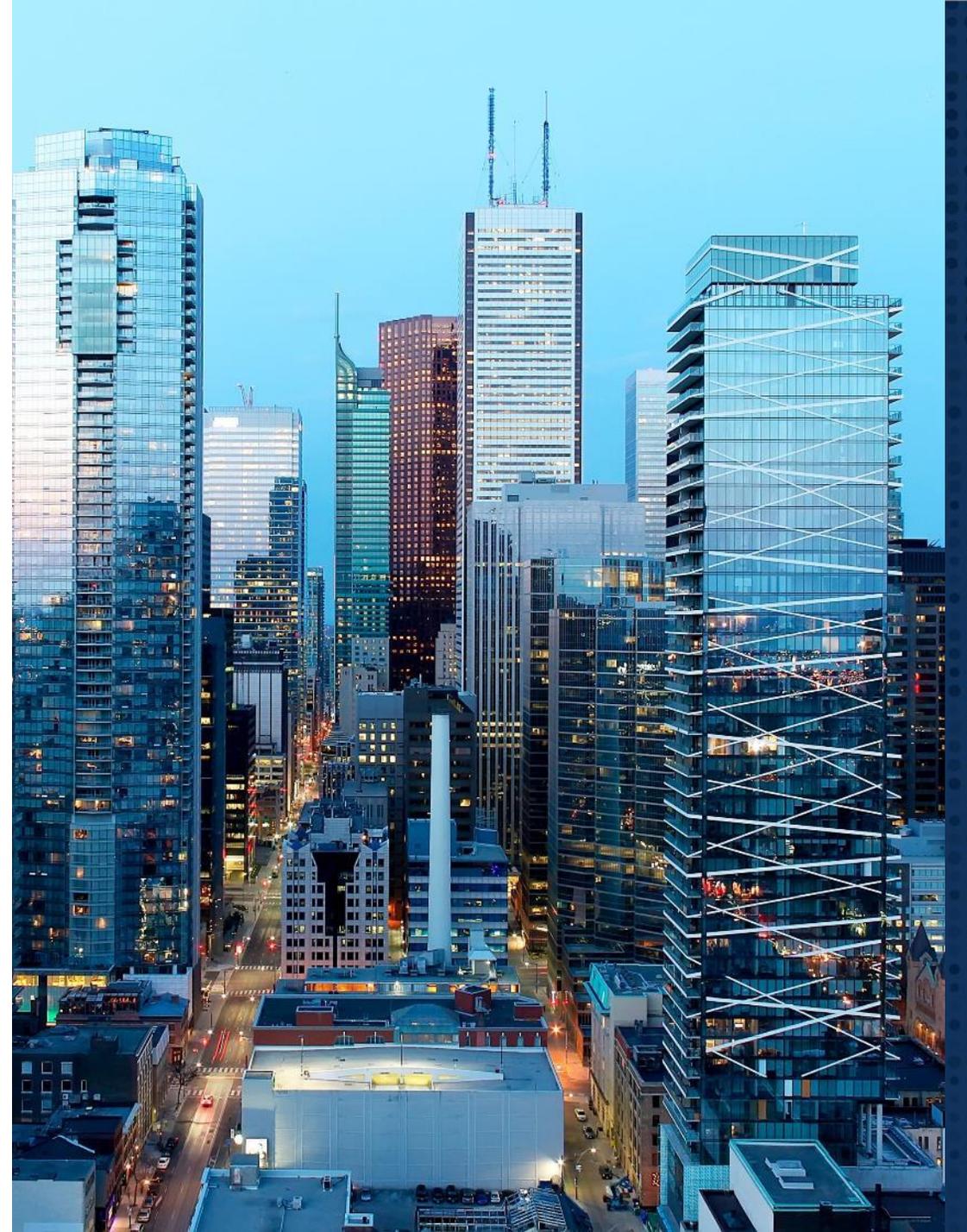
Trevor Dauphinee, CEO, Invest Ontario

WHO IS INVEST ONTARIO:

MANDATE

To position and promote Ontario as a key destination for investment domestic growth and job creation.

The agency is focused on improving domestic and foreign direct investment attraction to Ontario through a customer-centric, proactive lead generation approach.





**CASE FOR
CHANGE**

WE SPOKE WITH BUSINESS LEADERS AND HEARD:

Processes and time to approvals take too long.

Government departments are sometimes difficult to navigate.

Unstable funding and programming for business supports makes it hard to plan ahead.

Uncoordinated collaboration with federal and municipal attraction agencies creates more work for business.

INVEST ONTARIO'S OFFER

- To make **game-changing strategic investments**, including those that address value chain gaps that exist in the province;
- To provide a '**one window**' approach for potential investors looking to invest in Ontario;
- To ensure **regional inclusivity** through the development of a regional approach to investment opportunities.

ADVANCED
MANUFACTURING



TECHNOLOGY



LIFE SCIENCES



ORGANIZATIONAL PRIORITIES



Single point of
contact



Credible and
knowledgeable interface



Speed-of-business
operations



Competitive incentives
when appropriate

ONTARIO'S TECHNOLOGY ECOSYSTEM

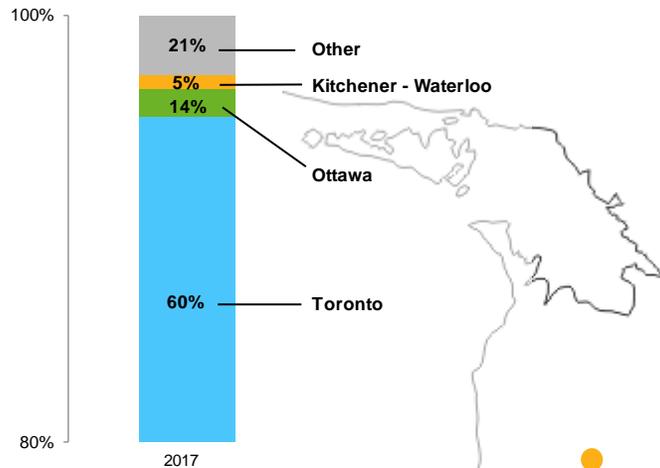
WHY ONTARIO
FOR INFORMATION TECHNOLOGY

**IT
GIANTS
LIVE
HERE**

- AMD
- APPLE
- BLACKBERRY
- CISCO
- ERICSSON
- FUJITSU
- GOOGLE
- IBM
- INTEL
- LG
- MICROSOFT
- NOKIA
- NVIDIA
- OPENTEXT
- ORACLE
- QUALCOMM
- SAMSUNG
- SAP
- SHOPIFY
- XEROX

ONTARIO'S INNOVATION CORRIDOR

Proportion of Total Ontario ICT Employment



OTTAWA

- ~3,040 ICT firms
- ~42,100 employees
- Strengths in digital media, wireless technology, telecommunications, photonics, optics, defense and security, data analytics and software development



TORONTO

- ~15,617 ICT firms
- ~177,500 employees
- Strengths in enterprise software development, robotics, telecommunications, technology manufacturing, mobile applications, digital media, social media, cloud computing and supercomputing



KITCHENER-WATERLOO

- ~613 ICT firms
- ~14,700 employees
- Strengths in software development, satellite technology, e-Learning, digital display, robotics, digital media and games, health informatics, imaging, cloud computing and mobile applications



NOKIA: CHOOSING ONTARIO AS THEIR CANADIAN HOME FOR R&D

OTTAWA, Ontario, October 17, 2022 – Nokia Canada selected Ottawa as home to their redevelopment project that will transform their Ottawa facility into a world-class telecommunications and technology hub, and further establish their global leadership in **5G, artificial intelligence and machine learning, and cybersecurity.**

Ontario is home to a wealth of world-renowned research institutes and top talent who work collaboratively with businesses to create game-changing solutions.

Nokia Canada plans to invest \$340+ million in labs and equipment, labour, and operating costs between 2023 and 2027 and will create up to 344 highly sought-after jobs including new research and development positions. .



Nokia's Ottawa-based R&D hub will generate net-new IP and bring innovative advanced telecommunications and cyber security technologies to market, helping us achieve our goal of improving people's lives in Ontario, in Canada, and across the world

JEFFREY MADDOX
PRESIDENT
NOKIA CANADA

SITE SELECTION

ONTARIO:

SITE SELECTION SERVICES

Ontario will partner with the client company throughout the site selection process - from site search to evaluation of sites to permits coordination, to ensure the most suitable site is found, and to support your pathway to operations in Ontario.

Confidential Site Search

Conduct province-wide site searches of available industrial properties based on location and project-specific site requirements. Working with a refined list of project specs, we will continue to search for suitable Ontario sites.

Site Evaluation

Evaluation of preferred site includes review of zoning, environmental constraints, and site due diligence to determine potential costs and development timelines in order to minimize unforeseen delays.

Site Tours Coordination

Coordination of site visits and introductions with municipal and regional partners that are tailored to maximize the investor's needs and limited time.

Coordination of Permits and Approvals

Dedicated provincial resources to identify and coordinate due diligence and development approval process to streamline major new facility construction projects, in partnership with other government ministries and the Municipality.

THANK YOU

Trevor Dauphinee - CEO

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