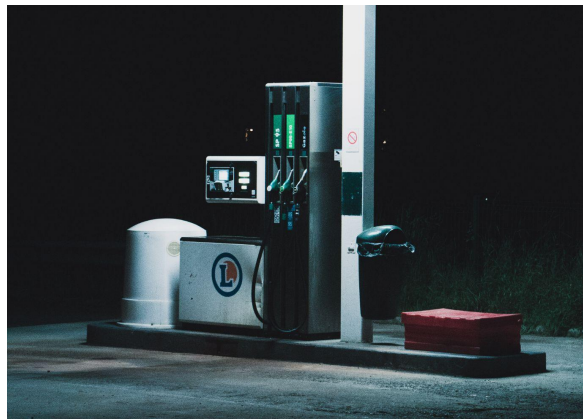einride

Einride
Nordic+
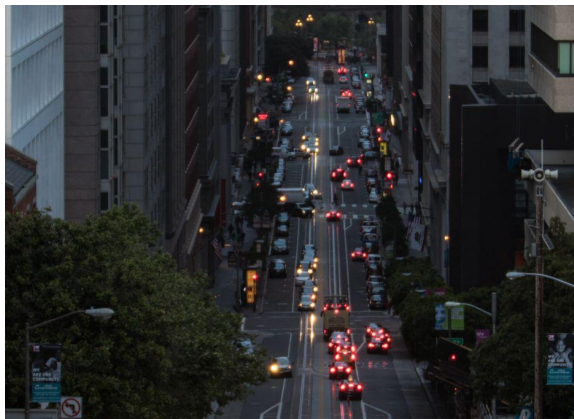
Two major challenges

Diesel trucks
In the EU accounted for 96.6% of total new registrations (up from 95.9% in 2021)
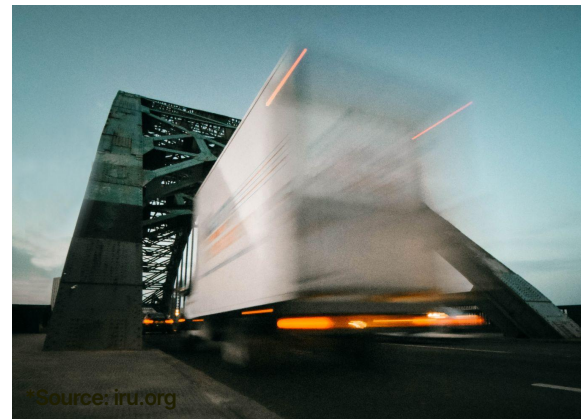

Battery electric truck
1 656 was sold and made up only 0.6% of the EU truck market.

Driver shortage
Estimated to 745,000 in Europe in 2028. Is also felt in other parts of the logistics chain, e.g. warehouse staff.

Source: iru.org

Rethinking shipping

Electric fleet

A fleet of electric HGVs with Saga inside, sourced from OEM partners.
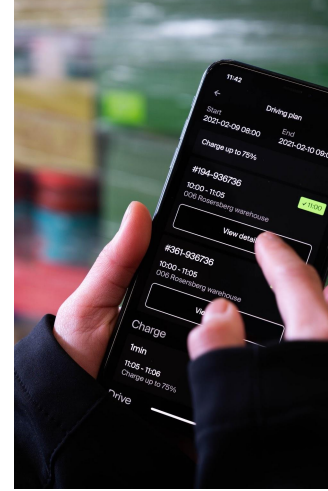
Charging infra

Complete offering including design, installation and operation

Operational partners

Global network of sub-contracted partners, including drivers, insurance and maintenance.
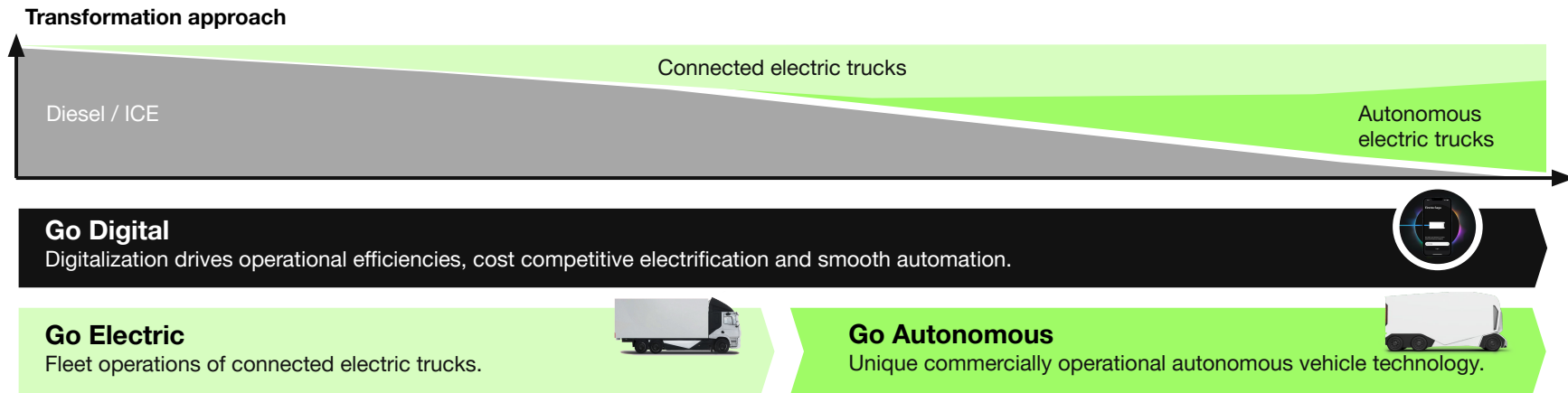
Saga

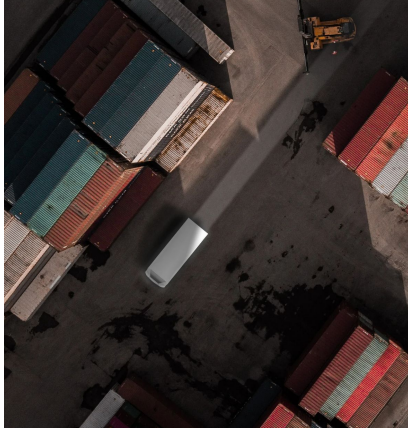The 'Brain' at the center of our ecosystem, fueled by data and powered by AI.

Autonomous

Autonomous transport service enabled by Einride's Pod

Einride's long term plan for electrification and automation

Transformation approach

Connected electric trucks

Diesel / ICE

Autonomous electric trucks

Go Digital
Digitalization drives operational efficiencies, cost competitive electrification and smooth automation.

Go Electric
Fleet operations of connected electric trucks.

Go Autonomous
Unique commercially operational autonomous vehicle technology.

einride

Our autonomous capabilities are already operational in fenced areas and nearby routes

Fenced
Available now

Closed facilities with predetermined routes and a controlled environment.

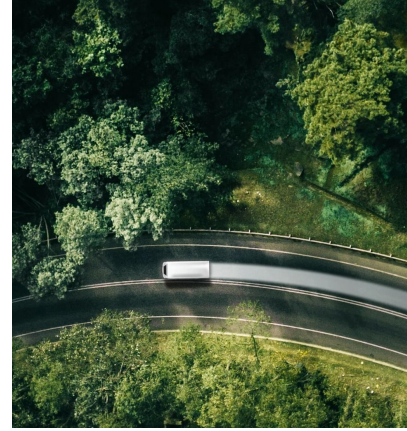## Nearby
Available now

Short shipments on routes that utilize public roads as well as fenced areas.

Rural
In progress

Deliveries between destinations on established back road routes with limited traffic

Highway
In progress

High-speed operation on major roads and highways between shipping destinations.

Operational Speed			
0 - 20 km/h	0 - 25 km/h	0 - 45 km/h	0 - 85 km/h
Requires permit*			
No	Yes	Yes	Yes

einride

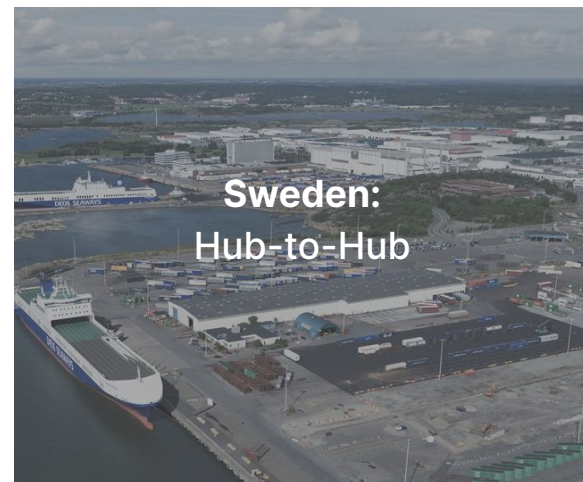Einride and GE Appliances introduce
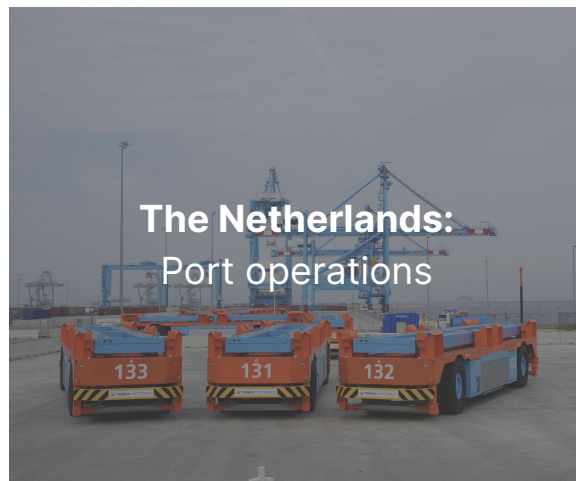
MODI project

Rotterdam - Oslo

Horizon 2020
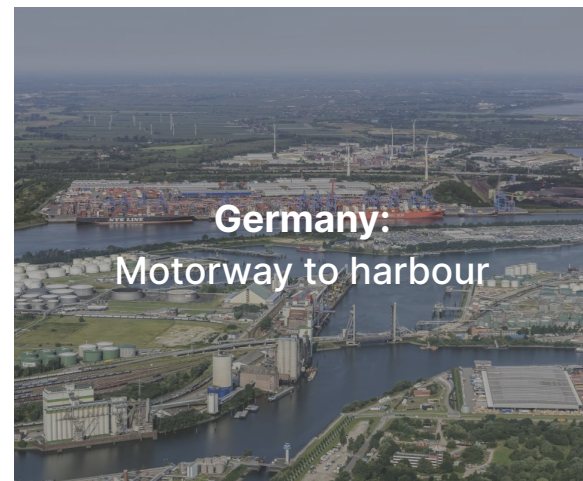European Union Funding
for Research & Innovation

Norway:
Border to port/international transports

Sweden:
Hub-to-Hub

The Netherlands:
Port operations

Germany:
Motorway to harbour

Useful Cases

Focus on the useful cases of public transport and freight.

Autonomous transports complementing manually driven transports where to dull to dirty or to dangerous.

Customers are automating their processes, the transport is one part.

Societal readiness is key, the narrative needs to change:

IRU on driver shortage: 5 negative significant consequences for the logistics industry and economy, the final bullet is "Acceleration of automation".

California officials suspended Cruise's permits to operate driverless vehicles in the state

Need: Projects and deployments demonstrating real benefits of the technology in useful cases.

A Vehicle and a Road

For permits under the test legislation the road/site was linked to the vehicle in the application.

EU Type approval makes sure that the vehicles are up to standards.

Now, it is up to member states to decide where these vehicles can be used.

In Norway the Storting asks the government to ensure that, in cooperation with the industry, various routes are proposed that can be pre-approved for autonomous driving.

In Sweden a promemoria is proposing that it is up to the road owner to decide and keep record of pre-approved roads.

Need: Understanding the different use cases and creating a flexible and harmonised system.

Need for a Harmonised View

Different perspectives to remote operator:
- The remote operator system would be a "fallback" safety feature and not a primary means of controlling the vehicle.
- Remote driving can have a role where an AV is unable to continue its journey in selfdriving mode because it has reached the limits of its ODD.
- Remote driving may also have a long-term role in some AV deployments beyond the trial stage.

Sweden allows for another driver than the driver in the vehicle to be the *legal* driver.

Some countries and states do not yet approve testing of autonomous vehicles with a driver outside of the vehicle, e.g. Austria and some states in the US.

Some countries are very positive, e.g. the UK.

CCAM partnership identifying remote management as a particularly interesting focus for coming calls.

Need: Harmonised view and regulatory framework for the role of a remote operator and remote operation.

Pia Wijk
pia.wijk@einride.tech