25TH ITS WORLD CONGRESS
COPENHAGEN
17 – 21 SEPTEMBER 2018
Quality of life

OEM'S PERSPECTIVE - NEED FOR COLLABORATION THROUGH COMMON ROADMAPS AND TESTS/ PILOTS TOGETHER WITH FLEETS/USERS

Part I - "Automated transport: truck platooning and beyond"

Mats Rosenquist
Volvo Group Trucks Technology

On the road

In the city

Off road

At sea

For all Volvo Group brands

Dongfeng Trucks (SA)

Nova Bus

SDLG (JV)

UD

Eicher (JV)

Prevost

Sunwin (JV)

Volvo

Mack

Renault Trucks

Terex Trucks

Volvo Penta

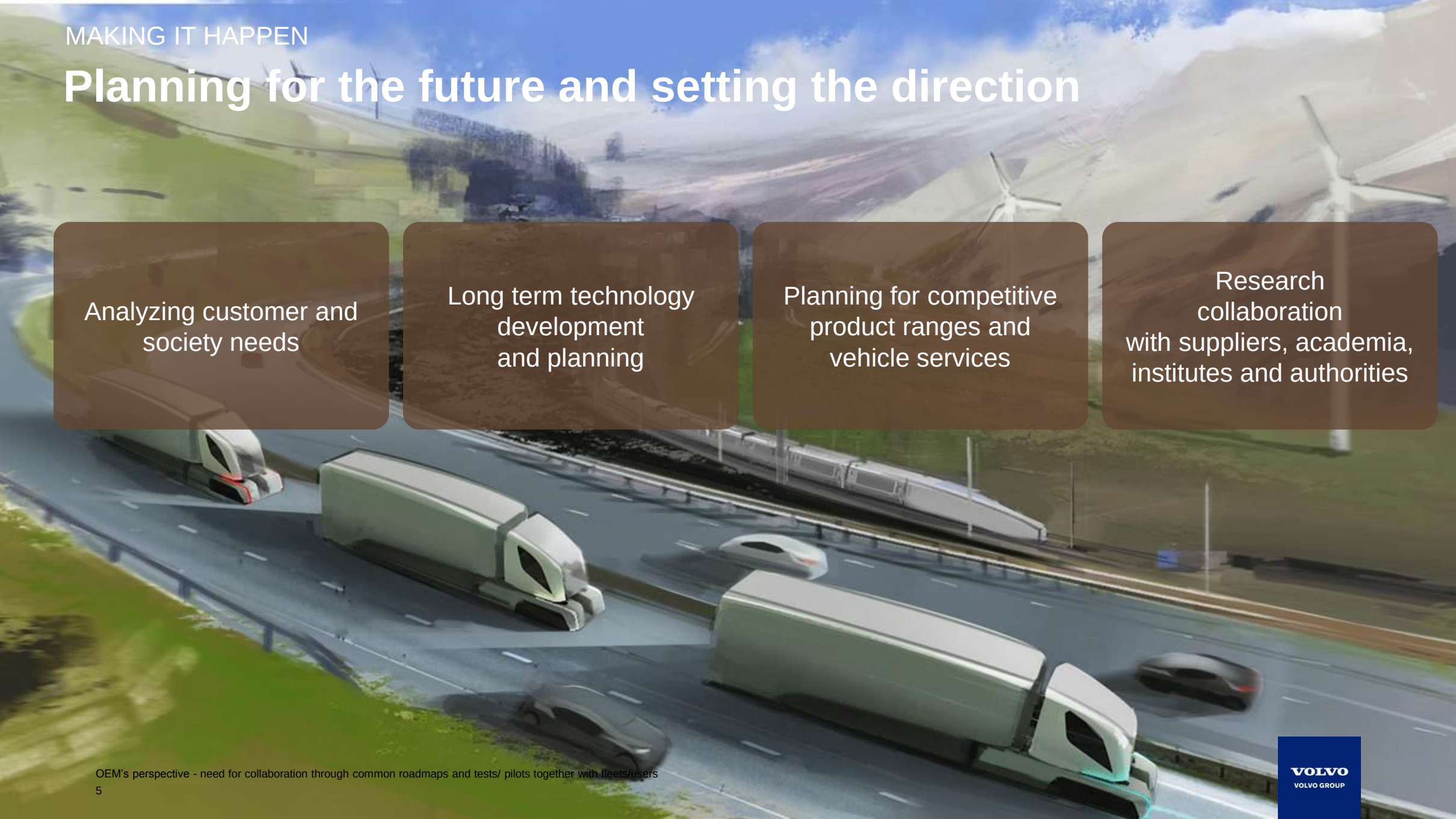
JV = Joint Venture
SA = Strategic Alliance

With the customer in focus

- Improving fuel efficiency
- Optimizing handling and maneuverability
- Improving security
- Preventing information overload
- Reducing weight
- Autonomous driving
- Extended Vehicle technologies

MAKING IT HAPPEN

Planning for the future and setting the direction



Analyzing customer and society needs

Long term technology development and planning

Planning for competitive product ranges and vehicle services

Research collaboration with suppliers, academia, institutes and authorities

OEM's perspective - need for collaboration through common roadmaps and tests/ pilots together with fleets/users

VOLVO
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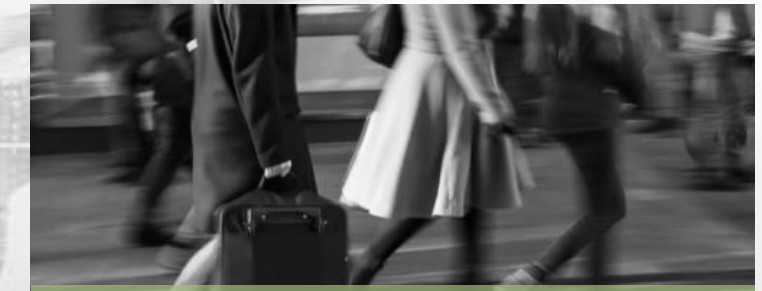
Industry and society need to work together

Standards, rules and regulations

Cyber security

The role of the driver



Social acceptance

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OEM's perspective - need for collaboration through common roadmaps and tests/ pilots together with fleets/users

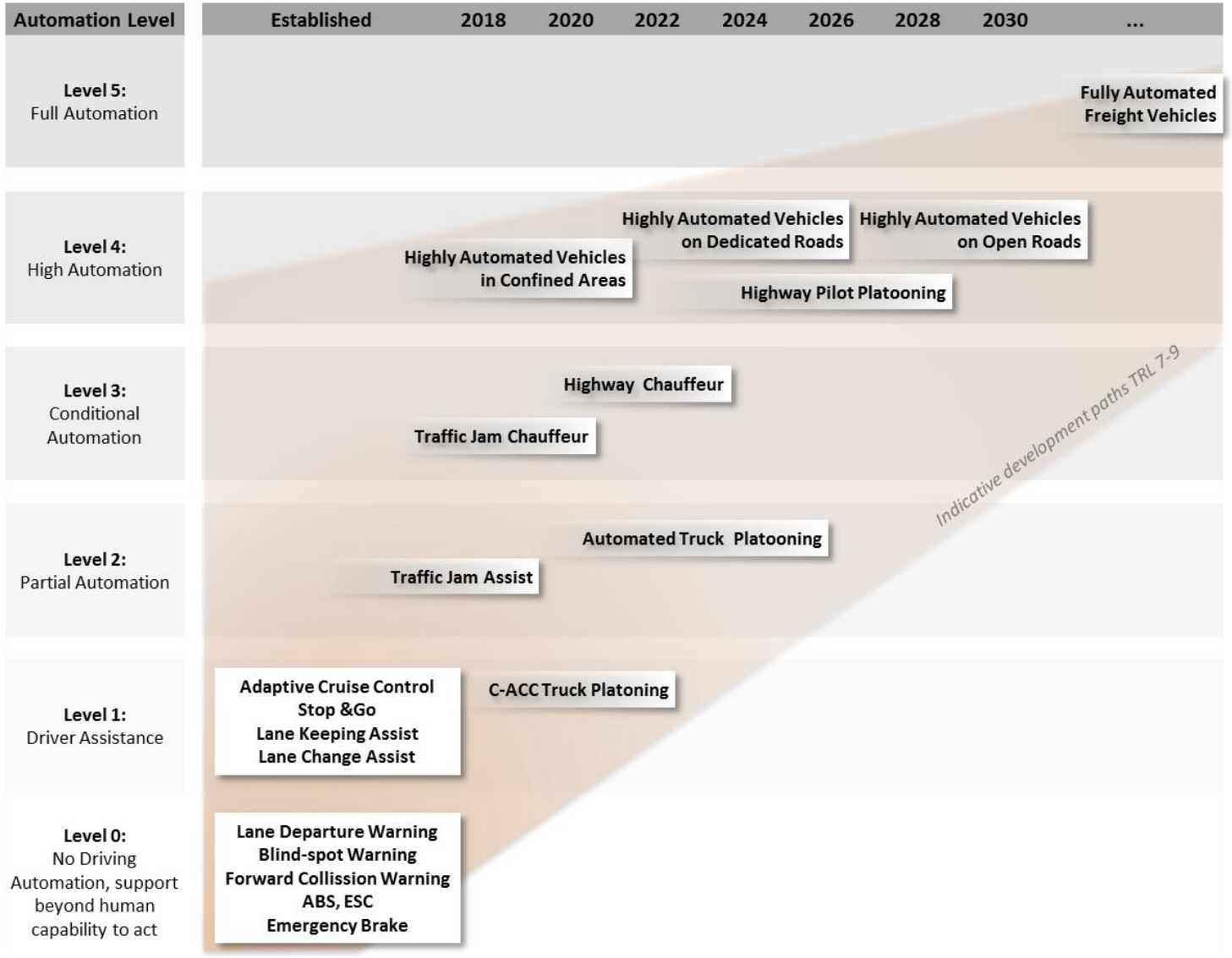
European Road Transport Research Advisory Council

Reminder:
- ERTRAC is a European Technology Platform (ETP)
- About 60 members, representing all the actors of the Road Transport System: industry, research, academic, European associations, EU Member States. local authorities. European Commission services.

Working groups & Task forces

- Urban Mobility
- Long Distance Freight Transport
- Energy & Environment
- Road Transport Safety & Security
- Global Competitiveness
- Connectivity and Automated Driving
- Electrification task force

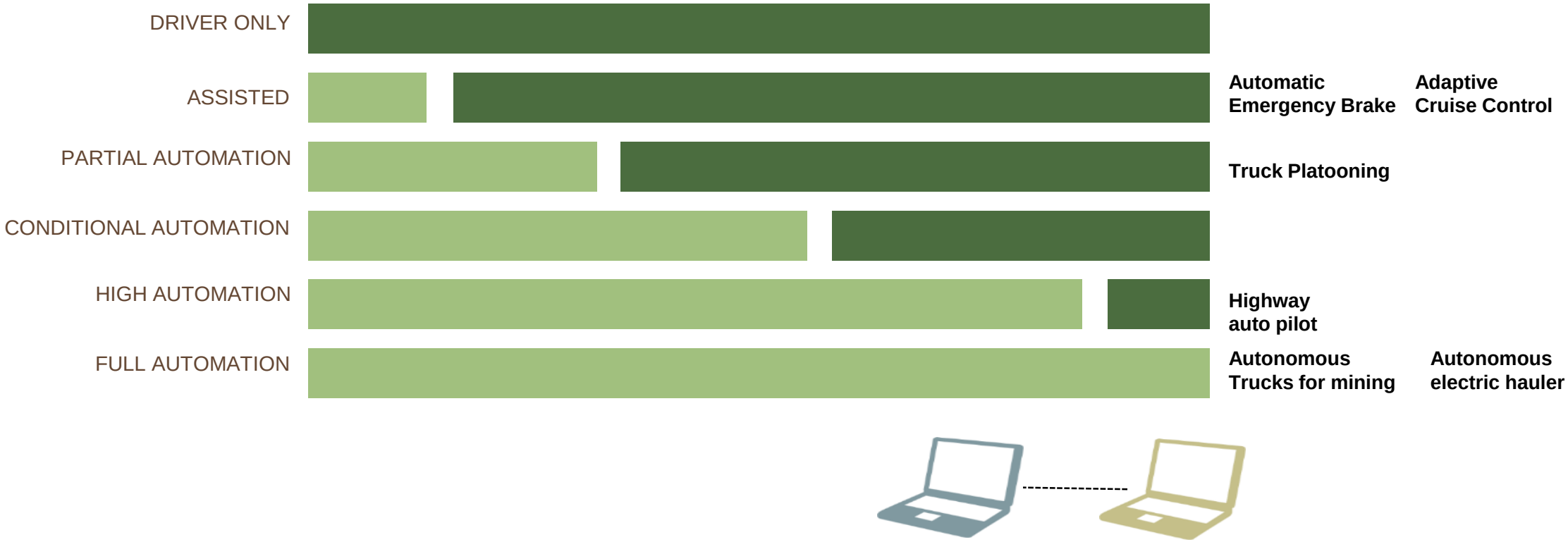
Automated Freight Vehicle Development Paths



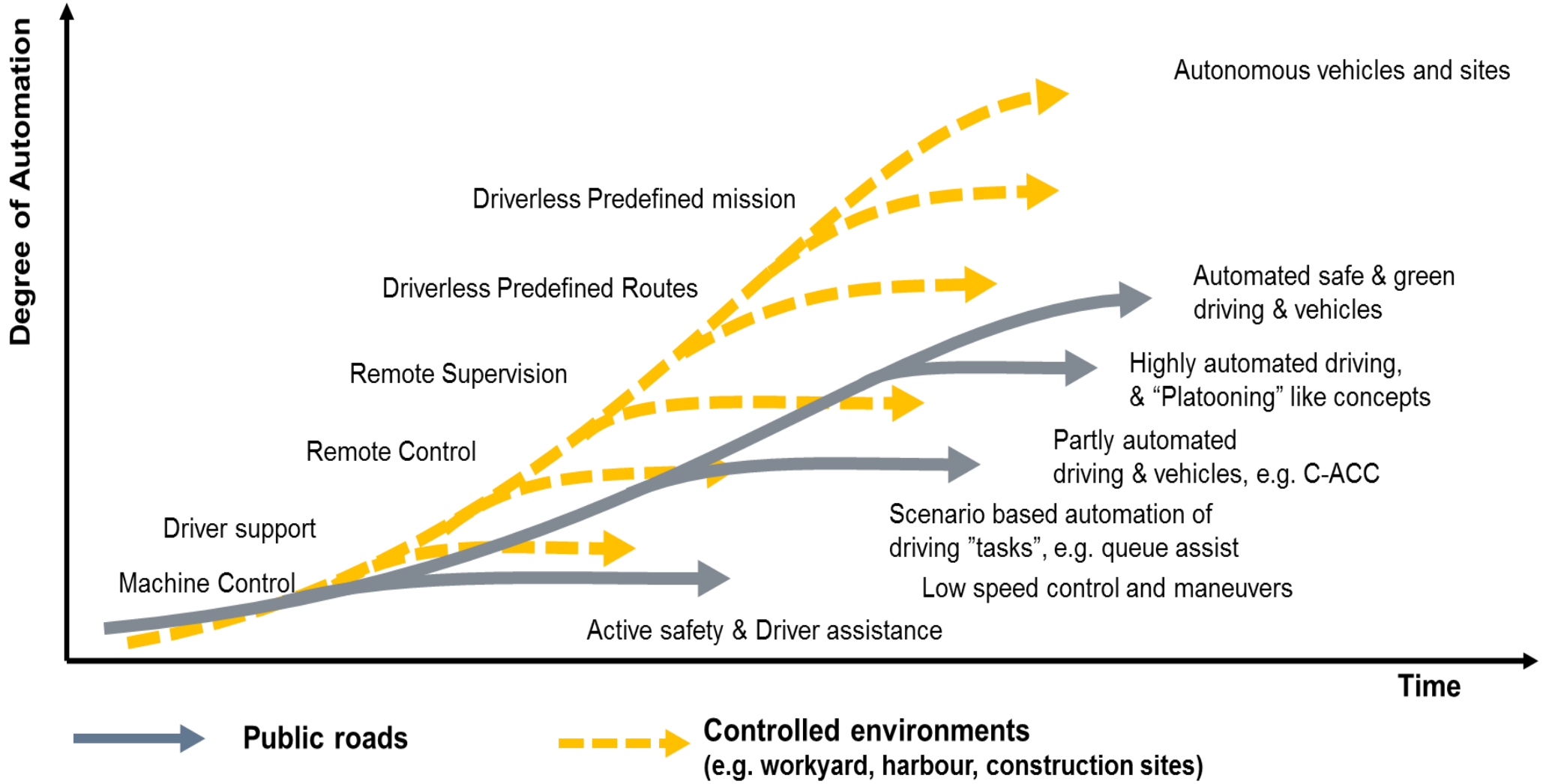
Truck: Freight vehicle > 3.5 tonnes categorie N2 or N3

- Fully automated mobility vehicles; time to initiate research
- Highly automated freight vehicles; from confined areas and dedicated roads then on open roads
- Truck Platooning; e.g. Multi-brand platooning linking C-ITS and Automation

Different levels of automation introduced in parallel

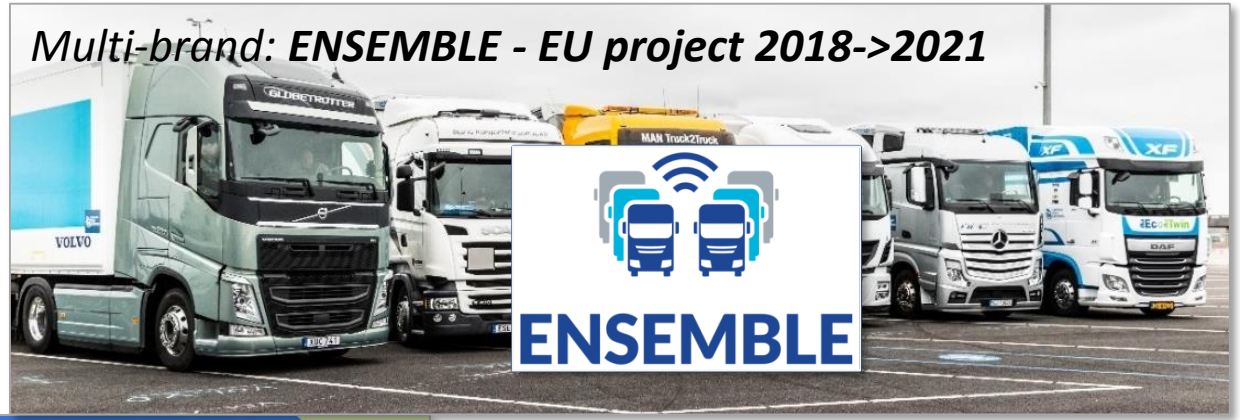


Automation from Controlled Environments towards Open Roads



Transport Collaboration

- Communication protocols
- Platooning scenarios
- Harmonized regulation
- Standardisation
- …



Single brand: ***ETPC 2016***

Generates benefits

- Fuel Savings
- Increased Safety
- Increased Productivity
- Lower driver workload
- Improved traffic flow
- …

OEM's perspective - need for collaboration through common roadmaps and tests/ pilots together with fleets/users

Trucks

ON-HIGHWAY PLATOONING SHOWCASE

- First public on-highway platooning showcase between a truck OEM and transporter in the U.S
- Volvo Trucks in platooning research collaboration with FedEx and North Carolina Turnpike Authority
- Volvo’s Cooperative Adaptive Cruise Control (CACC) using wireless vehicle-to-vehicle (V2V) communication technology

Hub-2-Hub Transport Concept

Customer Value

- Increased productivity and Safety for logistics
- Improved working condition
- Lower environmental impact

Definition

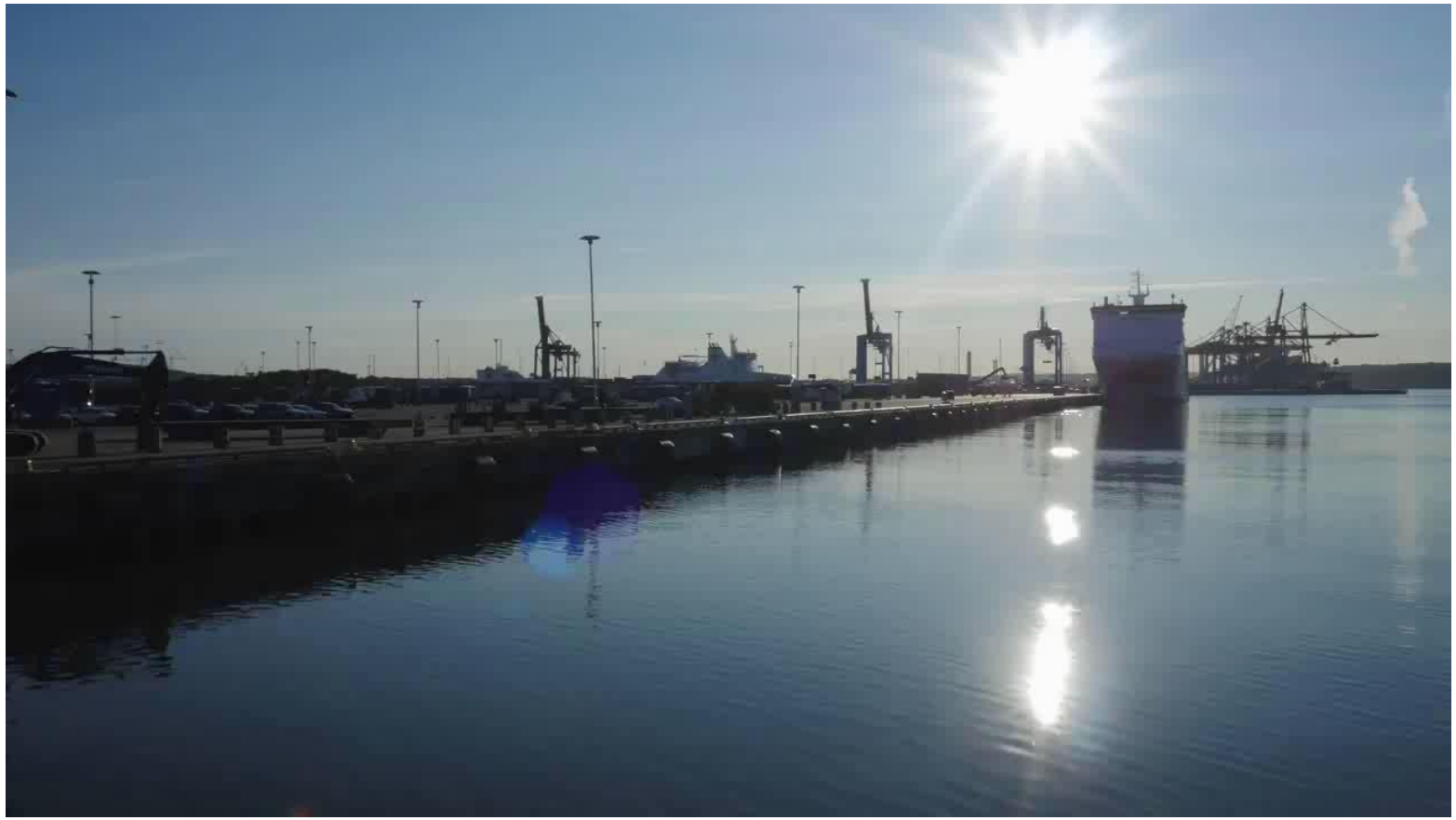
- Hub-2-Hub transport using automation in confined areas

Technology

- Automated vehicles in confined areas
- Control tower

Challenges

- Localisation
- Manuvering



***Volvo Group**, presented Hub-2-hub at the Innovation Summit in Beijing fall 2017*

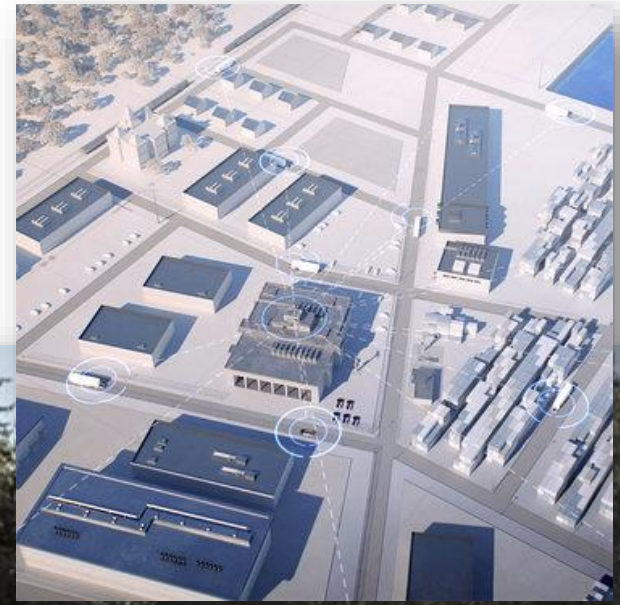
Future Connected Automated Electric freight transport solution

VERA - presented at the Innovation Summit in Berlin Sept 12th 2018

www.volvotrucks.com/vera

The future Connected Automated Electric freight transport solution – by Volvo Trucks

- Aimed for repetitive transport involving high precision between fixed hubs.
- Consists of autonomous, connected, electric vehicles and a transport control centre.
- The propulsion is entirely electric, with zero exhaust emissions and low noise levels.
- The driveline and battery pack are of the same type that are used in Volvo Trucks'



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