

Applied Autonomy

Bringing Autonomous Processes to Life



Olav Madland

+47 464 46 900

olav.madland@appliedautonomy.no

www.appliedautonomy.no

**AWARDED: Best Autonomous Vehicle Implementation
Services Firm 2023 - Global**



Cities need a new mobility solution



Vehicles occupy space from people, and consume energy we do not have

The green shift requires shared transport

There are not enough bus drivers

Autonomous transport is going into production now

Cities and transport operators have investment plans

1 Market with strong future growth expectations

Legal framework for unmanned vehicles has existed since 2022

What will the Autonomous Bus Market Size be During the Forecast Period?



Autonomous vehicles are now used in transport with a safety driver on board.

There is a need for a software solution to manage and optimization these vehicles as soon drivers are removed from the vehicle.

Technavio, 2022



Fleet Management Market



MarketsandMarkets, 2022

Existing fleet management systems has a market size of USD 25.5 bn (2022) rising to USD 52.5 bn in 2027 (CAGR 15.5)

MarketsandMarkets 2022)

Abbreviation : CAGR = Compound Annual Growth Rate

Problem: Operators do not have systems to operate autonomous vehicles



For the time being, transport operators cannot use expensive autonomous vehicles without a safety driver.

Transport operators need a system integrator and a new software solution to remove the driver

Solution: Applied Autonomy, xFlow®

Bringing Autonomous Processes to Life

Our SaaS xFlow and automated vehicles reduces transportation cost by 35%-50% and gives cityspace back to people









Abbreviation : SaaS = Software as a Service

Unique position from implementing and operating 20+ autonomous projects since 2017










Global Award : Autonomous vehicle 2023



In operation

-  **Drammen (2021-)** - xFlow with shuttle bus
Autonomous shuttle through the city center
-  **Stavanger (2022)** - xFlow with large bus
First autonomous large bus in the city center
-  **Michigan (2022-)** – xFlow with large bus
Autonomous shuttle on public road
-  **(2023-)** - xFlow with large buses
First autonomous large buses in Israel without safety driver
-  **AWARD** - driverless transportation with deployment of automated heavy-duty vehicles in real-life logistics operations
-  **Orchestra** - coordinate autonomous and manually driven transport

xFlow: A selection of completed projects

-  **Kongsberg (2018-2021)** - Public shuttle bus
The first autonomous bus in the world to be driving in open traffic without an operator
-  **Trondheim (2020)** - Public shuttle bus
Europe's first autonomous on-demand service
-  **Jelgava and Aizkraukle (2020)** –Public shuttle bus
First autonomous bus pilot in Latvia
-  **Førde (2021)** – Public shuttle bus
Autonomous shuttle between campuses
-  **Říčany (2022)** – Public shuttle bus
Autonomous robot and shuttle in city
-  **Helmond (2022)** – Public shuttle bus
Autonomous shuttle in city
-  **Svalbard (2019)** – Public shuttle bus
World's most Northern autonomous bus
-  **Krødsherad Sigdal (2022)** – Public shuttle bus
Autonomous shuttle between home for elderly people and village centre.
-  **Hasselt (2022)** – Public shuttle bus
Autonomous shuttle in city

More innovation is needed

Cost and benefits of new mobility systems for cities and regions

Global sustainable goals must be included in simulations



Passengers comforts and attractiveness of new mobility solutions



Procurements and evaluations of vendors



Horizon 2020 - AWARD



AWARD
Scaling autonomous logistics



Frame of Horizon 2020 projects

2018-2020 Digitising and Transforming European Industry and Services: Automated Road Transport

AWARD = All Weather Autonomous Real logistics operations and Demonstrations

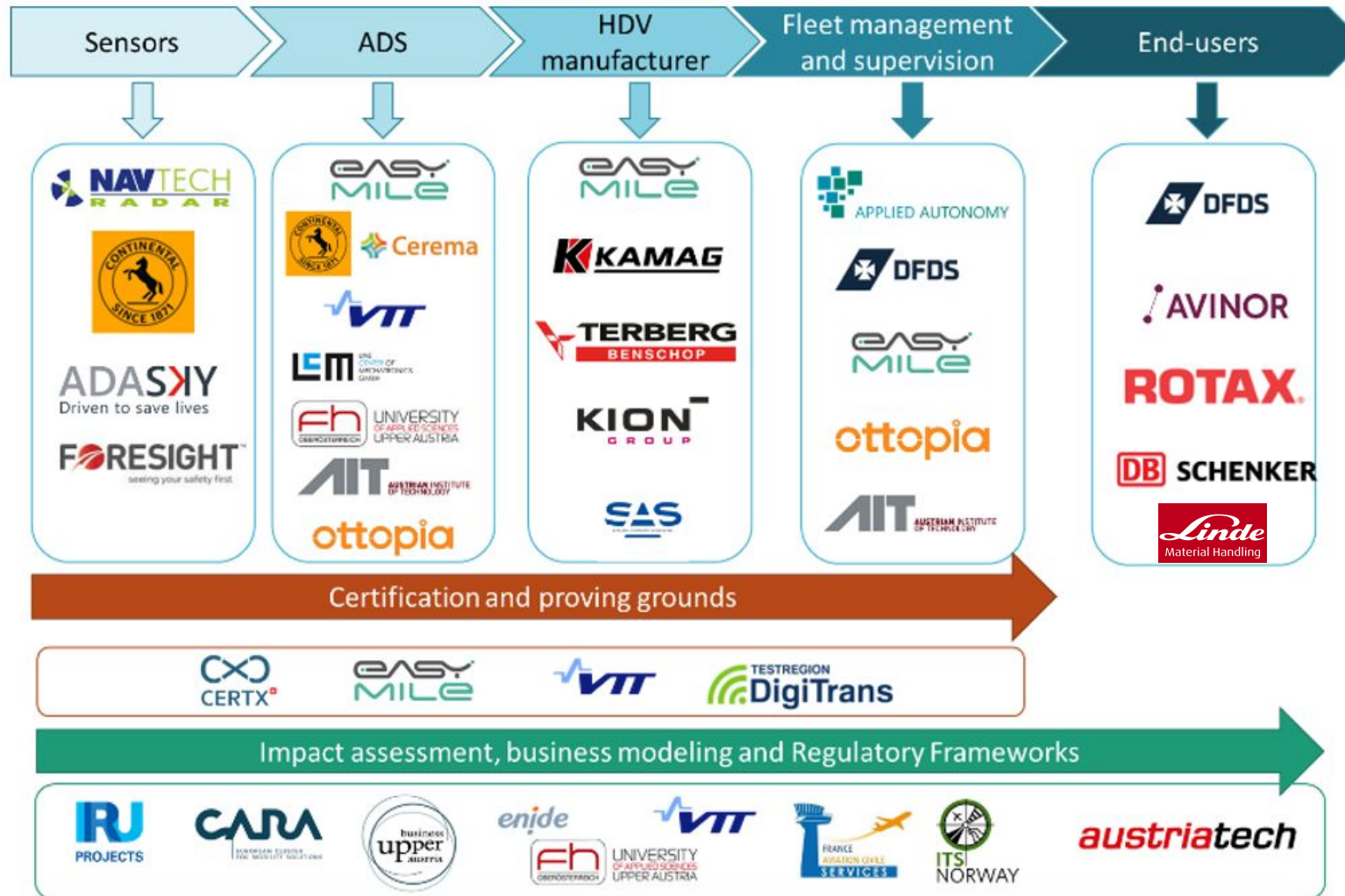
Beginning of project : 1st of January 2021

COORDINATOR : 

MEMBERS :



Complementary-skilled Consortium



From multiple horizons



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

KION



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



G2-040 89% X

live 9 km/h **on_demand**
last seen

Gudruns gt 8 88% **00:13**
next stop progress estimate

Missions
No missions found

Check-in
No check-in found

Active bookings

Transit		1	
12:28	Gudruns gt 8	-3	12:31
12:35	Samfundet	-4	12:39

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