



Cementing Ontario's Leadership in the Automotive and Mobility Sector

May 2022



100m

86
km/h



About Ontario Centre of Innovation

- ❖ In 2003, 7 sector-focused Centres merged to achieve greater program efficiency and outcomes, OCE Inc. (now OCI)
- ❖ Funded primarily by the Ministry of Economic Development, Job Creation, and Trade (MEDJCT), with program funding matched by industry.
- ❖ Governed by an independent volunteer Board of Directors and observers from MEDJCT.
- ❖ OCI partners with Regional Innovation Centres (RICs), universities, colleges and research hospitals, industry, across Ontario.

OCI's ROI metrics – FY2021

OUTCOMES ACHIEVED FY2020-2021

As at March 30, 2021

\$233.9M

Total Program Investment
into Collaborative R&D and
Commercialization Projects

\$164.9M

Total Co-investment
from Industry (and other)
Partners

2.4x Leverage

898

Ontario Companies
Supported

5,644

Jobs
New & Retained

\$265.2M

Incremental Sales
Revenues
by OCI-supported
Companies

\$503.3M

Private Sector
Follow-on
Investment

The Ontario Advantage

100+

Years as a leading automotive manufacturing and supply jurisdiction

2nd

largest vehicle assembler in North America (1.9M vehicles in 2019)

5

OEMs including FCA, Ford, GM, Honda and Toyota

700+

supplier companies and more than 500 tool, die and mold makers

2nd

largest information and communication technology (ICT) cluster in North America, with more than 20,000 ICT firms



Extensive network of post-secondary institutions, world class talent, R&D centres, innovation hubs and testing facilities

The Right Ingredients



Automotive Minerals Cluster

- 18 Critical Minerals Significant Project and Operating Mines
- 28 Advanced Mineral Projects in Northern Ontario

IT and Technology Cluster

- 2nd largest tech cluster in North America with
 - 20,000 ICT firms
 - 5,000+ start-ups
 - 400,000 tech workers

Automotive Manufacturing Cluster

- #2 North American assembly
- Only sub-national jurisdiction globally with 5 OEMs
- 700+ supplier companies (including Magna, Linamar, Martinrea, Woodbridge and more)

Financial Services Cluster

- Toronto is the 2nd largest Financial Services hub in North America

Ontario Vehicle Innovation Network (OVIN)

- ❖ OVIN captures the economic potential of automotive and mobility technology to shape the future of Ontario's sector
- ❖ OVIN helps enable Ontario's transportation and infrastructure networks to plan for and adapt to this transformation
- ❖ OVIN includes support for SMEs to :
 - ❖ develop, test and commercialize new automotive and mobility technology
 - ❖ hire new talent
 - ❖ gain access to test and demonstration sites

\$112
million

in co-investment secured

1,880
Jobs

created and/or retained

473
R&D job
placements

facilitated through internships
and fellowships

68
Commercialization
partnerships

supported

372
SMEs

supported

\$108
million

in follow-on investment
generated

\$38
million

in Ontario SME revenue
growth catalyzed

*As of March 30, 2021

OVIN's Objectives



- **Bridge** Ontario's automotive, technology and manufacturing clusters to **support the growth** of Ontario's ecosystem
- **Advance** the growth of **regional clusters and world-class testing** locations to drive the deployment, adoption, and piloting of smart mobility technologies across the province, **including electric vehicle and power train technologies**
- Ongoing **support for SMEs** in commercializing technologies, scaling-up, attracting investment, and accessing global markets
- Execute on opportunities and tactics to **strengthen** Ontario's automotive and mobility **workforce and talent pipeline**
- Drive public education, research, analysis, thought leadership activities, and **raise awareness** around the **potential and the opportunities** for Ontario
- Convene stakeholder groups, acts as a bridge for **collaborative partnerships**, and serve as a concierge for new entrants into Ontario's thriving ecosystem
- Ensure that Ontario remains a **global leader** in the automotive and mobility sector

OVIN SCOPE

“Public and Private transportation of people and goods on public roadways and railways ...
safer, cleaner, and more efficient”

a.k.a. “mobility”

MOBILITY'S FOUR TRENDS: "CASE"

Connected Vehicles



- V2V and V2X communications
- Navigation Systems
- Infotainment Systems
- Telematics
- Cloud computing and data analytics
- Cybersecurity

Autonomous Vehicles



- Perception (Sensor data fusion)
- Localization
- Driver assistance systems
- Human-Machine Interface
- Safety
- AI-powered Operating System

Shared : Multimodal and Integrated Mobility



- Ride sharing and car sharing
- Parking and mobility optimization solutions
- First and last mile solutions
- Fleet management

New theme for OVIN



Electrified : Zero-Emission Vehicles

- Plug-in hybrid and battery EVs
- Hydrogen fuel cell EVs
- Electric powertrain
- Critical minerals
- BEV supply chain

OVIN Funding Programs ... at a glance

Electric Vehicle (EV)

ON SMEs + Partner with market pull
Integration and demonstration
Max **\$1,000,000** = 1/3 of budget
Up to 24 months



C/AV & Smart Mobility

ON SMEs + Partner with market pull
Integration and demonstration
Max **\$1,000,000** = 1/3 of budget
Up to 24 months

WinterTech Development

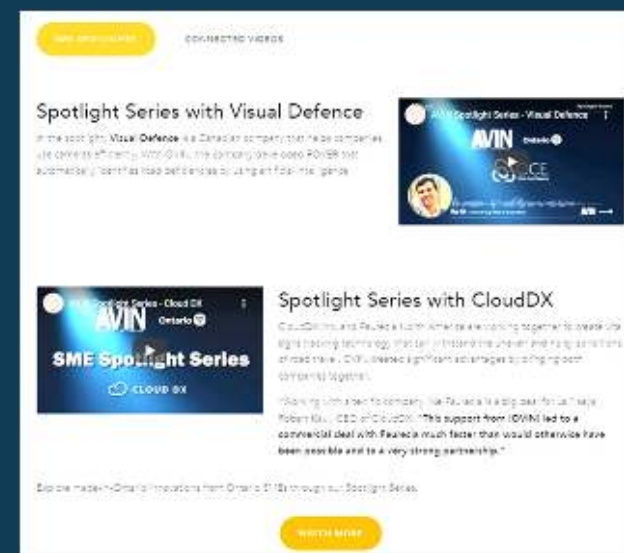
ON SMEs + Partner with market pull
Integration and demonstration
Severe winter conditions
Max **\$500,000** = 1/3 of budget
Up to 24 months

Talent Development

SMEs & MNEs doing internal R&D in ON
Students and recent graduates,
college to Post-Doc Fellows
\$30,000 & \$35,000
12 months & 24 months

Some Program stats ...

- In operation since November 2017
- 70+ CAV & WD projects; 8 EV projects
- 170+ Talent Development projects



Ecosystem map

Innovation:
Ontario's Unique
Autonomous and
Mobility Cluster
connected,
autonomous,
electric

Automotive and Mobility Cluster

- 300+ firms active in C/AV with major investments in Ontario
- Over \$1B of investment in automotive technology and smart mobility solutions since 2016
- Seven regional sites across the province that leverage regional assets and engage local industry

The screenshot shows the OVIN Ecosystem Map interface. At the top, there are navigation links for ABOUT, PROGRAMS, ECOSYSTEM, INSIGHTS, SMART MOBILITY READINESS FORUM, and a CONNECT button. Below the navigation, there are filters for 'Enter Category', 'Select City', and 'Select Firm'. The main content area is split into a list of regional sites on the left and a map of Ontario on the right. The map displays numerous colored pins (orange, blue, teal) representing different firms or sites across the province. The list on the left includes:

- ABC Technologies**: 2 Norelco Dr, North York, ON M9C 2X6. Website.
- ACCEL**: Progress Campus, CCSN, Student Centre Room 4A/B, 941 Progress Ave, Toronto, ON M1G 3T8. Website.
- Accelerator Centre**: 285 Hagley Blvd, 1st Floor, West Entrance, Waterloo, ON N2L 6R5. Website.
- Aisin Canada Inc.**: 180 Wright Blvd, Stratford, ON N4Z 1H3. Website.
- Algonquin College of Applied Arts and Technology**: 1385 Woodville Ave, Nepean, ON K2G 1W8. **RELEVANT DEPARTMENTS/RESEARCH CENTRES**: The Algonquin Data Analytics Centre (DAC).



Canada's 1st Zero-Emission EV Concept: Project Arrow



Connected & Autonomous & Cybersecurity

- SAE Level 3+ autonomous technology
 - LiDAR, RADAR, Optical sensors
 - AI/ML software intelligence
- COMPLETE cybersecurity protection – software/hardware on-vehicle, around vehicle, V2X ecosystem
- CyberBio patented technology



Vehicle-as-a-Caregiver VaaC



Vital Monitoring

Speech Analytics



Biometric Sensors



Facial Recognition



REGIONAL TECHNOLOGY DEVELOPMENT SITES

- ❖ A network of support and expertise for **start-ups and SMEs** to develop, test, prototype, and validate new technologies
- ❖ Physical sites in regional innovation incubators, accelerators, post-secondary institutions, economic development offices
- ❖ Access to specialized equipment and tools
- ❖ Business and technical advisory services
- ❖ Seven Sites with twelve nodes across Ontario





New: Northern Regional Technology Development Site

Focus Area:

- ❖ The Northern RTDS (NRTDS) will support SMEs to develop BEV and EV technologies across the value chain, from critical minerals extraction to EV technology manufacturing.

Scope:

- ❖ The Northern RTDS will serve as a location to test and validate technologies, support prototyping, and provide access to equipment and services to support the development and commercialization of technologies. Typical project activities include technology development, product/service validation, testing, proof of concept, demonstration. Projects can also include advisory, networking, education, and financing activities.

Process Timeline:

- Call for applications on December 2nd, 2021.
- Two proposals received.
- New site announced on April 22nd, 2022.
- Over to Don!



Thank you!



Questions?

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Learn more and connect with us at **ovinhub.ca**

