

# THE STATE OF ELECTRIC AND SMART TRANSPORTATION IN QUÉBEC

Understanding the province's unique role  
in the global EST revolution

March 2023



## THANKS TO OUR PARTNERS

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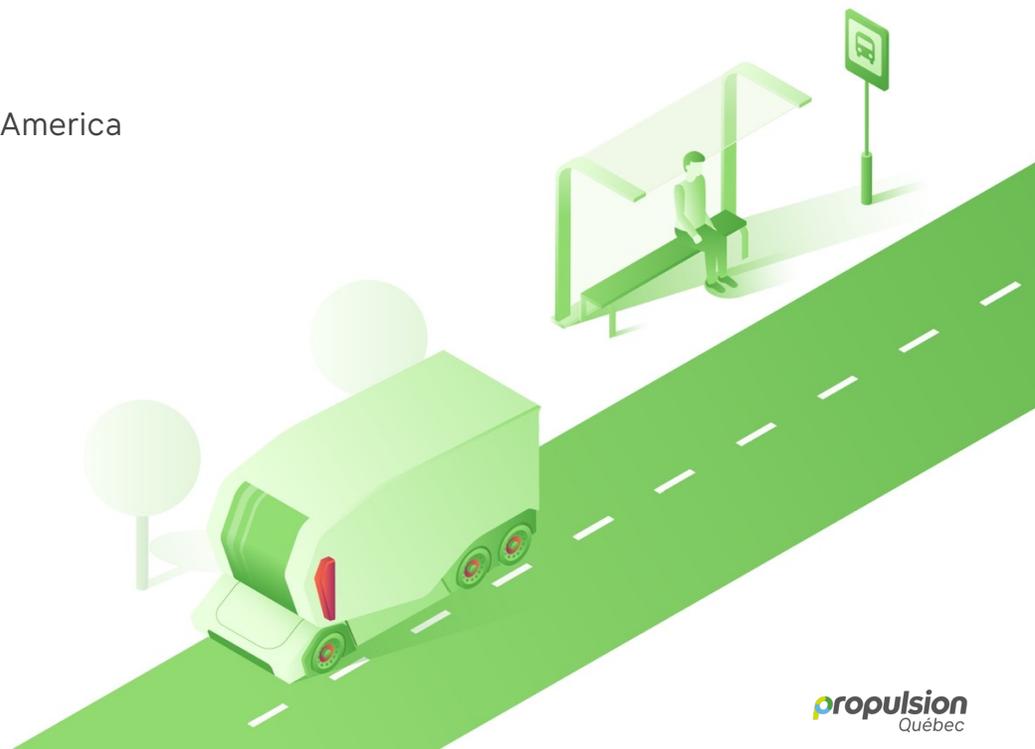
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## CONTEXT

Québec is in an excellent position to aspire to occupy a place of choice in the leading edge of the electric and smart transportation (EST) industry. Propulsion Québec, which has over 275 members, supports the growth of the sector through various structuring projects. This report, intended for companies, investors and institutions from here and elsewhere, seeks to showcase the opportunity that this emerging sector represents in Québec.

## OBJECTIVES OF THE REPORT

- Present the anticipated evolution of the EST sector, its strengths and Québec's positioning;
- Highlight five promising niches in the EST sector in Québec;
- Present the vision and various structuring elements of the ecosystem's roadmap to make Québec a leader by 2030;
- Promote emerging technologies, business and value-added models, and markets of interest in the EST sector.

## CONTENT OF THE REPORT

**This part of the report presents only the executive summary. The full report can be consulted on demand.**

# EXECUTIVE SUMMARY



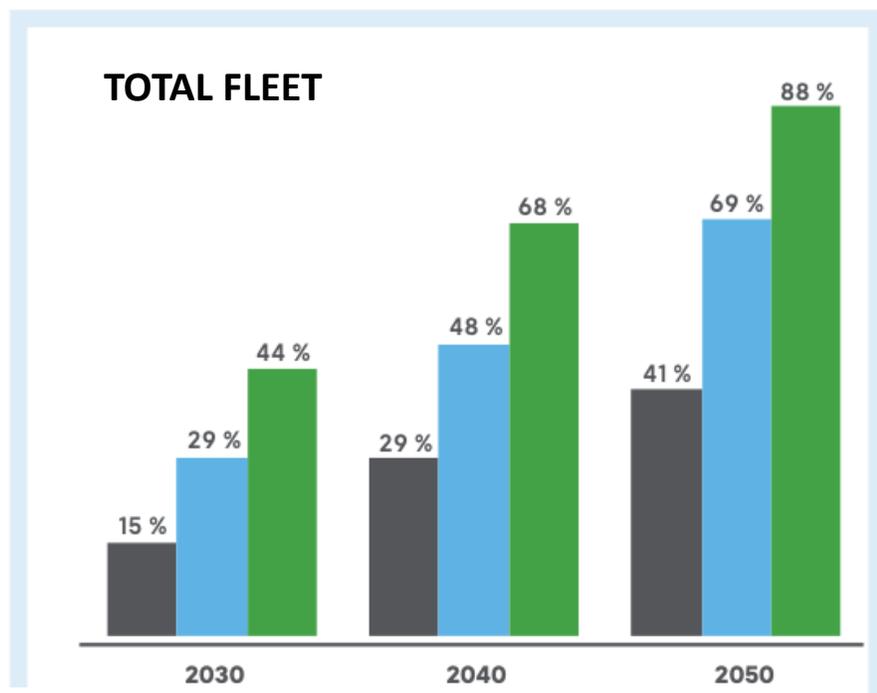
EXECUTIVE SUMMARY

# The Need for Sustainable Mobility is Reshaping our Vehicle Fleet

**BY 2050, NEARLY 70% OF THE NORTH AMERICAN FLEET WILL BE ELECTRIC AND SMART**

Trends in urbanization, climate change, and digitization are driving adoption of electric and smart vehicles.

**Electric and Smart Vehicle Share of Total Fleet**



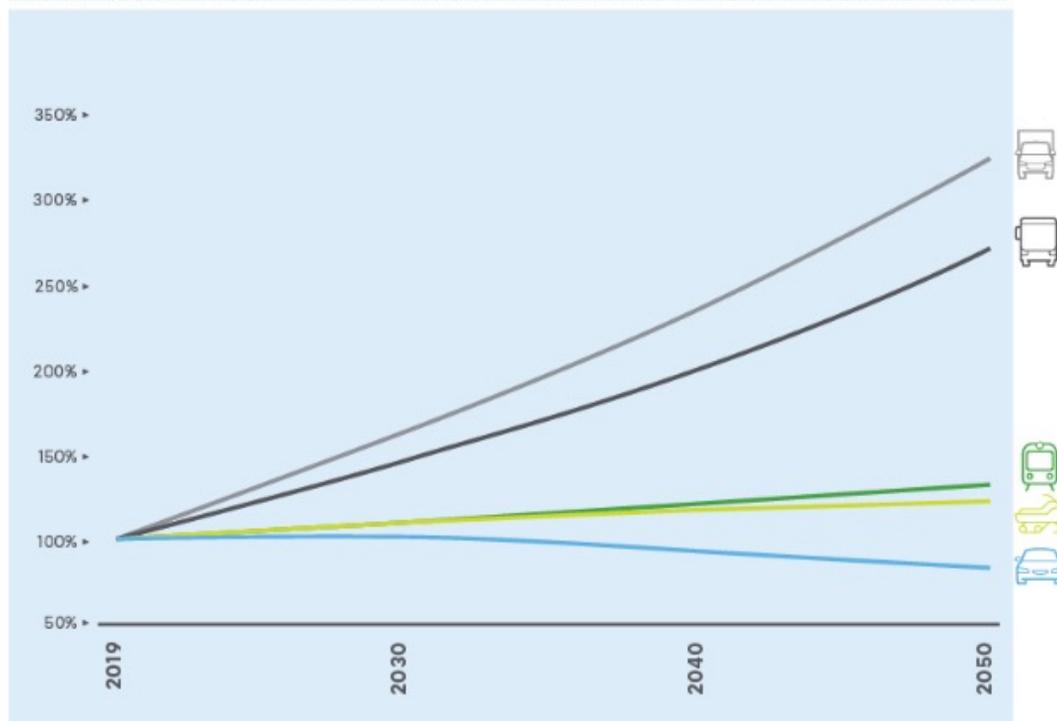
Legend:

- Pessimistic scenario
- Realistic scenario
- Optimistic scenario

**THE SHARE OF MEDIUM AND HEAVY-DUTY VEHICLES WILL INCREASE**

By 2050, we also expect these trends to result in a marked decrease in light vehicles and a major increase in the number of medium and heavy-duty vehicles.

**Variations in different vehicle categories in North America out to 2050 (%)**



- Light-duty vehicles
- Medium-duty vehicles
- Heavy-duty vehicles
- Other vehicles
- Rail

EXECUTIVE SUMMARY

# Québec is Home to World-Class Organizations Across the Main Subsectors of EST

COMPANIES

177

REVENUE

3.3B

JOBS

9.3K

## BATTERIES

## EVs

## CHARGING INFRA

## CAVS

## FLEET MANAGEMENT

This data has been taken from a study that was realized in 2021. It includes manufacturing and non-manufacturing companies.

EXECUTIVE SUMMARY

# Québec's Expertise is the Result of a Unique Mix of Capabilities and Resources

## OUR EST ECOSYSTEM BENEFITS FROM...

- A rich history in electrification and clean energy
- World class competencies in optics and artificial intelligence
- A strong presence of other supporting industries (aerospace, software, AI etc.)
- A vast network of research and development institutions
- A large pool of yearly STEM graduates
- Access to robust public financing programs
- Favorable public policies to stimulate EV adoption

## EXECUTIVE SUMMARY

# Looking Ahead, Focus Should be Placed on Specific Subsectors of EST Based on Québec's Strengths and Capabilities

## ELECTRIFICATION

### BATTERIES

With its access to raw materials, clean hydroelectric energy, and proximity to both Ontario and the US., Québec has the potential to make the greenest batteries in the world.

### EV'S

Québec must solidify its position as a North American leader in the production of electric busses, trucks, and other specialized vehicles.

### CHARGING INFRASTRUCTURE

As a first-mover in the production of charging infrastructure, Québec is well-equipped to take a leading role in the development of Canada's public charging network.

## SMART TRANSPORTATION

### CONNECTED AND AUTONOMOUS VEHICLES

Québec's AI, software and optics-photonics expertise will thrive as demand for connected and autonomous vehicles continues to grow.

### FLEET MANAGEMENT

Both private and public organizations will rely on Québec's expertise in fleet management to decarbonize and optimize their fleets.

EXECUTIVE SUMMARY

# To Further Québec's Global Presence in the Sector, Propulsion Québec is Implementing its Ambition EST 2030 Roadmap

- 

**1**

**Develop a world-class talent pool**
- 

**2**

**Stimulate the development of innovations with strong commercial potential**
- 

**3**

**Lead the EV transition effort in North America**
- 

**4**

**Accelerate infrastructure deployment**
- 

**5**

**Foster collaborative and secure data management**
- 

**6**

**Boost simulation, experimentation, and testing capabilities to become a global leader**
- 

**7**

**Facilitate access to capital and funding opportunities**
- 

**8**

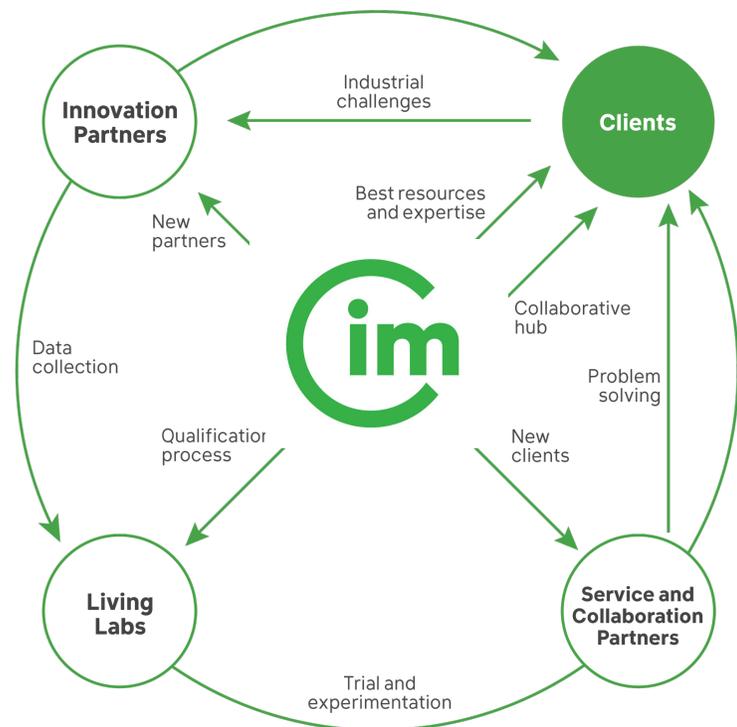
**Leverage the battery industry to support EST growth**

EXECUTIVE SUMMARY

# Propulsion Québec is also Pursuing Two Key Initiatives to Advance Objectives for 2030

## THE COLLABORATIVE INNOVATION HUB FOR MOBILITY (CIM) TO ACCELERATE INNOVATION

CIM will act as a one-stop shop to support the growth of the ecosystem and accelerate the development of clean transport and logistics innovations.



## A DEDICATED INVESTMENT FUND TO SUPPORT FOUNDERS IN THE SECTOR

A private investment fund will support the growth of companies in the seed and start-up phases. It would also alleviate a \$1.4 billion shortfall that must be made up to meet the sector’s capital needs over the next 5 years.

The EST Sector’s Capital Needs from 2021-2026 (\$ CAD millions)

	SEED	EARLY STAGE	LATER STAGE	GROWTH	TOTAL
TOTAL DEMAND	121.0	610.0	511.0	1 345.0	2 587.0
TOTAL SUPPLY	53.0	189.0	393.0	545.0	1 180.0
TOTAL UNFILLED CAPITAL NEED	68.0	421.0	118.0	800.0	1 407.0

Consult the full study on Québec’s EST funding chain [here](#)

**TO ACCESS THE FULL REPORT  
WE INVITE YOU TO CONTACT :**

**Michelle Llambias Meunier  
Vice President, Operations**

**[Michelle.llambiasm@propulsionquebec.com](mailto:Michelle.llambiasm@propulsionquebec.com)**

