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**3RD ANNUAL CANADIAN
SMART CITIES SUMMIT**
DECEMBER 6, 2022 | CANADA

Grow | Protect | Operate | Finance

Smart transit

Speakers:

- **Michael Ledgett**, Partner, Dentons Canada (Toronto)
- **Josipa Petronic**, President and CEO, CUTRIC
- **Bartolomeu Costa Cabral**, Business Development Director, Thales Integrated Communications
- **Jen Rees-Jones**, Senior Manager, Privacy & Data, Dentons Canada

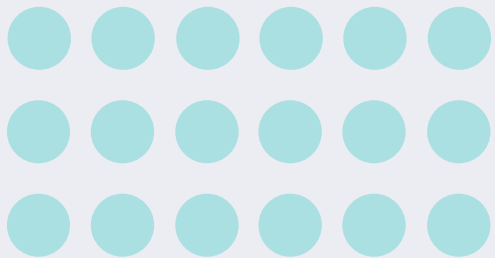


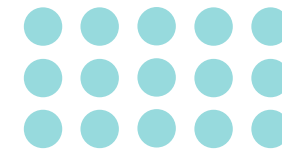
Josipa Petrunic, President and CEO, CUTRIC

Dentons Smart Cities Summit: Smart Transit Session

Presentation by Dr. Josipa Petronic, President & CEO
December 6, 2022

CANADIAN URBAN TRANSIT RESEARCH & INNOVATION
CONSORTIUM (CUTRIC)
CONSORTIUM DE RECHERCHE ET D'INNOVATION EN
TRANSPORT URBAIN AU CANADA (CRITUC)





A consortium of transportation innovation leaders

Since: 2015

Members:

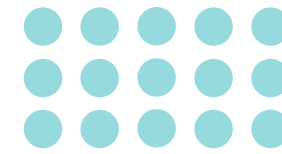
130+ (industry, consultancy, utilities, transit agencies, transit operators, government, academia, not-for-profit)

Focus: low-carbon smart mobility and technology innovation



Operations: British Columbia, Alberta, Manitoba, Ontario, Quebec & Nova Scotia.

Vision and Mission



Vision

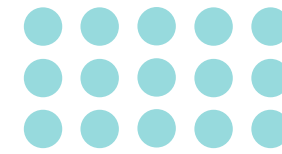
To make Canada a **global leader in low carbon smart mobility technology innovation** across light-duty and heavy-duty platforms, including advanced transit, transportation, and integrated mobility applications.

Mission

To support the commercialization of technologies through **industry-led collaborative** research, development, demonstration, and integration (RDD&I) projects that bring innovative design to Canada's low-carbon smart mobility ecosystem.



Pillars of Innovation



Pillar #1:
Zero-and low-
emission
propulsion
technologies and
systems
integration



Pillar #2:
Smart vehicles and
smart
infrastructure

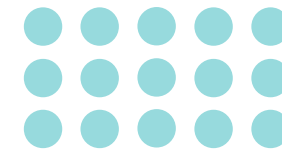


Pillar #3:
Big data for
mobility analytics



Pillar #4:
Cybersecurity in
advanced mobility
applications

Canadian ZEB Database™: Predict the Demand



Canadian ZEB Database™: Canada's zero-emission bus landscape and electrification readiness - Vol. 3, No. 2

DATE: NOVEMBER 23, 2022

AUTHOR: TITASH CHOUDHURY, ANIKET BASE, PARVATHY PILLAI,
DR. JOSIPA PETRUNIC

VOLUME 3



The Canadian ZEB Database™: Canada's zero-emission bus landscape and electrification readiness Report #2 is part of CUTRIC's Knowledge Series, and provides an update on the Canadian zero-emission bus (ZEB) landscape. The first Canadian ZEB Database™ report [1] was published in June 2022. It used data directly provided by transit agencies and from the public domain to establish the overall readiness of provinces and municipalities in decarbonizing their fleets. CUTRIC continues to report the advances provinces and municipalities have made under the Canadian ZEB Database™.



Canadian ZEB Database™: Canada's zero-emission bus landscape and electrification readiness

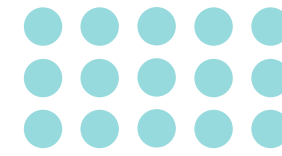
Knowledge Series
Quarterly Report #1

AUTHORS

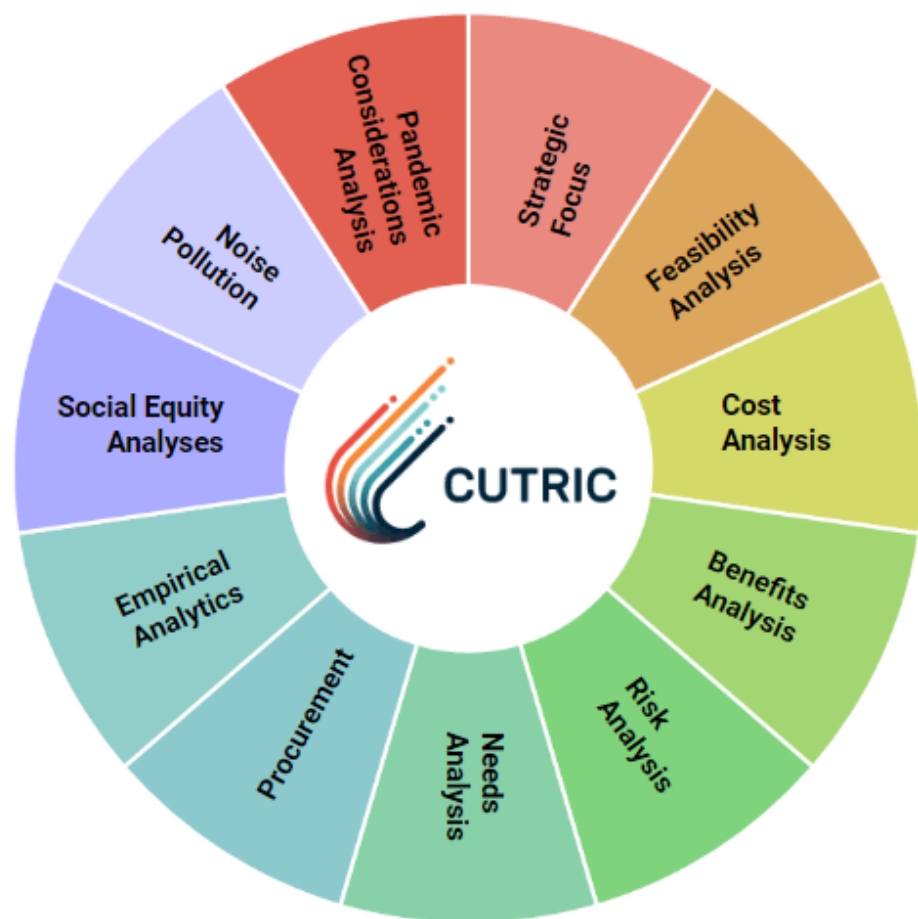
Titash Choudhury, Social Scientist Low Carbon Smart Mobility
Aniket Basu, Zero Emission Bus (ZEB) Simulation Modeller
Parvathy Pillai, Program Manager: ZEB Consulting Services and Business
Dr. Josipa Petrunić, President & CEO



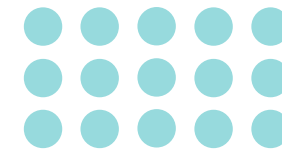
Canadian ZEB Database™: Plan for the electrification journey



CUTRIC's ZEB Consulting Services™



Route.i™ 3.0: Predict the Demand



CUTRIC

Brampton Transit

Feasibility analysis & simulation based planning

[Read more >](#)



CUTRIC

Translink

Empirical data analytics of battery electric buses

[Read more >](#)



CUTRIC

Natural Resources Canada

ZEB rollout process map

[Read more >](#)

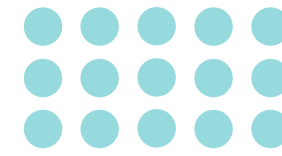


CUTRIC

London Transit

Full zero emission fleet rollout plan

[Read more >](#)



CloudTransit™ & ACES: Track the Performance

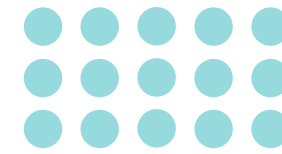
▲ CloudTransit™

CloudTransit™ 2.0 is the second generation of CUTRIC's cloud-based platform designed to collect, integrate, analyze, and report on real time operational data, lessons learned, challenges, risks and issues associated with the deployment and operation of zero emission buses (ZEBs) and allied infrastructure.

As part of the Pan-Canadian Battery Electric Bus Demonstration and Integration Trial Phase I project that CUTRIC leads, CloudTransit™ 2.0 enables performance data integration and comparisons involving various data sources and assets across multiple transit systems, cities and utility partners.



Thank you!



Contact CUTRIC @ LinkedIn
info@cutric-crituc.org



**Bartolomeu Costa Cabral, Business Development Director, Thales
Integrated Communications**



Making passengers' journeys safer and more attractive through smart stations technology: from integrated supervision to Data-driven operation

December 2022



Smart Stations and Passenger Journeys

You need eyes everywhere to run a railway nowadays.

Detection, reaction, prediction and communication are critical!

Challenges

- Supervision has limitations
- Huge amount of data
- Fragmentation of information sources
- High number of stakeholders

Pain points

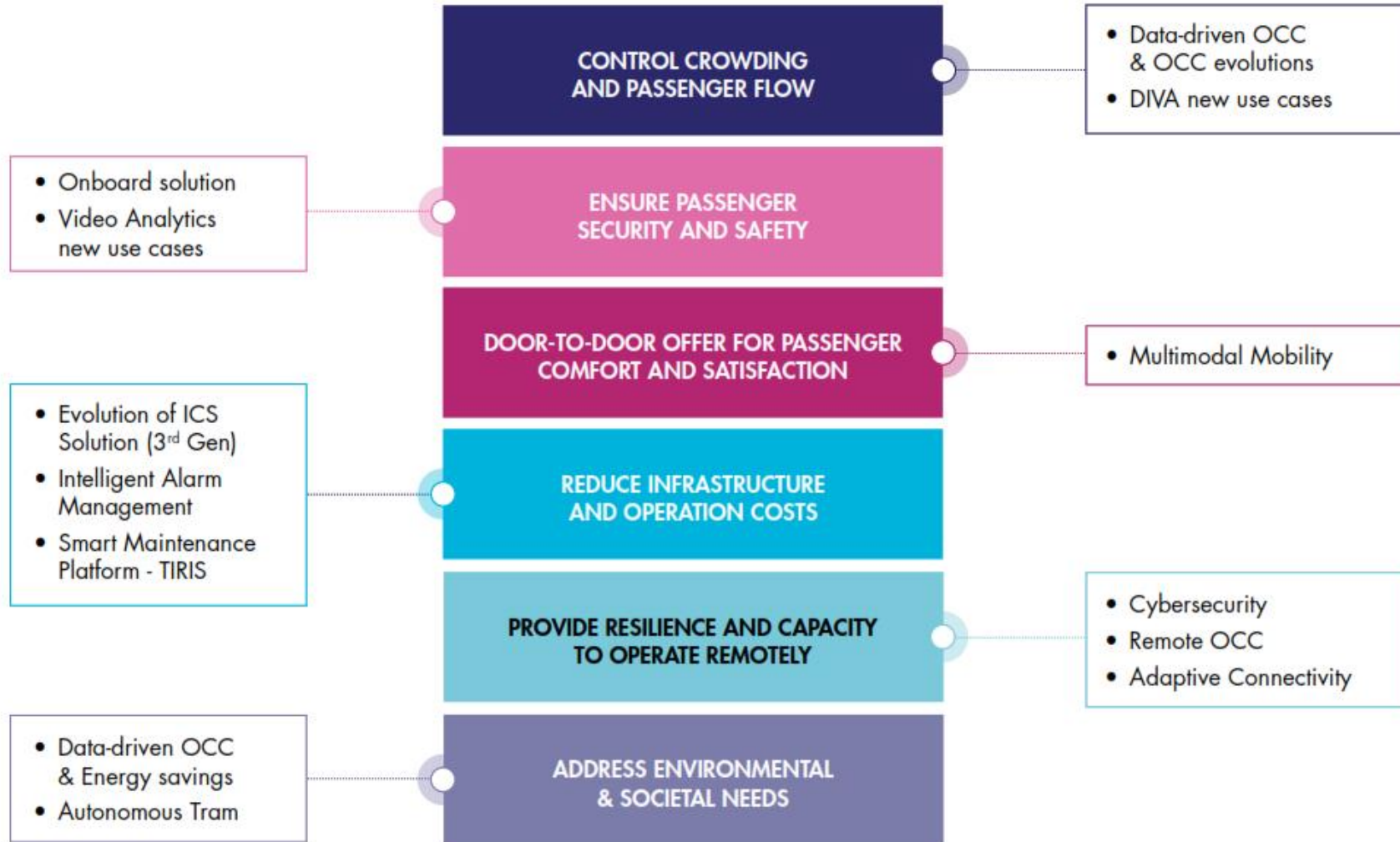
- Complex stations
- Passengers are the central point of transit
- Accessibility
- Energy savings
- Business models based on digital technology
- Risks and threats

Integration as a solution - Benefits

- **Single Interface and shared view for all stakeholders**
 - **Full situation awareness**
 - **Increased resilience**
 - **Optimized performance**
- **Data-driven functions:**
 - Live station density maps
 - Density predictions
 - Intrusion detection
 - Energy savings
 - Predictive maintenance
 - Training functions



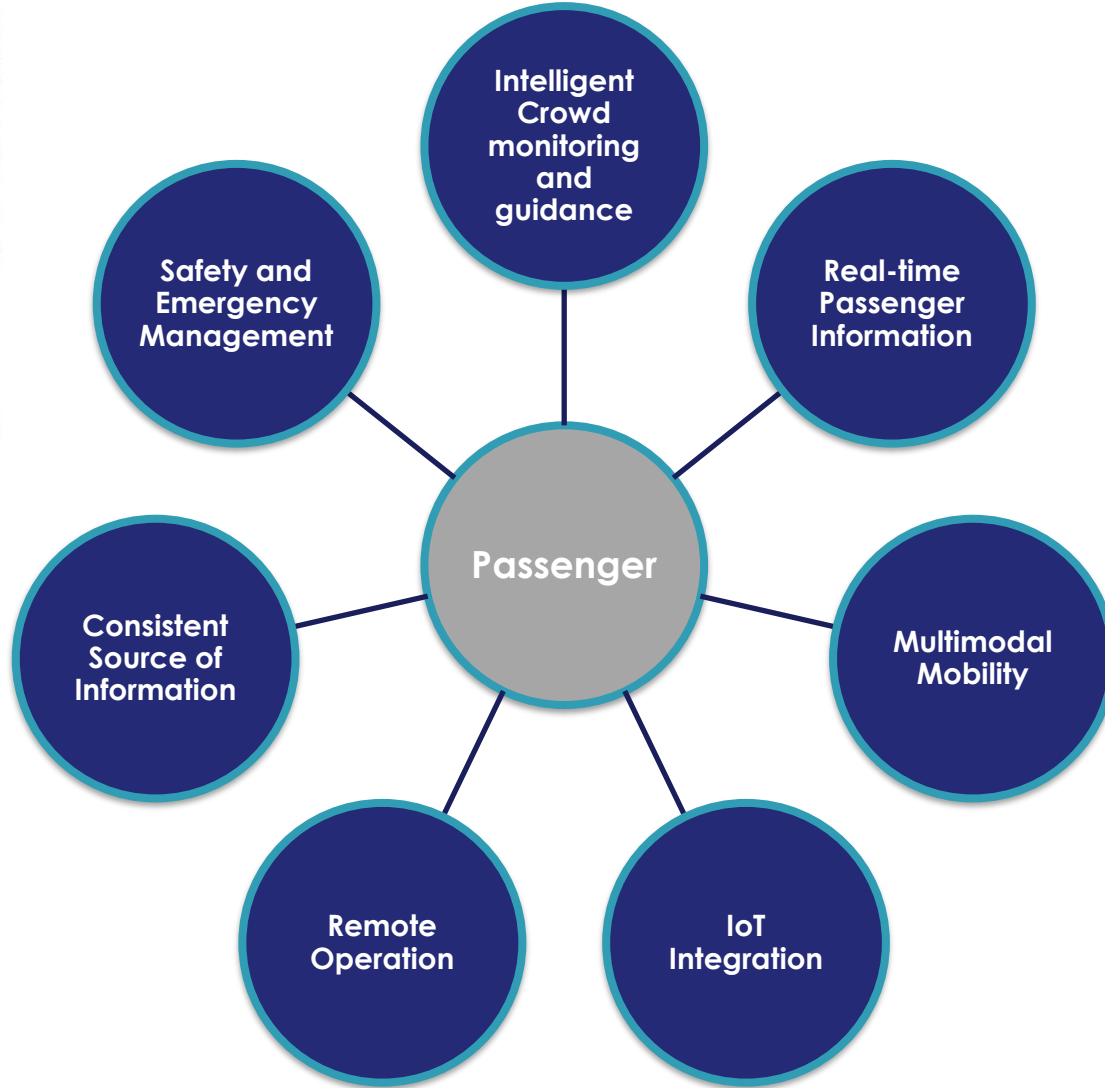
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Smart stations - Applications

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THALES
Building a future we can all trust



Jen Rees-Jones, Senior Manager, Privacy & Data, Dentons

What data is transit collecting?

- Sensors
- Video cameras
- Transactional data



What are the privacy risks?

- Surveillance
- Misuse of personal information
- Security risks



How can data be used?

- Legal authority
- Transparency
- Accountability
- Data minimization /privacy by design

