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# Autonomous transport - Mobility and logistics



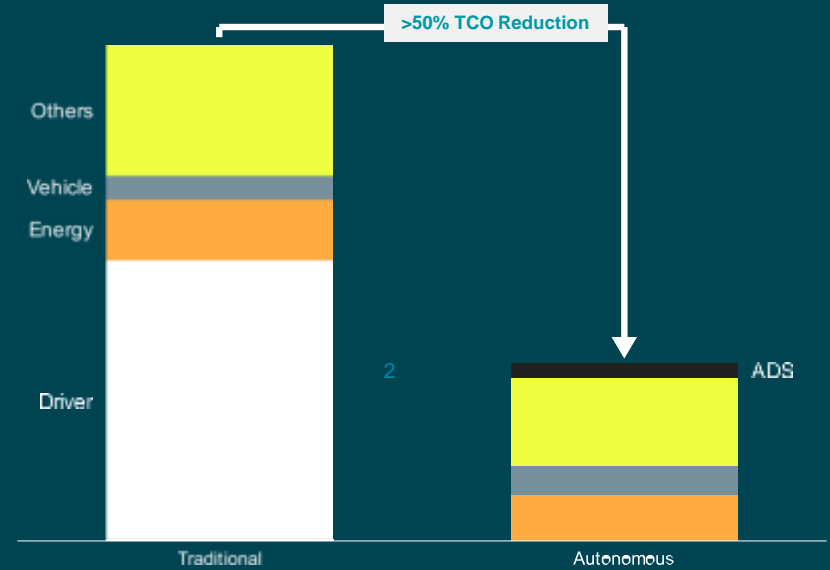
# Autonomous Vehicle tech has a tremendous potential to mobility

1 Market with strong future growth expectations

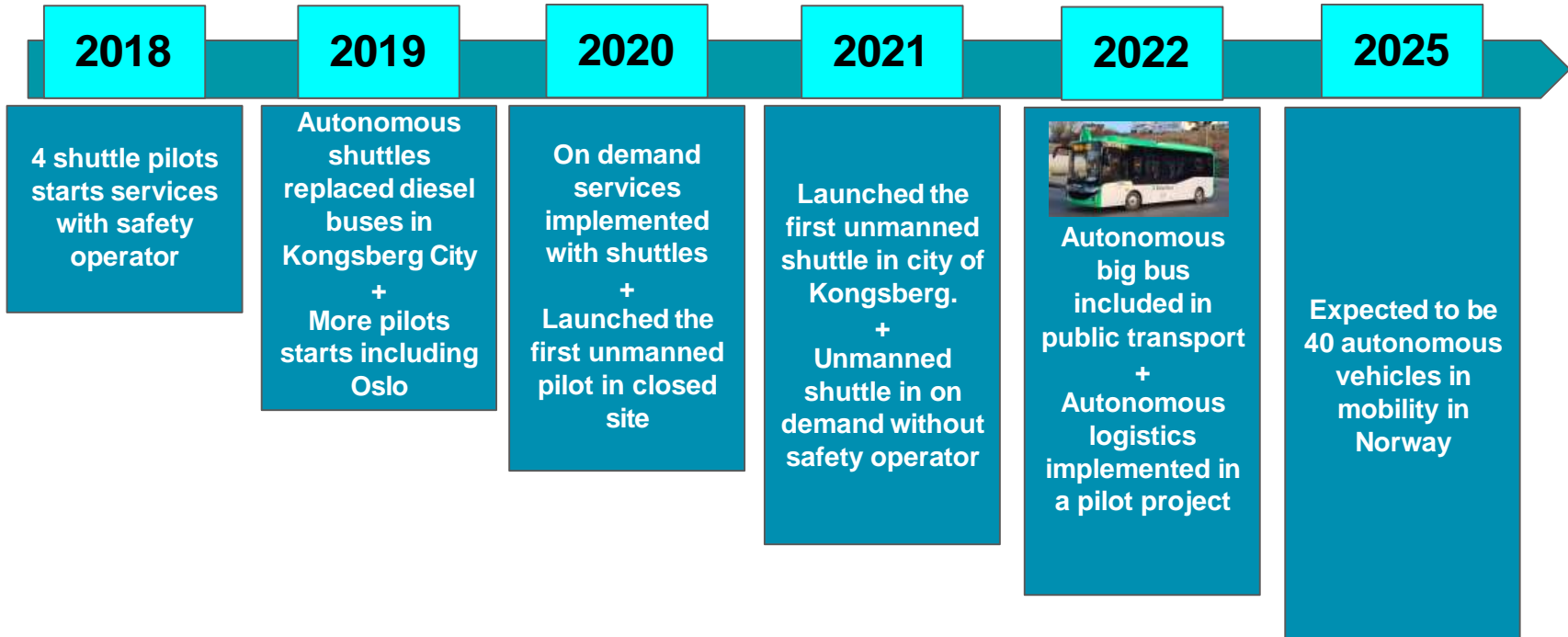


## ...where autonomy supports growth for shared mobility

One of many benefits – lower costs with Autonomy, Bus example from MAN - ILLUSTRATIVE



# Timeline - Norway - Experience from many types of autonomous vehicles



**xFlow™ platform is extended with functionality - and made ready for international customers and partners**

# Legislation implemented in 2017 in Norway

## Permitting autonomous vehicles to operate without a safety driver in the vehicle



Applied Autonomy has been supported by the Norwegian Transport Ministry and the Norwegian Parliament from day one.

Applied Autonomy have supported law maker and policy makers with facts and experiences

# Expansion to Europe

## Projects where Applied Autonomy has been involved





From the opening ceremony 8. May 2022  
mayor of Rogaland County, mayor of  
Stavanger city and minister of Transport  
in Norway



# Software solution for operational central to autonomous vehicles and traffic regulation



Operator  
VY



Vehicle Speed

Transport  
Reliability

Degree of  
autonomous mode



# Stavanger, Norway

## Public large bus in the city center – Pilot 2

### Key

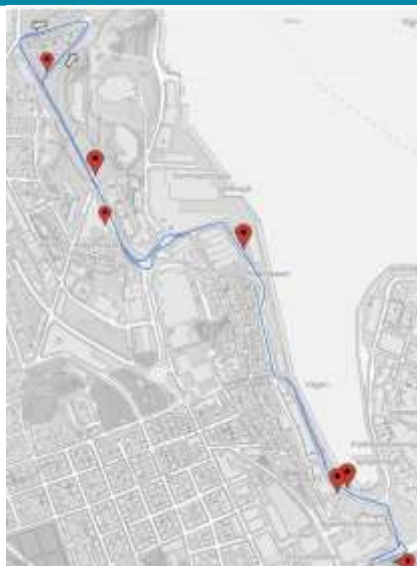
**facts:** 3.4 km route (back and forth)

- Starting driving in April 2022 with passengers

### Applied Autonomy

**delivers** assistance to the public transport operator with choosing a suitable route

- Safety analysis and approval to operate
- Safety, security and GDPR responsibility
- xFlow® services
  - Collection of driving data from the vehicle
  - Monitoring platform of the vehicle
  - Platform to automate the transport



Stavanger Municipality  
*“We would like to express that we only have positive experiences with both Kolumbus and Applied Autonomy”*



Photo: Stavanger Aftenblad

### Involved



Public transport authority. Communication to end-customers and tickets

Operation of the service

8 meter electric bus with 22 seats and capacity for 52 passengers

Frowride.ai Sensor solution and software for autonomous driving L4

xFlow® Collection of driving data from the vehicle  
Monitoring platform of the vehicle  
Platform to automate the transport



# Experiences so far

- **User acceptance = Elderly and children is enthusiastic users - even without safety driver**
- **Good progress on the automated system of system**
- **Norwegian companies is easy to work with and have a good support from the government**

# AWARD

All Weather Autonomous Real logistics  
operations and Demonstrations

# 2.5.5 - AWARD overall project

## Development of an ADS for Heavy-Duty Vehicles (HDV)

Able to **handle adverse environmental conditions** such as heavy rain, snowfall, fog

Targeting compliance with **ISO 26262** and taking into consideration **SOTIF recommendations**

Integrating **multiple sensor modalities and an embedded teleoperation system to address 24/7 availability**

**Optimized fleet management & supervision system** for logistics use cases

## Integration of the ADS into vehicle platforms

AIT



KAMAG



TLD/SAS



TERBERG



## Demonstration in concrete use cases

Industrial autonomous loading & unloading operations



Hub to hub autonomous logistics on public roads



Airport autonomous ground support equipment



Port Trailer autonomous transfer operations



Terminal operator  
for the seaport and  
Industrial HUB



AWARD Impact on  
Process Efficiency

Fleet Efficiency

Vehicle Efficiency

Efficiency of  
Handling  
of Goods



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12:35	Samfundet	-4	12:39

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