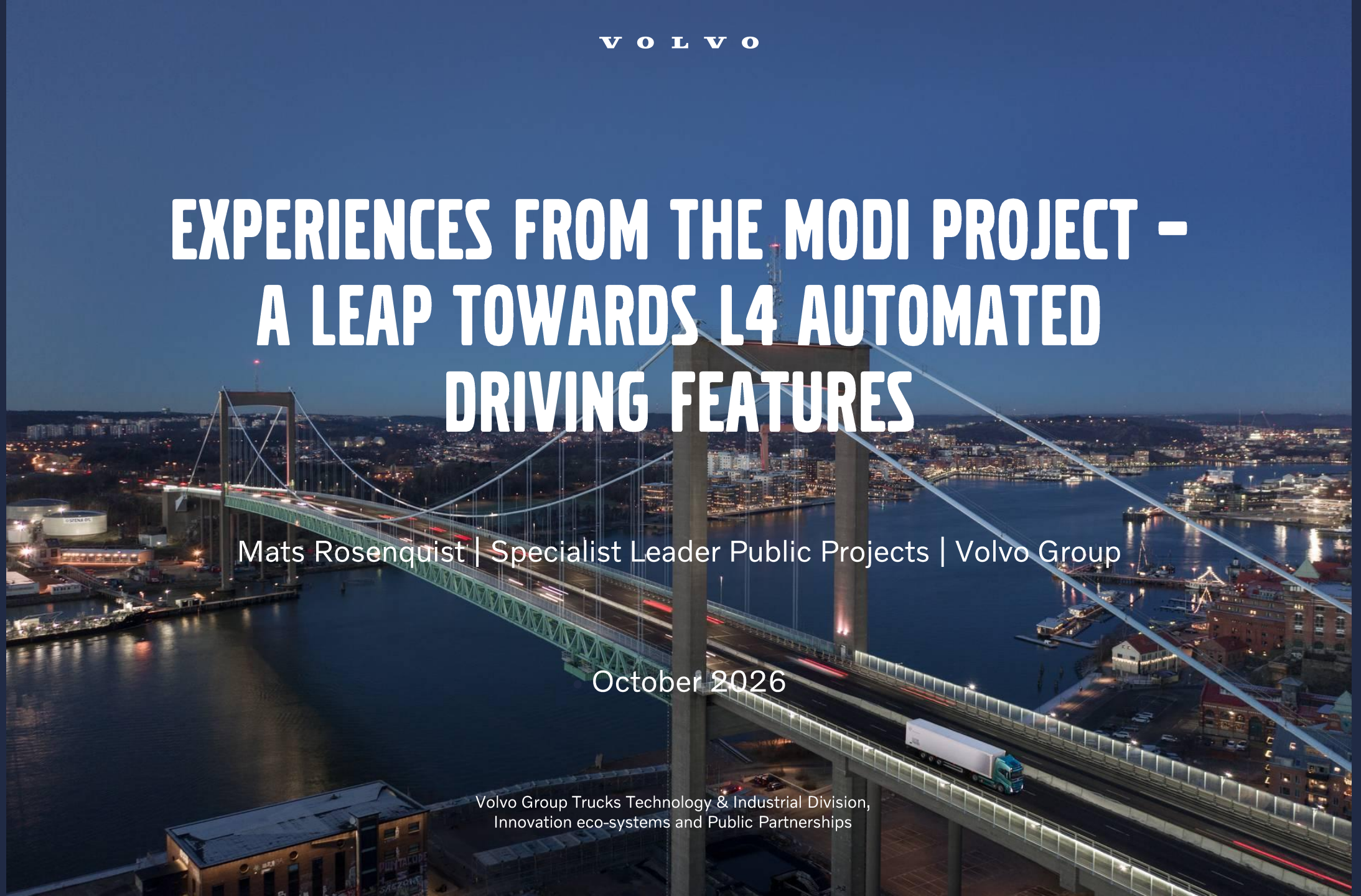
VOLVO

EXPERIENCES FROM THE MODI PROJECT – A LEAP TOWARDS L4 AUTOMATED DRIVING FEATURES



Mats Rosenquist | Specialist Leader Public Projects | Volvo Group

October 2026

Volvo Group Trucks Technology & Industrial Division,
Innovation eco-systems and Public Partnerships

Towards 100% safe

Safety for all road users. Advanced safety systems and features in our products and services, driver training and safety awareness.

Collaboration. Working with authorities, academia and other industry players to advance knowledge, regulations, and development of new solutions for safer transport systems.

Creating knowledge and sharing data. Real time data from accidents and connected vehicles to develop safety related solutions and spread safety awareness. Utilized by us and shared with others.

Building on EU Projects - Towards European Deployment!

EU Project examples:

AEROFLEX – Aerodynamic and Flexible Trucks for Generation of Long-Distance Road Transport (2017-2021)

ENSEMBLE – Enabling safe multi-brand platooning for Europe (2024-2027)

HI-DRIVE – Addressing challenges toward the deployment of higher automation (2021-2025)

MODI – Pave the way for highly automated solutions and driving features to improve European logistic chains (2022-2026)

Pre-LSDemo - Preparing for Large-Scale Demonstrations of CCAM in Europe flagship project (2026-2027)

ZEFES – Taking Zero-Emission Long-Haul Freight Transport in Europe to the next level (2023-2026)

BELOGIC - Demonstrating realistic logistics models and advanced tools for BEV implementation in long-haul freight transport (2026-2029)

Co-funded by
the European Union

MODI ambitions

Source: Einride

Source: DAF

Source: Volvo

- Accelerate deployment of highly automated freight vehicles
- New viable business models
- Real use-case demonstrations

MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

Einride and Volvo

- Automated border crossing
- Automated tolling and parking
- Lane merge negotiation
- Awareness driving when blocked line-of-sight and VRU detection

MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

Sweden: Hub-to-hub

Volvo and Einride

- Digitalization and C-ITS for logistics efficiency
- Automated gate access
- Automated loading/onloading
- Automated charging
- Automated driving H2H on public roads

MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

Germany: Motorway to harbour

Volvo and DAF

- Merging on-ramp + lane merging road work
- Time-to-green
- GLOSA
- VRU detection

MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

DAF

Terminal and container operations

Drayage

MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

- Infrastructure readiness
- Painpoints and solutions
- Cross-border

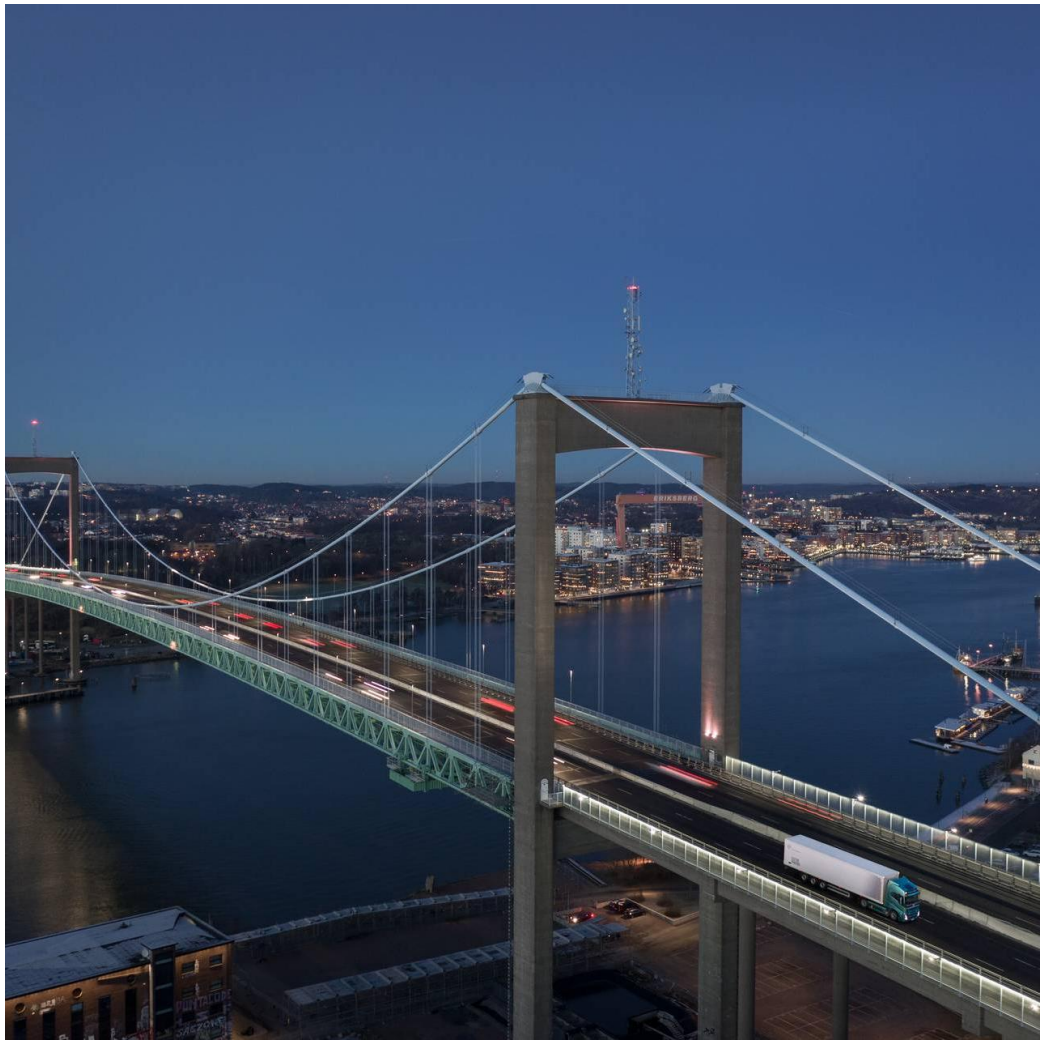
MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

Volvo Group's role in MODI

- Volvo Group provided **C-ITS equipped L2 BEV vehicles** focusing on **V2X connectivity and services** interoperability and the benefits of the logistics users needs.
- The **same vehicles** were used at the different sites to test cross-boarder interoperability.
- Volvo Group participated in UC Germany (**Hamburg**), Sweden (**Gothenburg**), Norway (Svinesund – **Moss**) and in the overall **Rotterdam to Oslo corridor.**
- Volvo Group was work package leader for coordinating the MODI use-cases.



MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

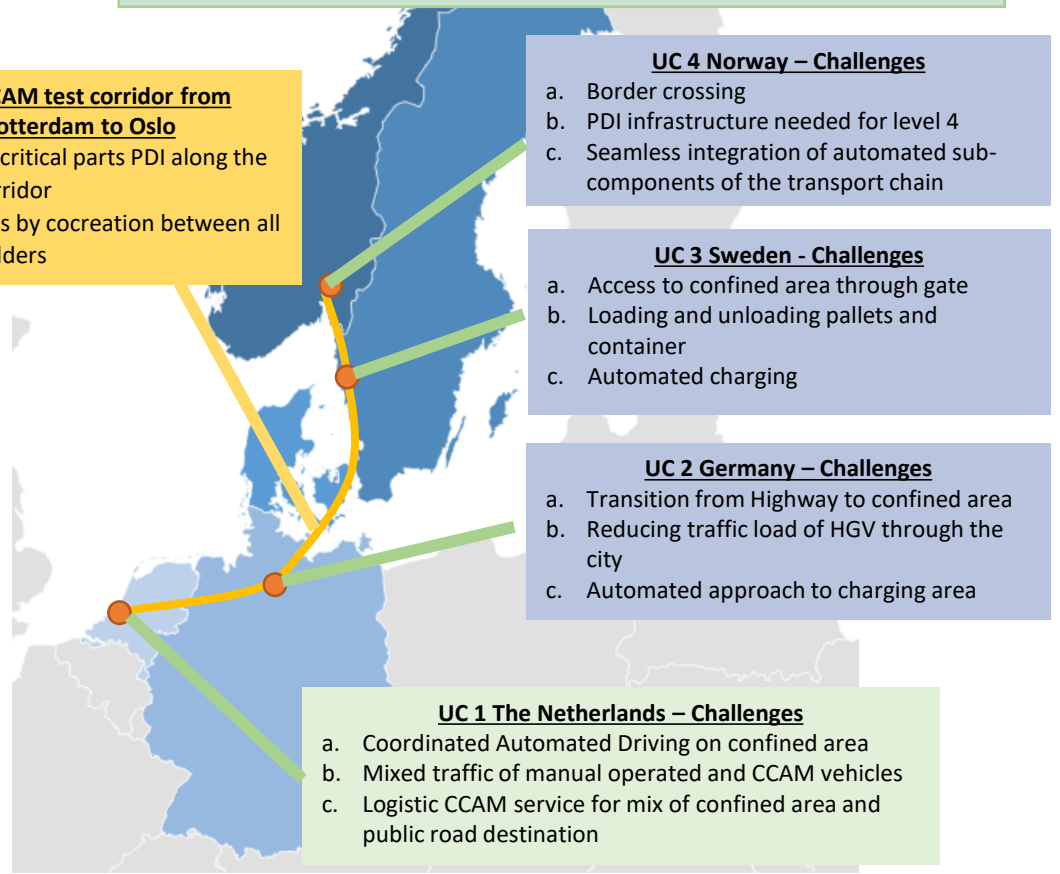
Co-funded by the European Union

Cross-boarder Interoperability

- **Norway, Moss**
  - Awareness Driving via V2X demonstrating vehicles blocking line-of-sight
  - V2X Road works warning (RWW) manoeuvre where vehicle will negotiate a merger approaching
  - Vulnerable Road User (VRU) and vehicle detection and sharing demonstrating safe overtake.
- **Sweden, Gothenburg-Viared**
  - Hub-to-Hub highway transport between Gothenburg RoRo terminal and the DFDS warehouse in Viared logistics centre close to Borås.
  - Digitalization and C-ITS for logistics efficiency.
- **Germany, Hamburg**
  - Motorway & ODD transition MERGE on the Autobahn
  - City traffic and VRU protection using cooperative perception
  - Port-road traffic optimization using Green Light Optimisation
- **CCAM test corridor from Rotterdam to Oslo**
  - Collecting data along the full corridor > Assessment

Overall – Challenges

a. New business models for logistic operation
b. Steps towards L4 motorway automated driving
c. Standardization and harmonization
d. Seamless integration of the PDI and the vehicles



UC5 CCAM test corridor from Rotterdam to Oslo

a. Identify critical parts PDI along the total corridor
b. Solutions by cocreation between all stakeholders

UC 4 Norway – Challenges

a. Border crossing
b. PDI infrastructure needed for level 4
c. Seamless integration of automated sub-components of the transport chain

UC 3 Sweden - Challenges

a. Access to confined area through gate
b. Loading and unloading pallets and container
c. Automated charging

UC 2 Germany – Challenges

a. Transition from Highway to confined area
b. Reducing traffic load of HGV through the city
c. Automated approach to charging area

UC 1 The Netherlands – Challenges

a. Coordinated Automated Driving on confined area
b. Mixed traffic of manual operated and CCAM vehicles
c. Logistic CCAM service for mix of confined area and public road destination

MODI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

Five lessons

FEASIBILITY	1. L4 freight works – but only within defined operational conditions
INTEGRATION	2. The real deployment challenge lies at the interfaces
READINESS	3. Readiness is an ecosystem property – not a vehicle capability
VALUE	4. The business case comes from better logistics – not automated driving alone
SCALE	5. Start where automation creates value - but design for interoperability from day one

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Co-funded by the European Union

VOLVO