



Ontario Centres of
Excellence

Where Next Happens

ENCQOR PRESENTATION TO
CANADIAN PHOTONIC INDUSTRY CONSORTIUM,

January 2019

Centres d'excellence de l'Ontario est membre de





- Established by the Ontario government in 1987
- Created to bridge the gap and create partnerships between Ontario industry and college and university research departments and research hospitals
- OCE is a part of the Ontario Network of Entrepreneurs (ONE), a client-focused, province-wide innovation network
- Base funding from the provincial government (Ministry of Research, Innovation and Science)
- Agreements with other provincial ministries and federal government

OCE Accelerates Innovation

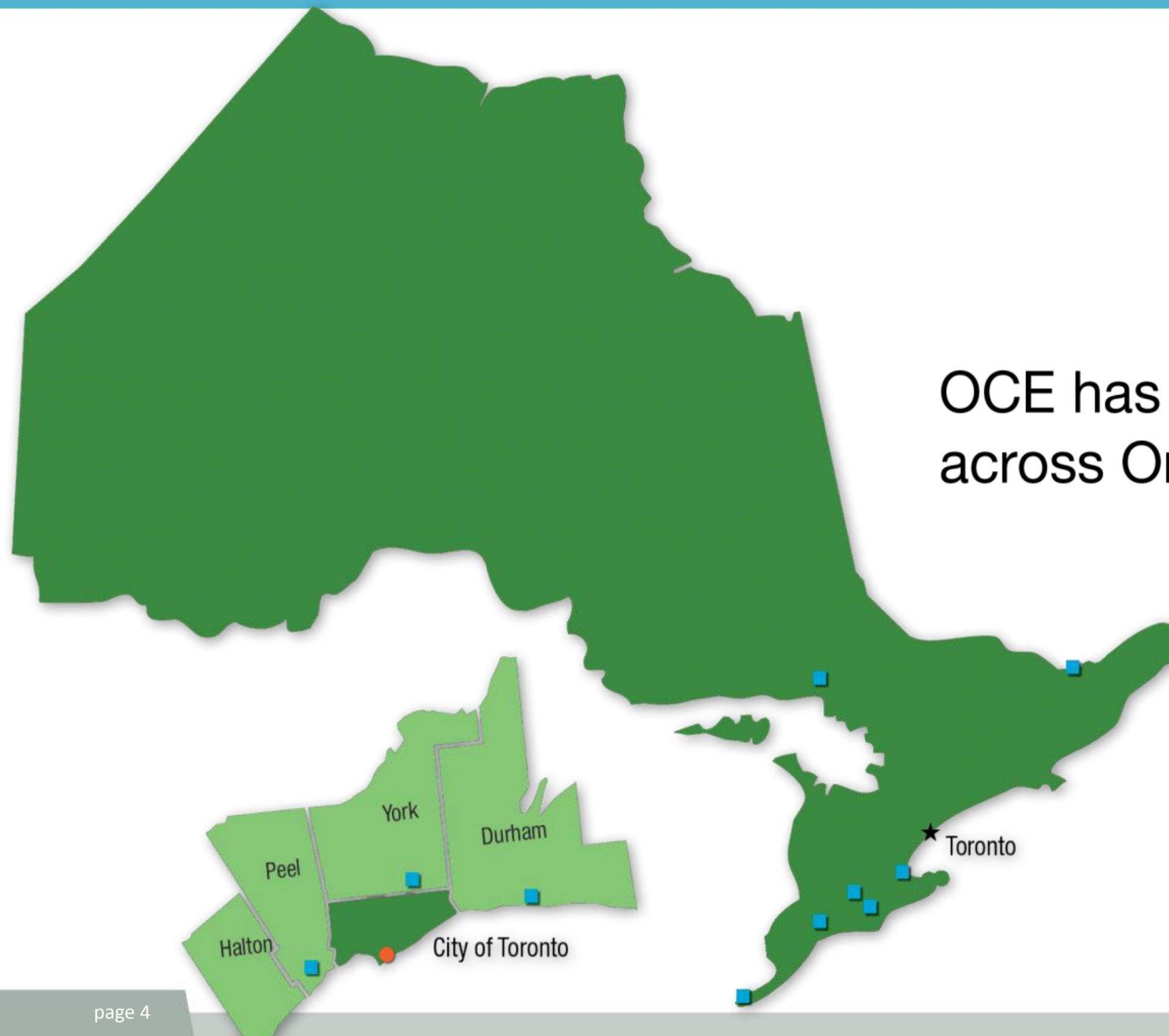
- Support collaborative R&D between industry and academia
- Invest in early-stage commercialization of emerging technologies
- Foster youth entrepreneurship
- Lead and develop networks around high-potential, business-led opportunities

LOCATIONS



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OCE has 11 offices
across Ontario

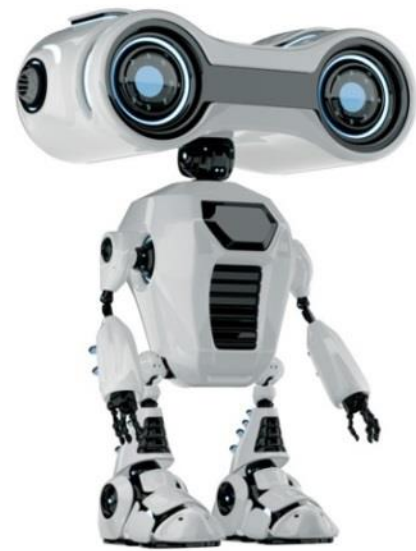
Over 40 BD staff co-located
province wide:

- **OCE Head Office**
Downtown Toronto
- **OCE Satellite Offices**
Mississauga, Ottawa, Kitchener,
Waterloo, Windsor, London,
Hamilton, Markham, Oshawa,
Sudbury

OUR FOCUS INDUSTRIES



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**Advanced
Manufacturing**



**Energy and
Environment**



**ICT and
Digital Media**



**Advanced
Health**

RECENT FOCUS: SCALE PROBLEM



52.8% technology (less than 1% telecom)

Top 5:

Amazon - \$818B market cap

Microsoft - \$806B

Google – \$766B

Apple - \$723B

Facebook \$428B



<4% technology (only ten tech firms if we ignore BCE, Telus, etc.)

Top 5:

Shopify - \$22B market cap

CGI - \$21B

Constellation Software – \$19B

Open Text - \$12B

Blackberry \$5B

ADVANCED TECHNOLOGY PLATFORMS



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Technology platforms to help SMEs scale

4 Platforms

Fifth Generation Technology (5G) – ENCQOR

advance the development and commercialisation of 5G technology.

Next Generation Networks (NGN) – CENGN

advance the development and commercialisation of Next Generation Networks.

Autonomous Vehicle Innovation Network (AVIN)

connected / autonomous vehicle innovation network and build the cars of the future

Innovation Incubator Initiative (IBM-I3) – IBM Canada

Advance the creation of artificial intelligence and cognitive computing

Accelerating SMEs time-to-market by demonstrating commercialization capability through access to a pre-commercial 5G wireless platform

- A \$400M initiative with \$67M Ontario, \$67M Quebec, \$67M federal, and \$200M industry
- The only pre-commercial 5G wireless testbed of its kind anywhere
- Anchor Partners: Ericsson, Ciena, Thales, CGI, IBM
- Program delivery partners:
 - > OCE (Ontario)
 - > CEFRIO & PROMPT (Quebec)

EVOLUTION OF WIRELESS



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1G - 1980s – Analog voice

2G – 1990s – Digital voice

3G – 2000s – Mobile broadband (now we could text!)

4G LTE – 2010s – Video/social media

5G – 2020s – everything connected



Performance vs. 4G

- Data rates 10x to 100x
- Data Volume 1000x
- Energy consumption 10x less
- Low latency 10x lower
- 1-10Gbps download speed

Disruptive capabilities for

- Internet of Things / M2M
- Mission Critical Services
- Enhanced Mobile User Experience

VERTICALS FOR 5G



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- Autonomous vehicles
- Energy and utilities
- Manufacturing
- Sensors
- Healthcare
- Public transport
- Media and entertainment



Open 5G Platform Access (iPaas)

Ericsson, Ciena and Thales provide SMEs with access to a pre-commercial 5G wireless platform to support the development of new products and services including:

- > Developer toolkits and open APIs
 - > Cloud services
 - > 5G handsets
 - > Engineering supports services
-
- Installed at 3 Hubs in Ontario (Invest Ottawa, MaRs, Communitech) and in Quebec (Montreal and Quebec City)

SME Demonstration Projects:

- Supports SMEs to test and validation activities using the iPaaS testbed to accelerate the adoption of 5G technologies and development of new product and services.
 - > 3 -12 month projects (TRL 1-7)
 - > \$50K maximum funding (reimbursement funding model)
- 200 funded projects to be delivered for program over three years
- SMEs can also access and utilize the testbed through a non-funded project (72 projects)



Talent Edge Internships:

- offers SMEs an opportunity to hire a post-secondary or post-graduate researcher
- Available only to SMEs using the 5G iPaaS testbed
- 4, 8, or 12 months in duration
- Intern receives minimum of \$15k cash for each four month period (OCE: \$10k/ SME: \$5k)
- Students: undergrads in their final year of study, Masters, and PhD students.
- Recent graduates: Undergraduate or Masters program (within three years of graduation)



Technology Development Projects

- Address Anchor Firm Challenges
- Support collaborative technology development projects (TRL 1-7) to develop, integrate, test or validate pre-commercial technologies for the iPaaS testbed
- Approximately 70 challenge statements to be issued over next two years (academic and SME stream)
- Funding ranges from \$50k - \$500k

Business Advisory Services

- Available at the the Innovation Hubs for SMEs using the iPaaS testbed
- Customized business advisory services
 - > Marketing
 - > Sales
 - > Product development
 - > HR
 - > Finances
 - > Growth coaches

HOW TO APPLY/ FIND MORE INFORMATION?



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www.oce-ontario.org

<https://www.encqor.ca/>

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