Invision AI, Thales and Metrolinx are Successfully Reshaping the Future of Autonomous Rail

- Thales, Invision AI and Metrolinx have joined forces to develop advanced autonomous technologies for rail systems with support from the Ontario government through Ontario's Autonomous Vehicle Innovation Network (AVIN).
- The solution is currently being piloted on a Metrolinx GO Train in Toronto, Ontario.

Toronto, March 22, 2021 - Thales, a global leader in high technology solutions, Invision AI, a Toronto-based technology start-up and Metrolinx, the regional transportation agency for the Province of Ontario, have joined forces to help shape the future of transit technology with support from the Ontario government, through AVIN’s WinterTech Development program, and led by the Ontario Centre of Innovation. WinterTech supports small and medium-sized enterprises and their partners by commercializing winter-ready innovative mobility solutions.
The Ontario government’s contribution to this project, through AVIN, of $483,600 leverages partners’ contributions of $992,760, for a total project value of $1,476,360. Invision AI, Thales and Metrolinx are building unique sensing and computing capabilities that provide enhanced situational awareness to existing rail systems and are capable of operating in severe winter conditions. The goal of this partnership is to build a platform that will ultimately enable deployments in urban, regional and mainline rail networks globally.

Within a six-month period, the system was prototyped and installed on a Metrolinx GO train, operating on multiple lines in Toronto, Ontario. The system is equipped on the front of the train and includes; radars, cameras and lidar, for multi-spectral sensing ahead of the train, along with a cyber secured 4G/LTE connected data collection and processing system. These technologies actively collect important data which can then be used to train the system to recognize obstacles and other dangers. The data gathering activities will continue for an additional six months in different weather and environmental conditions.

Additionally, the technology equipped on the train is providing real-time information and data – such as next generation positioning, train telemetry, and diagnostics information – to ensure the system is running smoothly.

For operators, the benefits of this new solution include enhanced safety, rapid installation time due to the minimal equipment footprint, enhanced ‘look ahead’ sensing to detect and track potential obstacles, and accurate real-time data collection crucial for maintenance and operations teams. For passengers, this will contribute to fewer delays, improved safety and enhanced reliability of the network.

This project aligns with Metrolinx’s safety-first culture for staff, customers and community members by limiting the possibility of train incidents. In addition, the project positions Canada to be the first to introduce advance driver assistance and autonomous technologies that can function in all weather conditions.

“Metrolinx is proud to support this initiative with Invision and Thales. A focus on safety is central to delivering a world class transit system, and innovative solutions like this one are an important part of this work.” – Phil Verster, CEO, Metrolinx

“We are excited to be solving the difficulties associated with autonomous rail systems and harsh winter conditions, an interesting challenge that we can all relate to. The data collected from the GO train has allowed us to gain unique insights into how to address the complex needs of transport operators globally.” – Karim Ali, CEO, Invision AI

“Thales is proud to partner with Metrolinx and the Ontario Centre of Innovation to create a solution that will improve transit systems for both operators and passengers. Partnering
with Invision AI has been a fantastic experience and showcases the power of collaboration to reach a common goal; bringing world-class transit solutions to Ontario” – Mark Halinaty, President and CEO, Thales Canada

“No matter what the weather is, safety within Ontario’s transit networks remains our top priority. This partnership between Metrolinx, Thales and Invision AI shows the potential benefit emerging technologies could have on the future of transit in our province. We remain committed to keeping transit operators and passengers moving safely and with fewer delays year-round.” – Caroline Mulroney, Ontario Minister of Transportation.

“This project demonstrates the strengths of Ontario’s Autonomous Vehicle Innovation Network: bringing together ambitious technology start-ups and industry leaders to pioneer next-generation mobility technologies with global potential. This unique partnership between Invision AI, Thales and Metrolinx offers enhanced safety and efficiency for rail systems around the world, particularly those operating in harsh winter climates. It’s an endeavour we’re very proud to support.” – Vic Fedeli, Ontario Minister of Economic Development, Job Creation and Trade.

About Invision AI

Invision AI enables edge devices, such as remote cameras and other sensors in the field, to interpret the world around them without relying on costly hardware or cloud connections. We provide real-world three-dimensional situational awareness - including 3-D detection, geo-localized tracking across sensors and sensor fusion. Invision is designed for applications where speed, cost and privacy are paramount. We are deploying products targeting smart roads, smart cities and autonomous. Invision AI is a privately-owned North American company founded in 2017. Headquartered in Toronto, Canada, with offices in Lausanne, Switzerland, Invision AI is reshaping Intelligent Infrastructure and Transportation.

About Thales Canada

A Canadian leader in research and technology, Thales Canada combines over 50 years of experience with the talent of more than 2,500 skilled people located coast-to-coast. With revenues of over $800 million, Thales Canada offers leading capabilities in the defence, urban rail, civil aviation, digital identity and security sectors, meeting the most complex needs and requirements of its customers across all operating environments.

About Metrolinx

Metrolinx, an agency of the Government of Ontario, is responsible for implementing an integrated transportation network that connects communities across the region. While operating GO Transit, UP Express and PRESTO, Metrolinx’s mission is to get people where they need to go better, faster and easier.
About AVIN

Ontario’s Autonomous Vehicle Innovation Network (AVIN) is an initiative by the Ontario government of Ontario, led by the Ontario Centre of Innovation (OCI), designed to reinforce Ontario’s position as a North American leader in automotive, transportation technology and infrastructure systems. Through resources such as research and development (R&D) support, talent development, technology acceleration, business and technical supports, and demonstration grounds, AVIN provides a competitive advantage to Ontario-based automotive and mobility technology companies.

PRESS CONTACT

Samara Ben-Reuven
Thales Media Relations
+1 (613) 355-3536
Samara.Ben-Reuven@ca.thalesgroup.com

Karim Ali
Invision AI
hello@invision.ai

Metrolinx
+1 (416) 202-5859
mediarelations@metrolinx.com