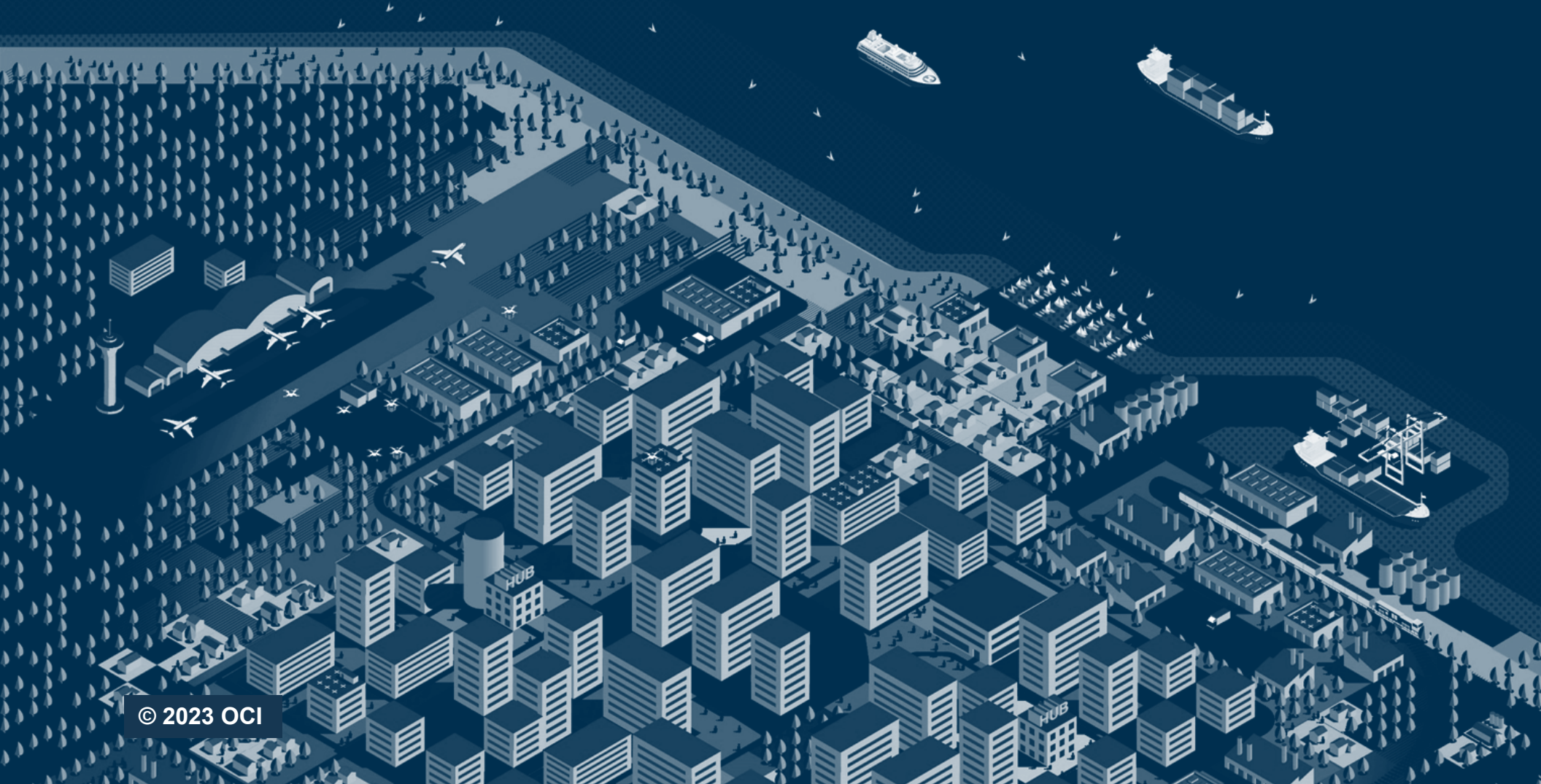


Quarterly Specialized Report

Executive Summary

Goods Movement in Ontario: Now and in the Future

2022 -2023





“Our government is building roads, highways and transit to connect communities, fight gridlock and keep goods and people moving across the province...”

—The Honourable Caroline Mulroney, Ontario Minister of Transportation

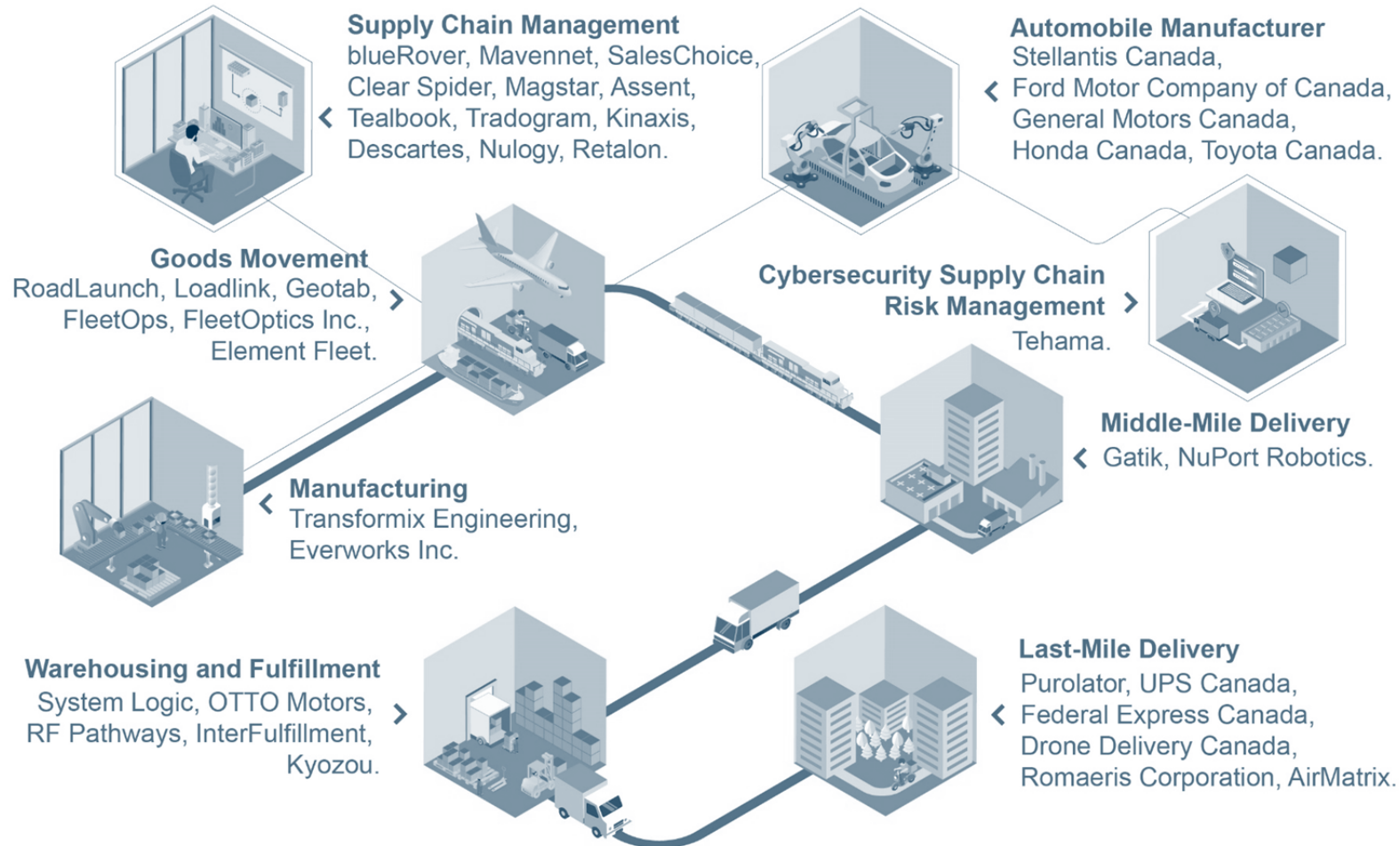
Executive Summary

Goods movement is an essential part of life in the 21st century. Nearly every product we own or use is transported—often several times—as it moves throughout the supply chain. From the sourcing of raw materials to the delivery of final products, goods movement plays an essential role in getting products to end consumers.

This report presents an overview of Ontario's goods movement industry with a focus on road transportation. It examines the current state of some of the key elements of the goods movement sector, including policies, infrastructure investments, and pilot programs. The report concludes by identifying some opportunities to build upon Ontario's successes in road transportation.

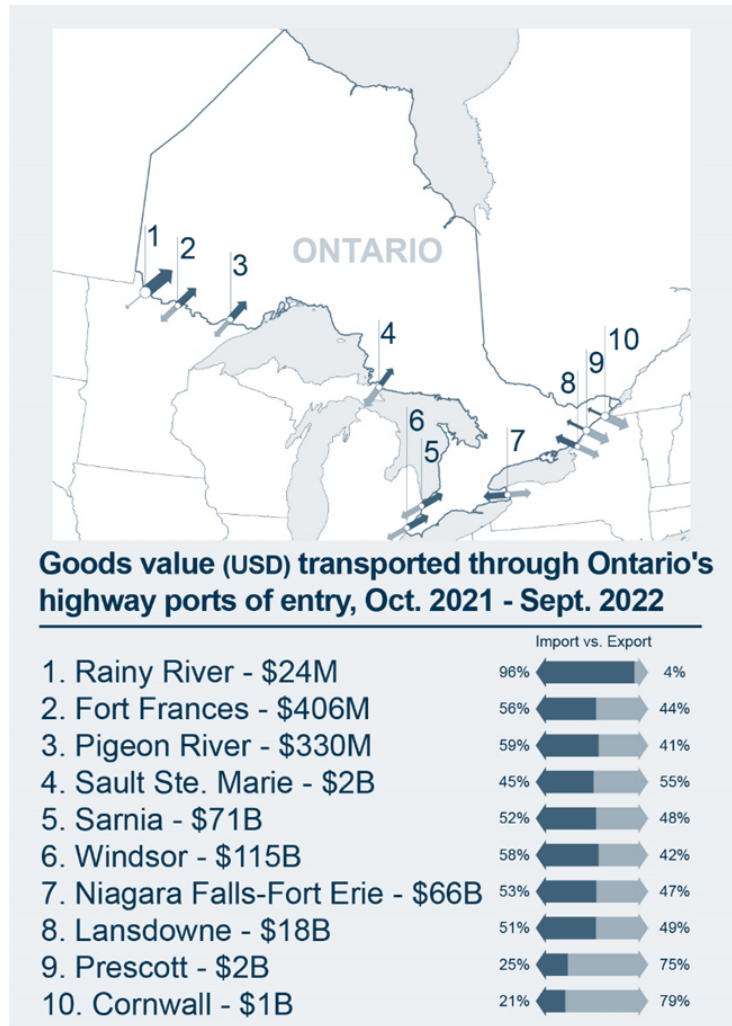
Key players in Ontario

A broad range of actors and players are required to ensure that the goods movement ecosystem functions cohesively. A selection of ecosystem players in Ontario are highlighted below.

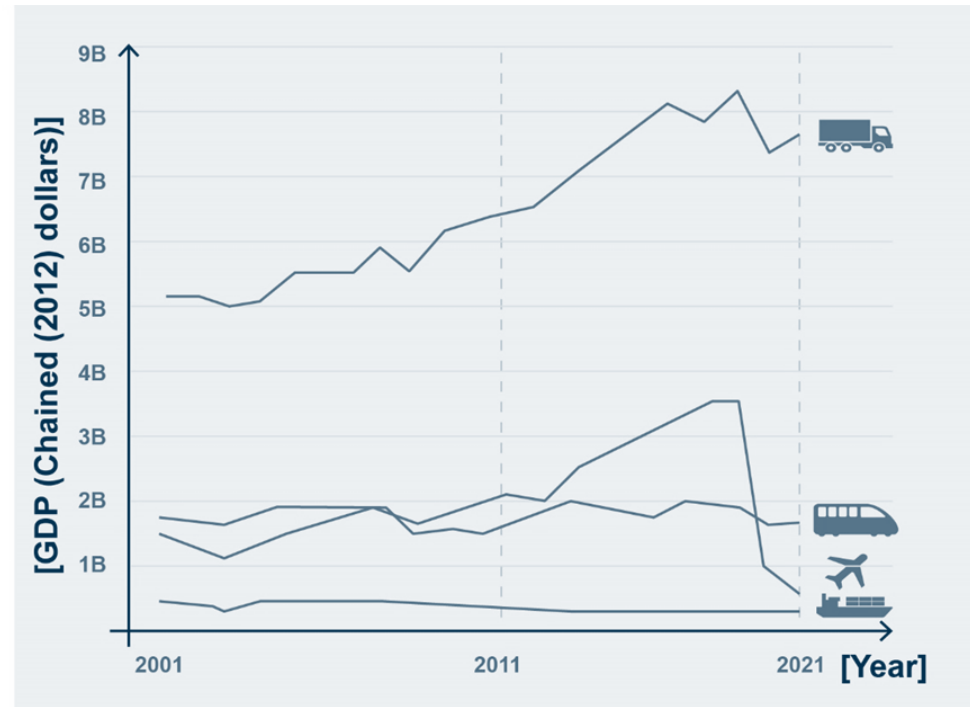


© 2023 OCI

Overview of Ontario's goods movement



Source: Bureau of Transportation Statistics, 2022



\$7.7B

Ontario's GDP
from truck
transportation in
2021

51%

increase in Ontario's
GDP from truck
transportation between
2001 and 2021

Source: Statistics Canada, 2022

© 2023 OCI

Goods Movement in Ontario: Now and in the Future

Ontario's freeways and expressways

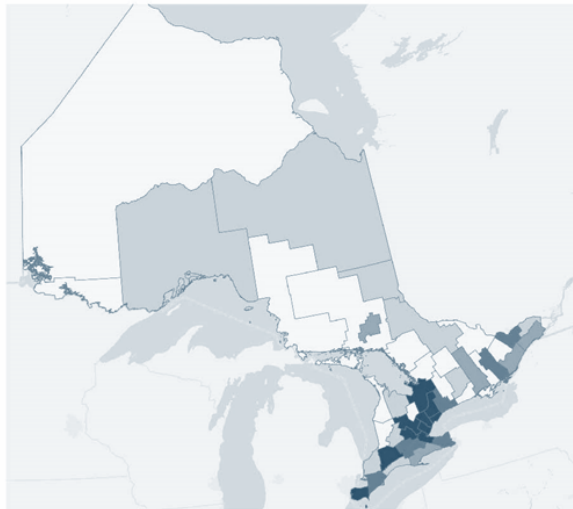


Legend

- Freeways and expressways
- Water bodies

Source of road network map:
Ontario Road Network, 2019

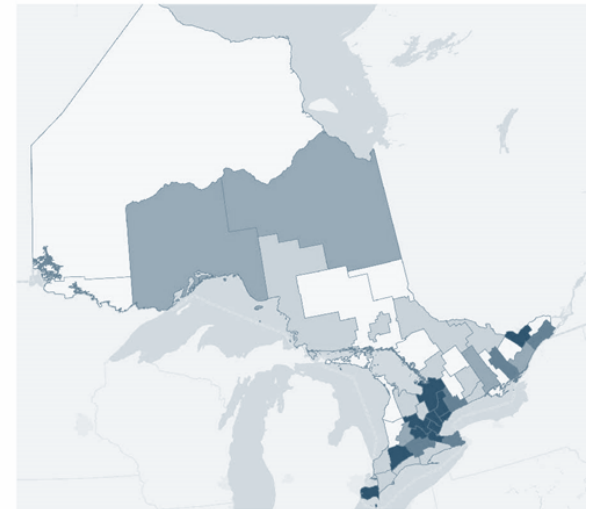
Annual commodity value by commercial vehicle trip origins



Legend

- \$0B - \$2.5B
- \$2.5B - \$5B
- \$5B - \$10B
- \$10B - \$20B
- \$20B - \$205B

Annual commodity value by commercial vehicle trip destinations



Legend

- \$0B - \$2.5B
- \$2.5B - \$5B
- \$5B - \$10B
- \$10B - \$20B
- \$20B - \$205B

Source of commodity value maps: Commercial Vehicle Survey, 2019

Base map source: Province of Ontario, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NRCan, Parks Canada

Transportation plans, policies, and regulations

The success of local, national, and international economies is largely dependent on goods movement. As such, the industry is the focus of many plans, policies, and regulations seeking to improve its efficiency while mitigating adverse impacts.

4

regional transportation plans with implications for logistics in Ontario

16

National Safety Codes developed to ensure road safety and facilitate the safe and efficient movement of people and goods across Canada

Skills, talent & workforce development

Changes to labour force dynamics in Ontario's logistics sector require action. By addressing an ongoing driver shortage—in part by increasing the sector's inclusivity—Ontario is actively working to expand its logistics capacity.

381,300

jobs in Ontario's transportation and warehousing sector as of October 2022

28,000+

vacant Transport Truck Driver jobs in Canada in the second quarter of 2022

Supportive infrastructure

Ontario's investments in transportation infrastructure are helping facilitate goods movement throughout the province.

\$3B

committed to improving Ontario's highways between April 2022 and March 2023.

15,300

direct and indirect jobs created or sustained by Ontario's 2022 – 2023 Highway Program

Manufacturing

The manufacturing of vehicles and other delivery-related products and services is set to become a key part of Ontario's complete logistics offering.

\$1B

invested by General Motors to retrofit its CAMI assembly plant in Ingersoll, Ontario to produce electric delivery vehicles.

Research & development

A suite of new research in Ontario is focused on relieving the mounting supply chain pressure introduced by the ever-increasing demand on the e-commerce industry.

2

mini delivery hubs deployed in Toronto as part of a last-mile delivery research program between the University of Toronto, Purolator, and the City of Toronto

Piloting, testing, and adoption

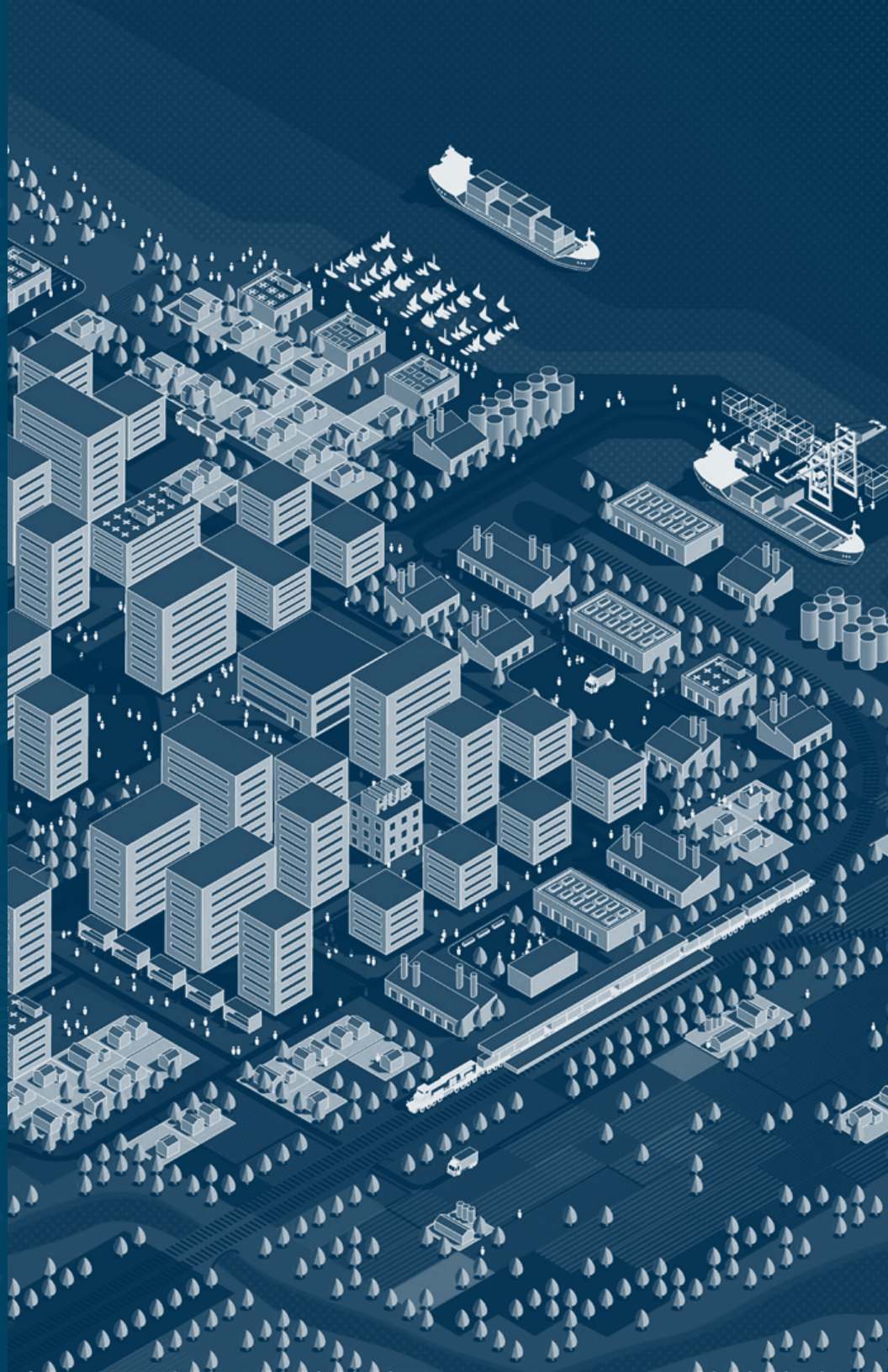
Ontario's supportive piloting and testing legislation is facilitating the commercialization and adoption of new goods movement technologies.

\$3M

joint investment by OVIN, NuPort Robotics Inc., and Canadian Tire to develop automated technology for heavy-duty trucks

Future opportunities for Ontario's goods movement sector

© 2023 OCI



Modernize infrastructure

Ontario stands ready to build off past investments in infrastructure upgrades to facilitate fleet modernization and freight-supportive communities.

Promote supportive policies

Ontario can usher in a cleaner, more sustainable and more efficient future in logistics and delivery by instituting the policies necessary to incentivize zero-emission deliveries, manage limited resources such as curbside space, and encourage collaboration across the industry.

Foster technology innovation

Ontario's centres of innovation can lead the technology development needed to usher in the goods movement sector of the future. New developments will only accelerate as the momentum behind goods movement alternatives grows.

Enhance labour development initiatives

The development of policy and technology in Ontario presents an opportunity to address one of the most substantial challenges the logistics industry currently faces: its labour shortage.

Respond to consumer demands

The increasingly prevalent culture of conscious consumption is poised to play a greater role in dictating consumer choices—and corporate responses—in the realm of goods delivery, especially as the number of retailers offering emission-free delivery increases.

About OVIN

The **Ontario Vehicle Innovation Network (OVIN)** is a key component of Driving Prosperity, the Government of Ontario's initiative to ensure that the automotive sector remains competitive and continues to thrive. The Government of Ontario has committed \$56.4M for OVIN over four years to support research and development (R&D) funding, talent development, technology acceleration, business and technical support, and testing and demonstration sites. OVIN programs support small- and medium-sized enterprises (SMEs) to develop, test, and commercialize new automotive and mobility products and technologies, and cultivate the capacity of a province-wide network to drive future and green mobility solutions, reinforcing Ontario's position as a global leader.

OVIN, led by Ontario Centre of Innovation (OCI), is supported by the Government of Ontario's Ministry of Economic Development, Job Creation and Trade (MEDJCT) and Ministry of Transportation (MTO).

The initiative comprises five distinct programs and a central hub.

The OVIN programs are:

- Research and Development Partnership Fund
- Talent Development
- Regional Technology Development Sites
- Demonstration Zone
- Project Arrow

The OVIN Central Hub is the driving force behind the programming, province-wide coordination of activities and resources, and Ontario's push to lead in the future of the automotive and mobility sector globally. Led by a dedicated team, the Central Hub provides the following key functions:

- A focal point for all stakeholders across the province;
- A bridge for collaborative partnerships between industry, post-secondary institutions, broader public sector agencies, municipalities, and the government;
- A concierge for new entrants into Ontario's thriving ecosystem; and
- A hub that drives public education and thought leadership activities and raises awareness around the potential of automotive and mobility technologies and the opportunities for Ontario and for its partners.

To find out the latest news, visit www.ovinhub.ca or follow OVIN on social media @OVINhub

Meet the OVIN Team



Raed Kadri
Head of OVIN.

rkadri@oc-innovation.ca



Kathryn Tyrell
Manager. Automotive and Mobility Strategy.

ktyrell@oc-innovation.ca



Natalia Lobo
Project Manager

nlobo@oc-innovation.ca



Mona Eghanian
Director. Strategy and Programs & Automotive and Mobility.

meghanian@oc-innovation.ca



John George
Sector Manager. Electric Vehicles

jgeorge@oc-innovation.ca



Natalia Rogacki
Portfolio Manager. Automotive and Mobility

nrogacki@oc-innovation.ca



Amanda Sayers
Director. Skills, Talent, and Workforce Development.

asayers@oc-innovation.ca



Asad Farooq
Manager. Strategic Initiatives.

afarooq@oc-innovation.ca



Ghazal Momen
Outreach & Engagement Specialist, Automotive

gmomen@oc-innovation.ca



Shane Daly
Portfolio Manager. Automotive and Mobility.

sdaly@oc-innovation.ca



Maruk Ahmed
Innovation Strategy Specialist.

mahmed@oc-innovation.ca



Alèque Juneau
Project Lead. Workforce Development.

ajuneau@oc-innovation.ca



Christine Stenton
Project Lead. Talent Initiatives

cstenton@oc-innovation.ca



Shannon M. Miller
Project Lead. Strategic Partnerships

smiller@oc-innovation.ca

Disclaimers

This report was commissioned by the Ontario Centre of Innovation (OCI) through a Request for Proposals titled “Ontario Vehicle Innovation Network (OVIN) – Annual Comprehensive Sector Report & Quarterly Specialized Reports,” dated April 26, 2022, and has been prepared by Arup Canada Inc. It is the second of five reports covering an analysis of Ontario’s automotive technology, electric vehicle and smart mobility landscape while incorporating implications for the sector’s skills and talent landscape.

This report contains general information only, and by means of this communication, OCI is not rendering professional advice or services. Accordingly, readers are cautioned not to place undue reliance on this report and to perform their due diligence, investigations, and analysis before making any decision, relying on the report, or taking any action that may affect readers’ finances or business.

No representations, warranties, or undertakings (express or implied) are given as to the accuracy or completeness of the information in this report. OCI shall not be liable or responsible for any loss or damage arising directly or indirectly in connection with any person relying on this report.

Copyright images cannot be used without explicit written consent and must be treated as general illustrations only and not relied upon to accurately describe the scheme.

© 2023 OCI. All rights reserved.