

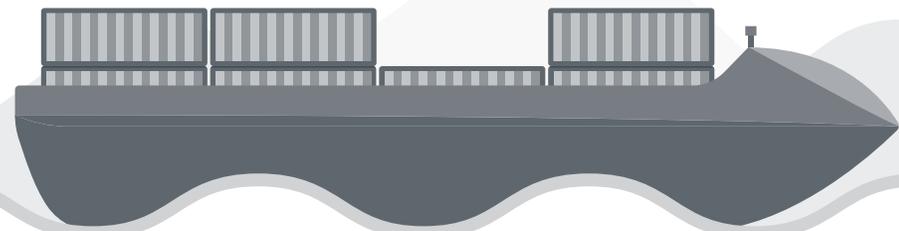
# Fremtidens godstransport er automatisert

Asfaltdagen 19.januar 2023

Ragnhild Wahl



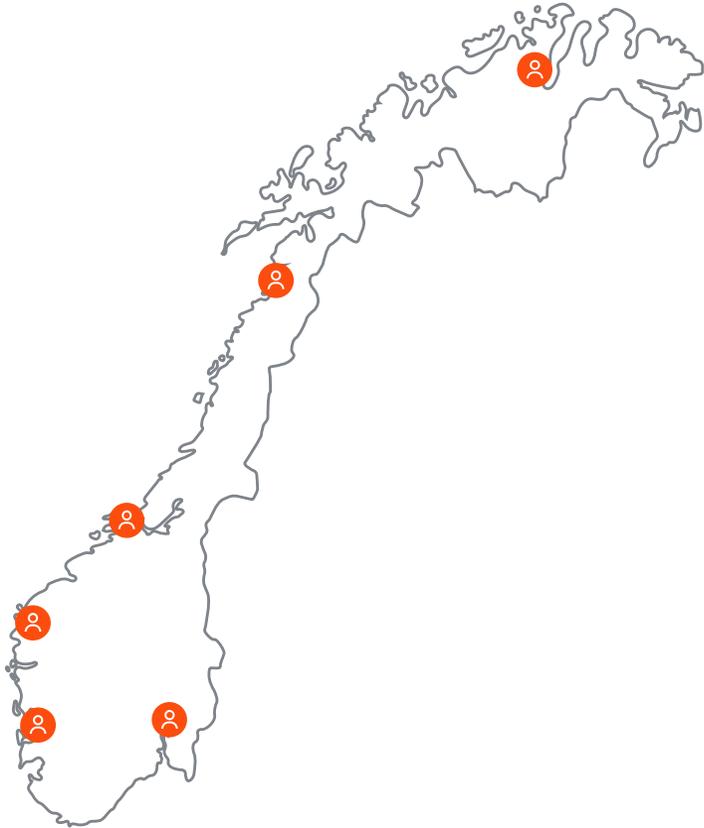
ITS  
Norway



# ITS Network

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80+ members



Over 100 ITS-organisations globally





- No net emissions of greenhouse gases by 2050
- Economic growth decoupled from resource use
- No person and no place left behind

- Technology that works for the people
- A fair and competitive digital economy
- An open, democratic and sustainable society

Guide to a disrupted world

to myFT

## Sorry driver crisis to deepen to plague boss

to disrupt Christmas, with new EU rules set to put f



## Sjåførmangelkrise i Europa

Erik March · jun. 21, 2021



Konkurranse om kapasiteten presser prisene opp.



## Kansellert på grunn mannskapsmangel

Skrevet av ANDERS STENSLAND OLSEN  
22.07.2022 09:06



B-ruta (MF Lyngen) på fergesamt  
Skarberget er kansellert i dag.

Det melder Torghatten Nord AS fredag morgen

B-ruta er kanseller på grunn av mannskapsmar

- Vi beklager, skriver rederiet.

## En sommer med mannskapsmangel



MODERNE FERGER: De nye fergene på strekningen Solavågen-Festøy, er toppmoderne ferger med dieselelektrisk hybriddrift. Mannskapet er erfarent, fergene driftssikre, men de har få, eller ingen unge i jobb eller lære.



## Har mannskapsmangel igjen - kansellerer rute ut dagen

Skrevet av JOHANNES SANDBERG  
08.08.2022 14:14

Skjerm bilde

# Key challenges in transportation and logistics



To overcome today's logistics challenges, the primary focus for the industry as a collective, should be working towards ensuring more sustainable transportation is utilized, higher customer satisfaction, and nourishing the economy

## #1 The Difficulty to Cut Transport Costs

I'm not going to sugar coat it: Shipping and transportation are by far the most expensive cost in logistics. Businesses in the United States alone spent over **\$1.45 trillion on transportation in 2018**. Because it's the largest overhead for most businesses (even remote ones), it seems this issue isn't going anywhere anytime soon.

On the bright side, we can start to chip away at this by **optimizing shipping routes through data analysis**. By easily **coordinating incoming orders, meeting dock times, and predicting traffic** conditions it is possible to cut costs - and not to mention that the brands logistics companies work with will have happy customers.

Source: PTV Group / Adriana Stein

Hjem » Nyheter » 25.000 mistet livet på europeiske veier i fjor

### RANKING EU PROGRESS ON ROAD SAFETY

13<sup>th</sup> Road Safety Performance Index Report  
June 2019

**PIN AWARD 2019**



**ETSC**  
European Transport Safety Council

**25.000 mistet livet på europeisk fjor**  
Source: Trygg Trafikk



# GLOBAL PLAN

DECADE OF ACTION FOR ROAD SAFETY  
2021-2030



Source: WHO

## How to do it: implementation



Financing



Legal Frameworks



Speed Management



Capacity Development



Gender Perspectives



Technologies



Focus on Low- and Middle-Income Countries

Source: WHO

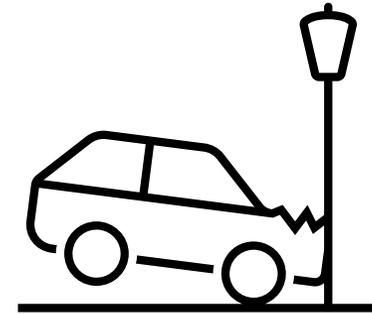
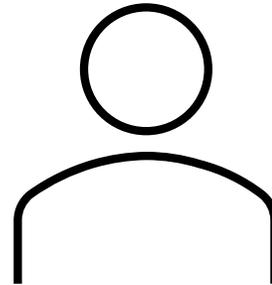
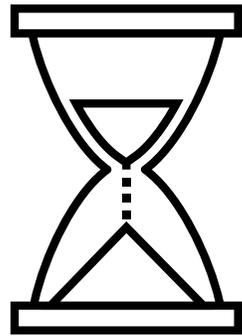
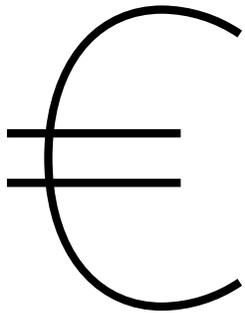


**A leap towards SAE L4  
automated driving features**

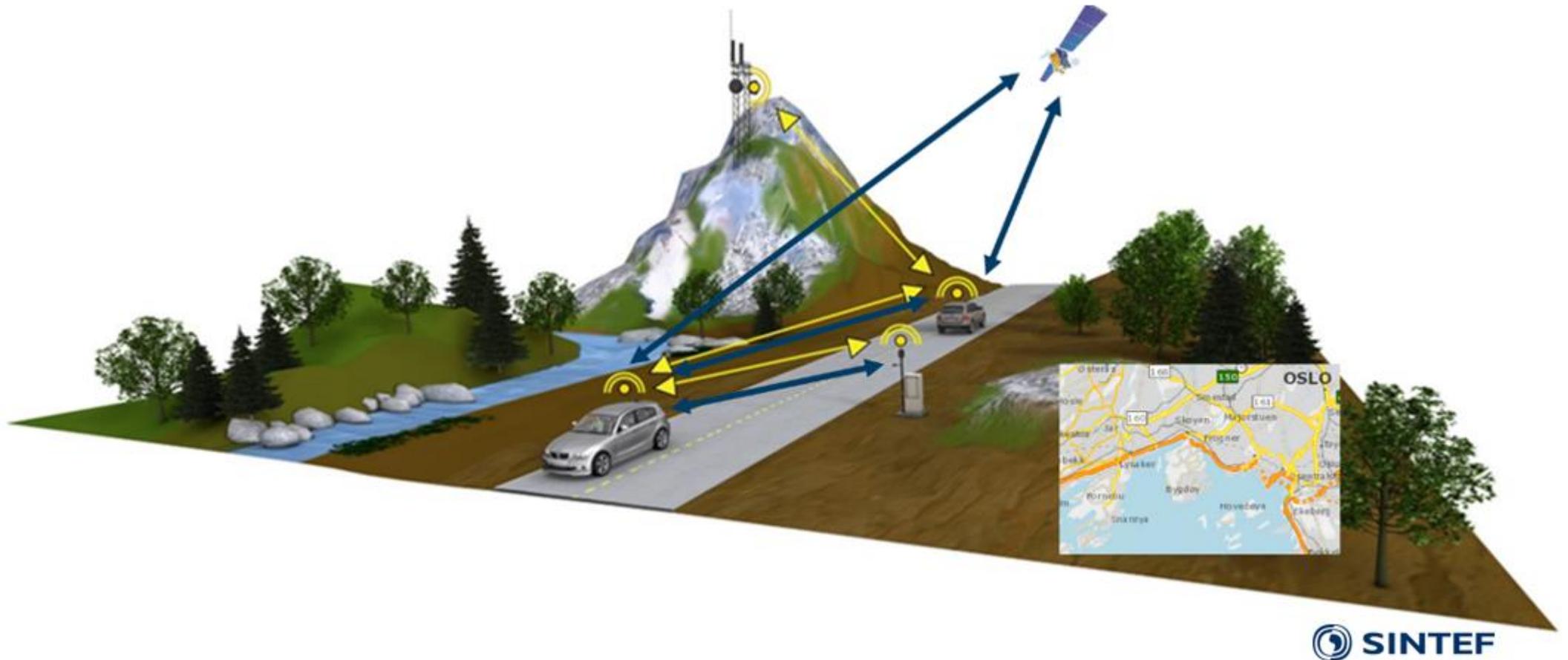
Flagship project - CCAM

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## Automated transport is crucial to overcome freight transport challenges

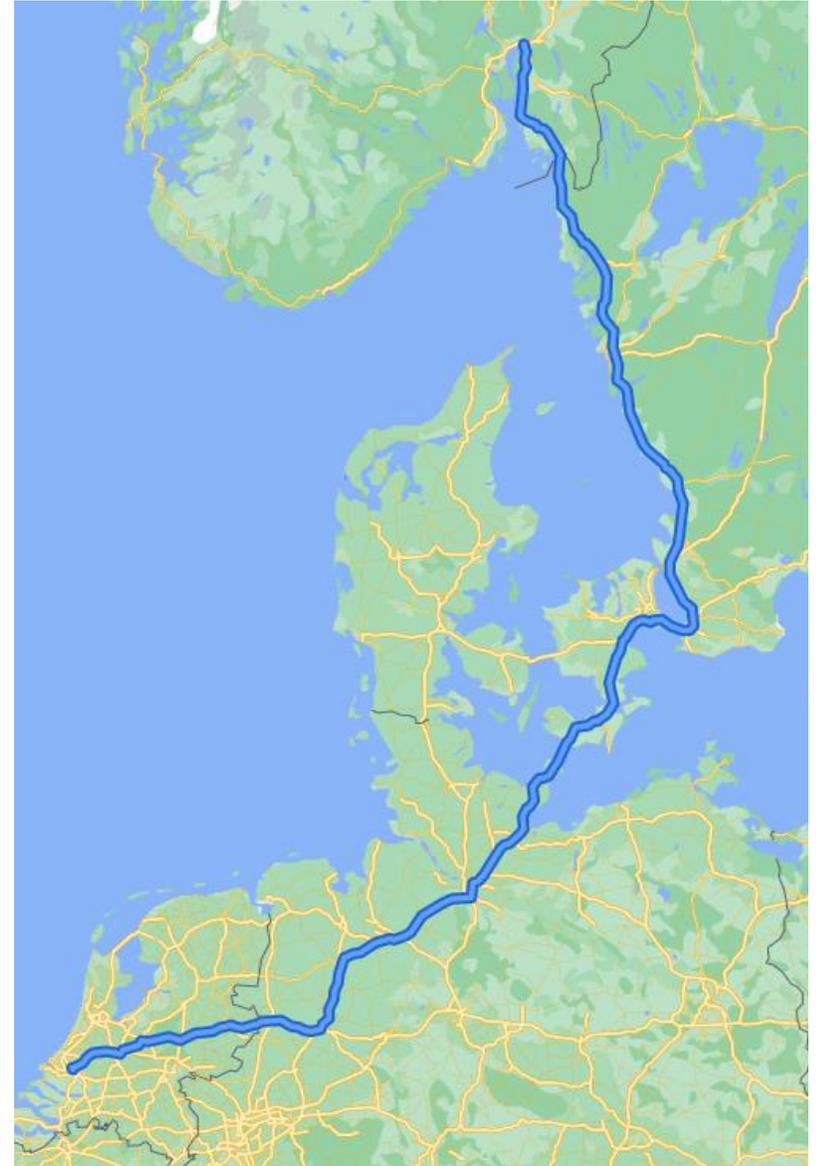


# Develop optimal designs of physical and digital infrastructures for public roads



## Logistic corridor from Rotterdam to Oslo

- Identify and largely resolve barriers on this corridor, in confined areas and on public roads
- For SAE L4 CCAM heavy duty transport
- Coordinating the vehicles for increased benefit
- Demonstrations in different use cases



# Logistic operation

On-premises information infrastructure

Physical and Digital road infrastructure for CCAM on public roads

On-premises information infrastructure



Border crossing

Motorway Logistic

Hub2Hub Logistic



Coordinated CCAM interface



# Objective 1 – the latest technology

- Implement the latest technology and overcome major CCAM deployment barriers
- Expected results:
  - technology at level TRL7
  - coordination interface for CCAM vehicles
  - optimal physical and digital infrastructures design



# Objective 2 – the infrastructure

- Define recommendations for adaptations of supporting infrastructure, vehicle regulations and standards
- Expected result is a Book of Recommendations, covering:
  - recommendations on how to adapt infrastructure in relation to freight transport use cases;
  - best practices for the introduction of L4 CCAM vehicles for freight transport;
  - necessary adoptions and refinements to regulations and their harmonisation.



# Objective 3 – the business models

- Demonstrate business models and partnerships for the application of CCAM vehicles in logistics
- Expected results:
  - logistics business models that are profitable
  - tool for analysing the logistics business models



Source: Pexels / Marcin Jozwiak

# Objective 4 – the impact assessments

- Perform technical and socio-economic impact assessments
- Impact on environment
- Impact on safety
- Impact on traffic
- Impact on economy, including socio-economics
- Gap Analysis of the technological and SRL



Source: Waredock

# Use case the Netherlands: port operations



Source: Pexels / APM



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# Use case Germany: transition from motorway to confined area



Source: HPA

# Use case Sweden: hub-to-hub



Source: Gothenburg RoRo Terminal



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# Use case Norway: from border to port



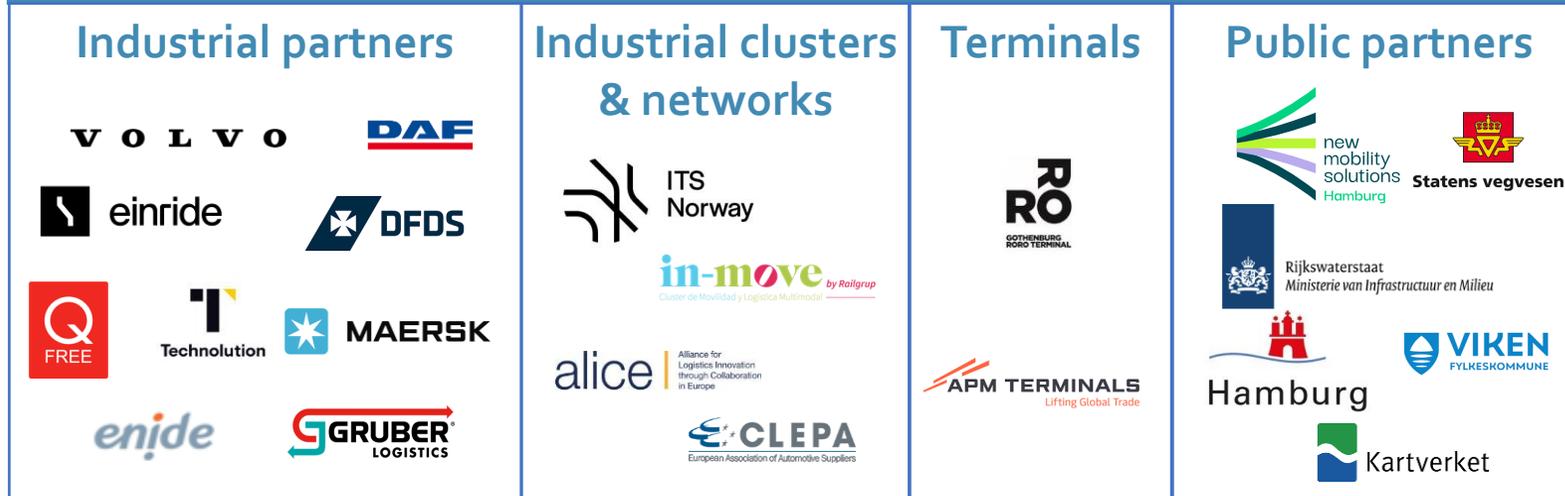
Source: Jarl Morten Andersen/Dagsavisen

# CCAM test corridor Rotterdam – Oslo



Source: Shutterstock

## Industry and end users



## Research and evaluation



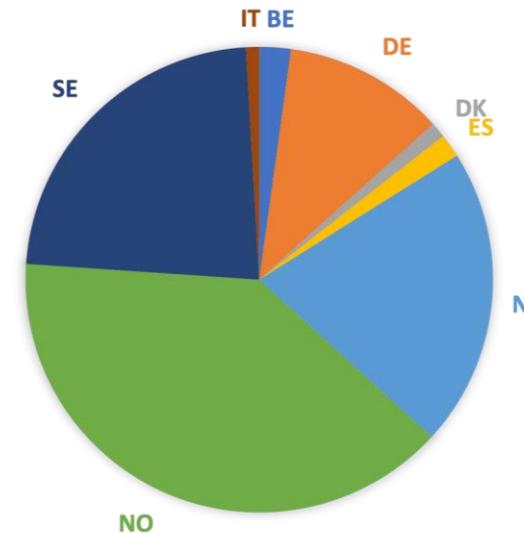
## Associated partners



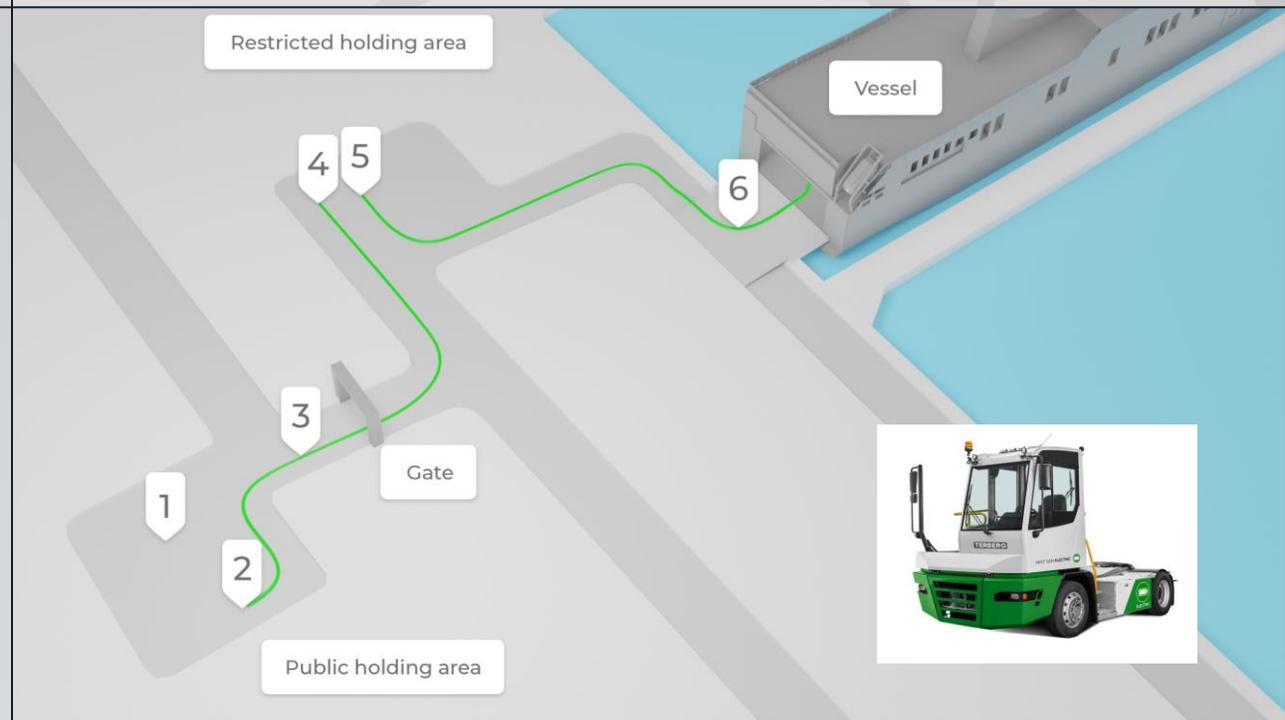
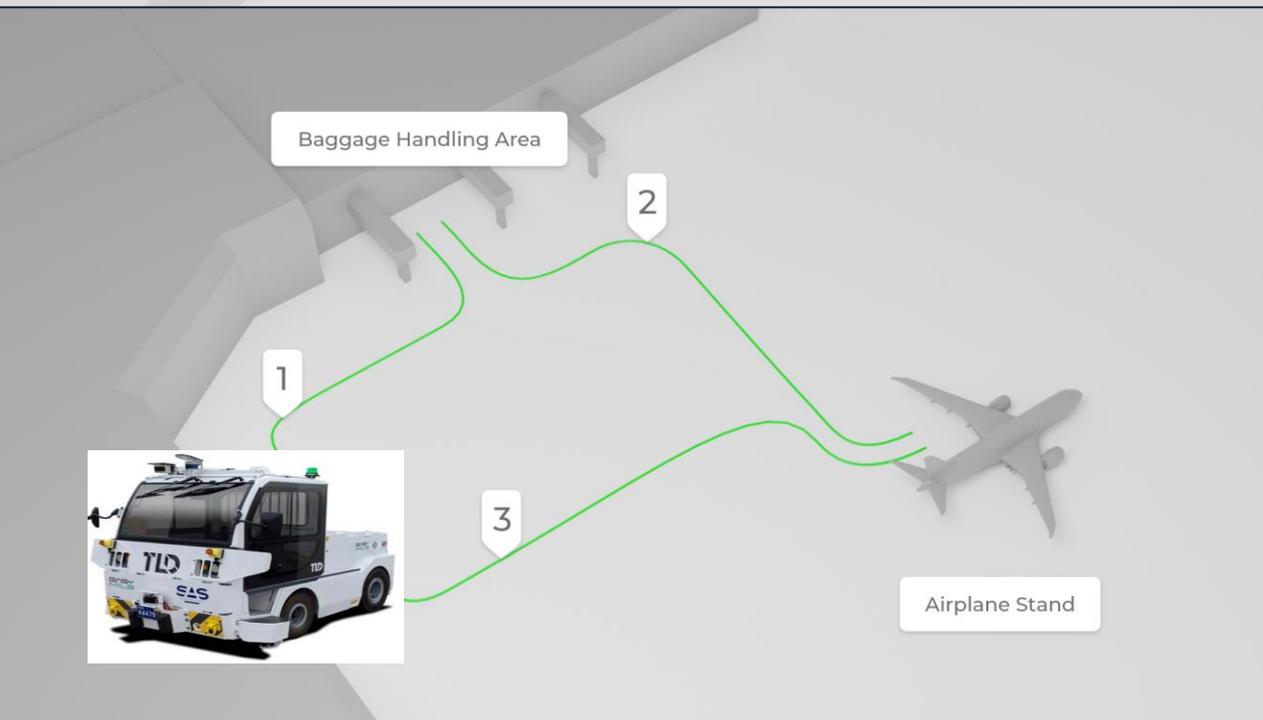
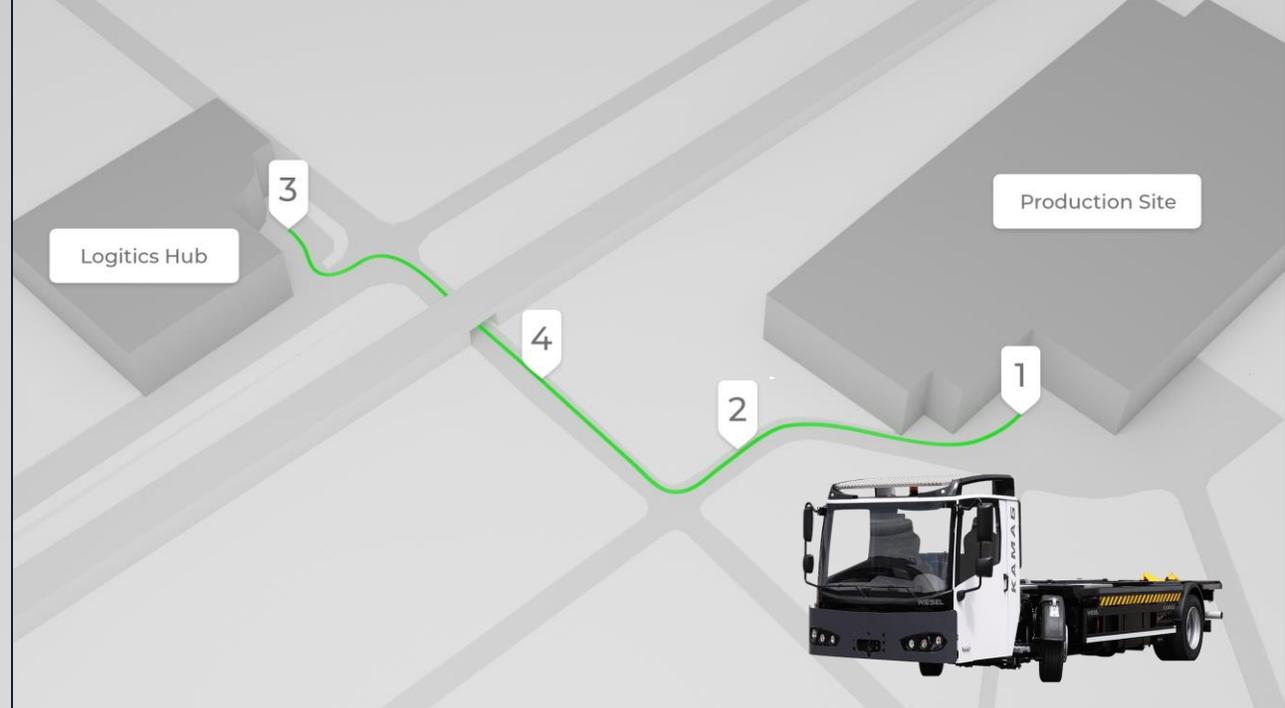
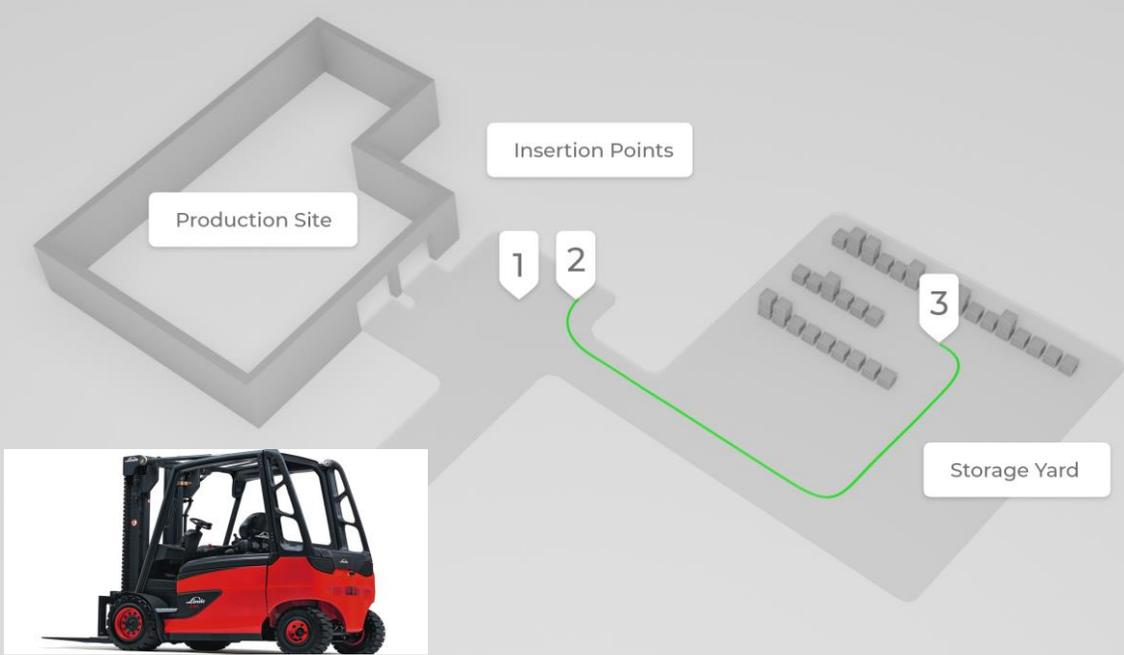
## • MODI facts

- 34 partners: Norway, Sweden, Denmark, Germany, The Netherlands, Belgium, Italy, and Spain
- Coordinator: ITS Norway
- Duration: 42 months

- Budget total: 28 061 999 Euro
- EU-contribution: 23 031 671 Euro
- Norwegian partners: 8 649 405 Euro (38%)



Norwegian partners: ITS Norway - Q-Free – SINTEF – TØI - Statens vegvesen – Kartverket - Viken  
Norwegian associated partners: Moss Havn - ASKO



Thank you for your attention

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