



SIP-Adus Workshop 2021

Session on Regional Activities

Connected, Cooperative and Automated Mobility – the EU perspective

Ludger ROGGE
European Commission
DG Research & Innovation

Sustainable & Smart Mobility Strategy

- ❑ Lays the foundation for how the EU transport system can achieve its green and digital transformation and become more resilient to future crises.
- ❑ The aim is to achieve a 90% cut in emissions by 2050, delivered by a smart, competitive, safe, accessible and affordable transport
- ❑ 10 areas of action (flagships) including 82 initiatives for the next 4 years



By 2030

- At least 30 million zero-emission cars will be in operation on European roads
- 100 European cities will be climate neutral
- High-speed rail traffic will double across Europe
- Schedules collective travel for journeys under 500 km should be carbon neutral
- Zero emission marine vessels will be market-ready
- **Automated mobility will be deployed at a large scale**

European Partnership on CCAM



Initiative where the Union, together with private and public partners commit to support jointly the development and implementation of a R&I programme in the area of CCAM

Main Objective:

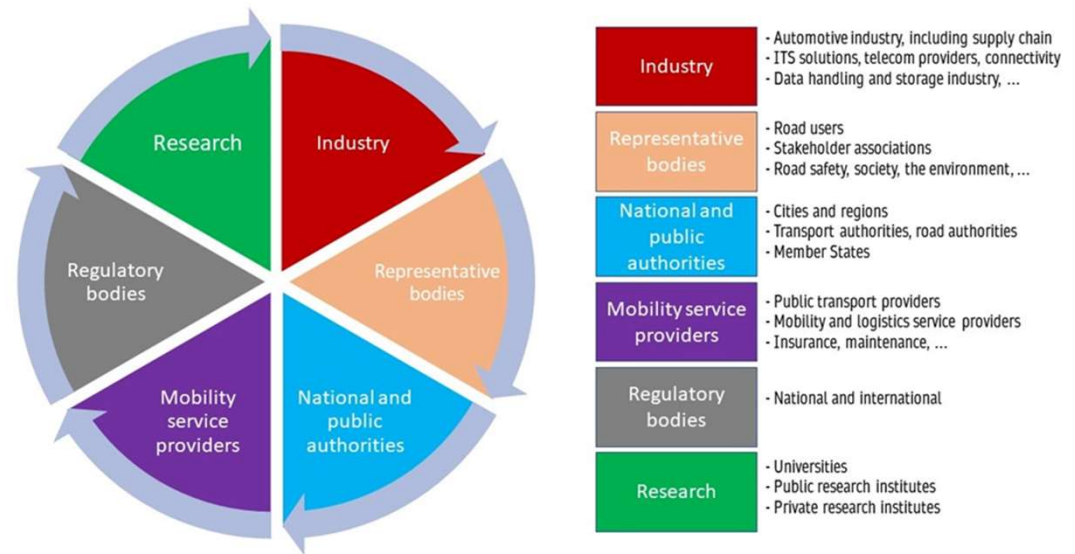
- Support the development and market uptake of connected and automated mobility and logistics services and systems.

European partnership will

- Better align EU R&I efforts in the field of CCAM
- Develop and implement a coherent long-term agenda to coordinated investments in R&I and pre-deployment (SRIA)
- Implement large number of demonstrations of inclusive and user-oriented CCAM solutions for mobility of people and goods across Europe by 2030.

Budget: 1 Billion € (500 M€ EC contribution)

CCAM Partnership Sectors and Stakeholders



Partnership website:

<https://www.ccam.eu/>

H2020 - Calls on "Automated Road Transport"

□ Budget: € 350 Mio (2014-2020)

□ Focus

- Large-scale demos of automated driving systems for passenger cars, trucks and urban transport
- Technologies to increase safety and performance of AV
- Road infrastructure to support automation
- Human centered design of AV
- Integration of AV in traffic management solutions
- Connectivity for automation
- Testing and validation procedures
- Assessment of impacts, benefits and costs of CAD systems
- Support for cooperation and networking activities



5 Calls for proposals

2016

2017

2018

2019

2020

More info on H2020 projects, see:

<https://knowledge-base.connectedautomateddriving.eu/projects/findproject/>



Flagship Automated Road Transport 'Horizon 2020' projects

Projects' Acronym

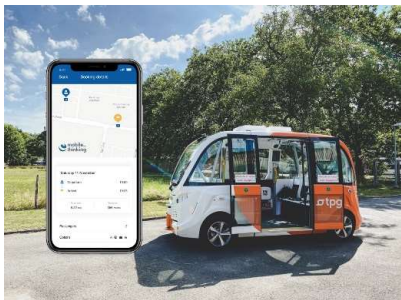
Large Scale Pilots
of automated driving systems for passenger vehicles



Fully automated urban road transport and shared AV
fleets in urban areas



Multi-brand truck platooning
and autonomous real logistics operations





Large-scale, cross-border demonstration of highly automated driving functions for passenger cars

L3 Pilot - Piloting Automated Driving on European Roads

Objectives

- ❑ Pilot, test and evaluation automated driving functions
- ❑ Coordinate activities across the piloting community to acquire the required data for evaluation
- ❑ Create a harmonized Europe-wide piloting environment for automated driving
- ❑ Innovate and promote automated driving for wider awareness and market introduction

Outcomes

- ❑ SAE Level 3 and 4 functions tested on ordinary roads in seven European countries, including cross-border activities
- ❑ Pan-European testing environment and methodology developed
- ❑ “Code of Practice” created to speed up and harmonise the development of automated driving systems
- ❑ Framework for collection, storage and evaluation of large amounts of data in a harmonised manner created
- ❑ Datasets for further research publicly available

<https://l3pilot.eu/>

L3 Pilot
Driving Automation

Save the Date!
L3PILOT FINAL EVENT 13-14 OCT
Final Event & Conference 13 - 14 Oct
Driving Demonstrations & Exhibition 11 - 15 Oct

HAMBURG
ITS World Congress
11-15 Oct 2021
Experience Future Mobility Now

www.L3Pilot.eu Twitter @_L3Pilot_ LinkedIn L3Pilot_ #L3PilotAD #ITSWC2021

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723051.

eucar
Supported by the European Council for Automotive R&D.

Coordinator: Volkswagen AG
Consortium: 34 Partners from 12 Countries
EU Contribution 36M€
Duration: 9/2017 – 8/2021





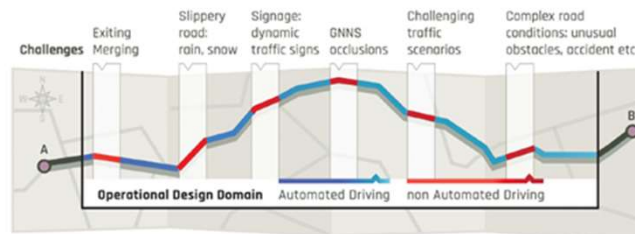
Large-scale, cross-border demonstration of highly automated driving functions for passenger cars



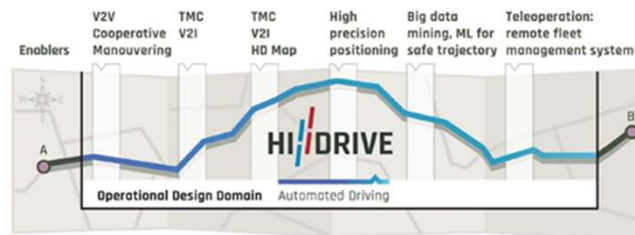
- Demonstrate highly automated driving functionalities for passenger cars, from motorway chauffeur to urban chauffeur, in particularly challenging and complex environments
- Trials in several European countries in urban nodes, motorways and cross-border corridors to ensure that new services and systems are compatible and interoperable at European level
- 41 partners

Challenges toward the deployment of higher automation identified

How can fragmentations in ODDs be eliminated?



Extended & Continuous ODDs on interoperable European roads



Project Information

Hi-Drive

Grant agreement ID: 101006664

Status

Grant agreement signed

Start date

1 July 2021

End date

30 June 2025

Funded under

H2020-EU.3.4.

Overall budget

€ 37 476 613,38

EU contribution

€ 30 000 000



Coordinated by

VOLKSWAGEN AG

Germany





Developing and testing shared, connected and cooperative automated vehicle fleets in urban areas



A 4 year's project with mission to :

Prepare the adoption and deployment of Autonomous vehicles for public transportation.

To seek out **new transport paradigms** and new business models.

To boldly test **disruptive public transport services** which no autonomous vehicle has done before!



4 year project
20 Partners – 7 sites
20 MEUR budget
15.4MEUR EU Contr.
May 1st, 2018 – April 30, 2022





Developing and testing shared, connected and cooperative automated vehicle fleets in urban areas



SHOW

- ❑ Real life demonstrations of shared, connected, cooperative, electrified fleets of autonomous vehicles in 20 cities across Europe
- ❑ Large fleet of AVs of all types (buses, shuttles, pods, robo-taxis, cargo vehicles) will be tested on dedicated lanes and in mixed traffic
- ❑ International cooperation
 - 11 external stakeholders from US, Singapore, Australia, China, South Korea and Taiwan declared interest to support and collaborate
 - Exchange know-how, lessons learned/best practices
 - Common architectures and KPIs
 - Exchange specific data sets

SHOW demos

5 Mega sites

*Sweden, Germany,
France, Austria, Spain*

6 Satellite sites

*Finland, Denmark, the
Netherlands, Italy,
Greece, Czech
Republic*

3 Follower sites

*Belgium, Geneva,
Thessaloniki

(and at least 10 more are
targeted throughout
project)*

Coordinator: UITP
Consortium: 69 Partners from 13
EU Countries + Switzerland
Budget: Approx. 36 M€
Start date: January 2020

www.show-project.eu





Multi-brand Truck Platooning



ENSEMBLE - Pave the way for the adoption of multi-brand truck platooning in Europe

Objectives:

- ❑ Aligning and working on standardization of multi-brand specifications
- ❑ Implementing Platooning as a support system
- ❑ Demonstrating differently branded trucks in one platoon under real world traffic conditions
- ❑ Assessing impacts on traffic flow, business models, driver behavior and fuel economy

<https://platooningensemble.eu/>

Public demo event



ENSEMBLE: Facts & Figures



The ENSEMBLE project is coordinated by TNO in collaboration with

- **The European truck manufacturers:**
DAF, DAIMLER Truck, IVECO, MAN, SCANIA, VOLVO Group (Volvo trucks and Renault trucks)
- **CLEPA** represents the European suppliers of automotive equipment and components.
- **Suppliers:**
Bosch, Brembo, Continental, NXP, WABCO, ZF
- **ERTICO:**
Link to the European Truck Platooning Community
- **Knowledge partners:**
IDIADA, Université Gustave Eiffel, KTH, VU Brussel.

- Innovation Action no. 769115
- 4 year EU project (June 2018 – March 2022)
- 20 million EUR EC funding
- 19 partners representing the full value chain of the automotive sector



Efficient and safe connected and automated heavy commercial vehicles in real logistics operations

AWARD - All Weather Autonomous Real logistics operations and Demonstrations

- ❑ Develop, autonomous driving systems for heavy duty vehicles. ADS will be integrated into multiple vehicle types used in low-speed areas'
- ❑ ADS will be tested in a variety of real-life use cases in warehouses and industrial plants, hub-to-hub shuttle service on open road, automated baggage dispatching in airports, container transfer operations and vessel loading in ports.

Project Information

AWARD

Grant agreement ID: 101006817

Status

Ongoing project

Start date

1 January 2021

End date

31 December 2023

Funded under

H2020-EU.3.4.

Overall budget

€ 26 398 799,01

EU contribution

€ 19 892 905,63



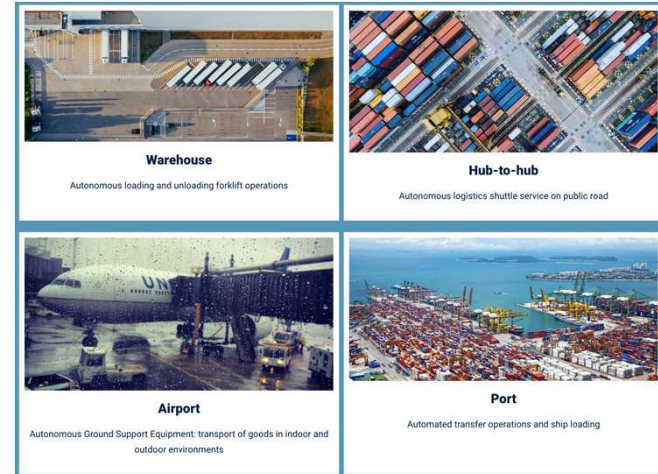
Coordinated by

EASYMILE

France



AWARD
Scaling autonomous logistics

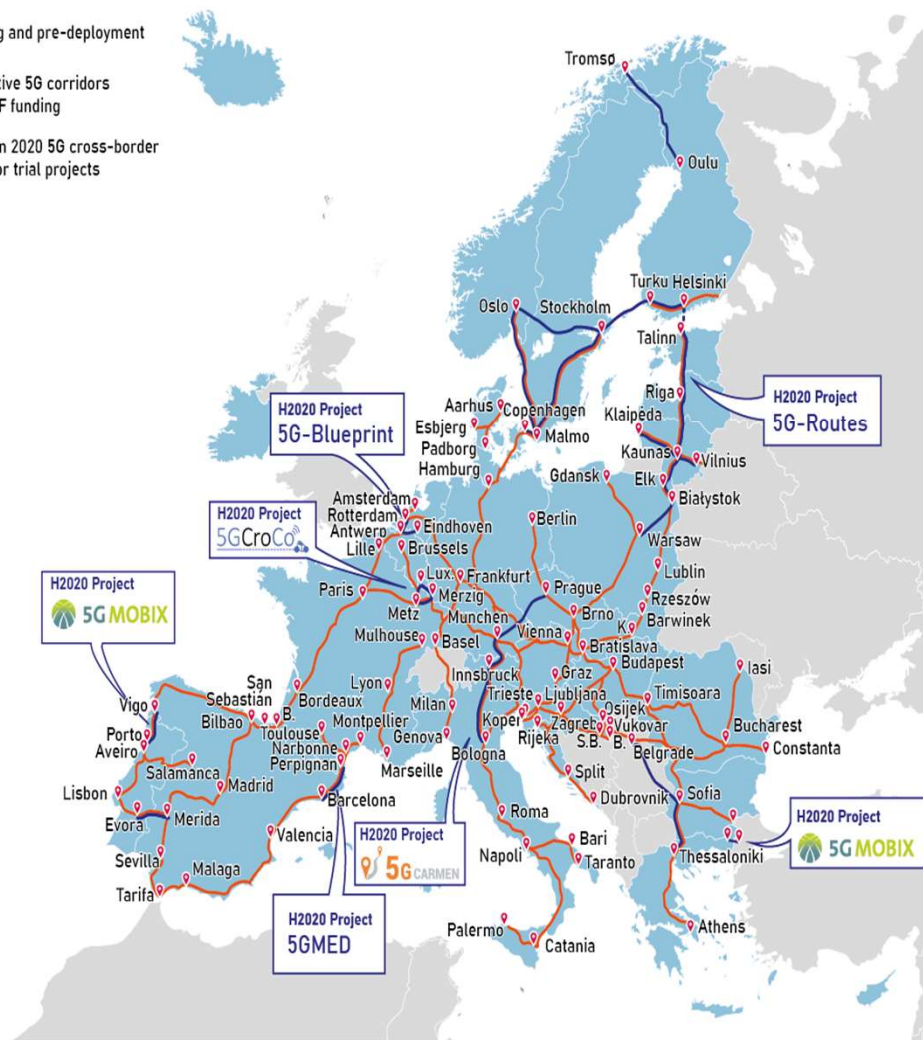


<https://award-h2020.eu/>

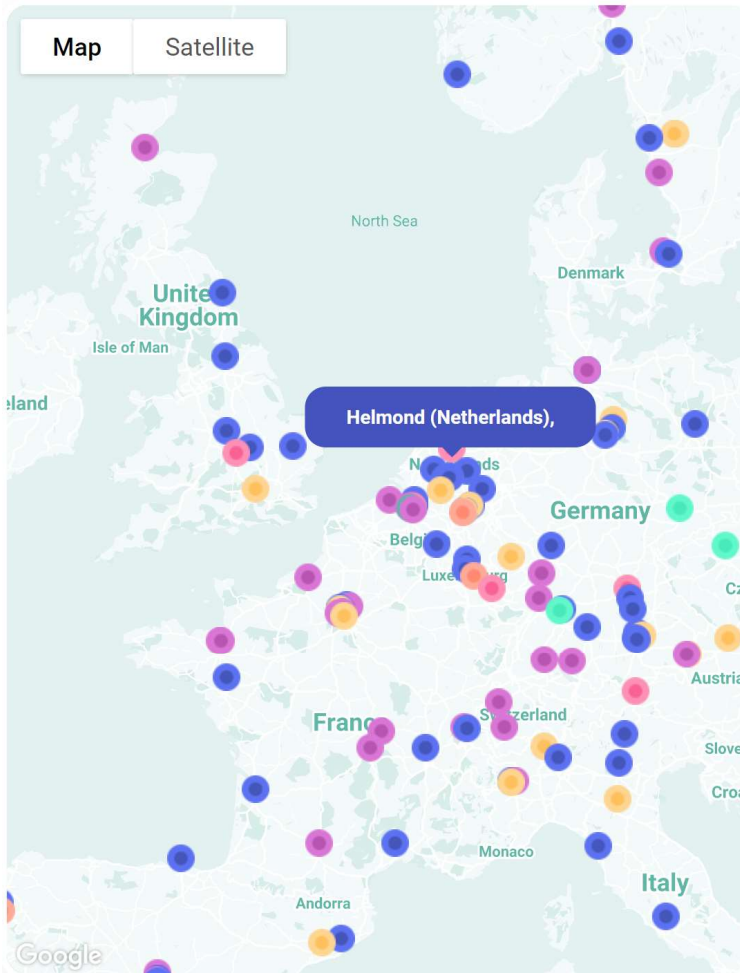


5G cross-border corridors for CCAM

- Testing and pre-deployment
- Indicative 5G corridors for CEF funding
- Horizon 2020 5G cross-border corridor trial projects



European R&I landscape on CCAM



← BACK TO THE MAP

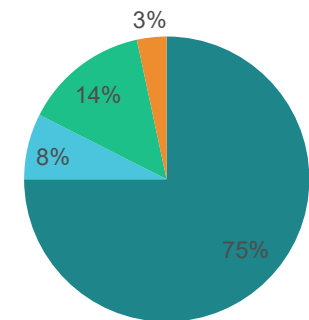
Helmond (Netherlands),

Linked projects :

	PROJECT NAME CoEXist	DATES 01/05/2017 - 30/04/2020	▼
	PROJECT NAME FABU LOS	DATES 01/01/2018 - 31/12/2020	▲
FUNDING EU H2020	DESCRIPTION Pre-Commercial Procurement of Future autonomous bus urban level Operation Systems		
Go to project's website			
	PROJECT NAME inLane	DATES 01/01/2016 - 30/06/2018	▼
	PROJECT NAME MAVEN	DATES 01/09/2016 - 31/08/2019	▼

~150 mapped sites

■ Public Road ■ Corridor ■ Test Track ■ Simulator



Source: ARCADE Knowledge Base (Status April 2021)

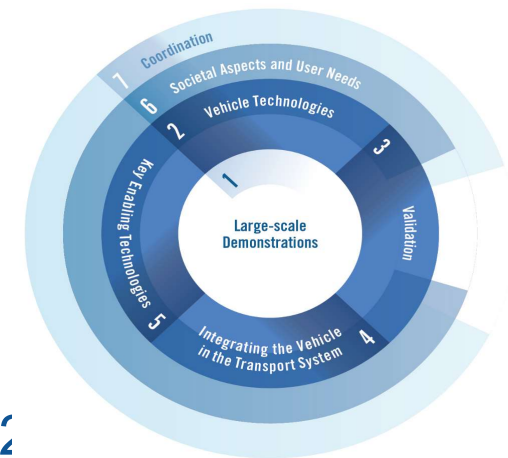
<https://www.connectedautomateddriving.eu/test-sites/>



Horizon Europe – First Calls on CCAM

☐ For CCAM – call for proposal will focus on projects related to:

- European demonstrators for integrated shared automated mobility solutions for people and goods
- Vehicle technologies:
- Safety validation of CCAM systems
- Integrating AV in the transport system
- Enabling technologies
- Social aspects / user needs



☐ First call open: 24 June 2021 – Call deadline: 19 October 2021

☐ Second call open: 14 October 2021 – Call deadline: 12 January 2022

☐ First projects to start as of Q2 2022

For more information on the open topics, please go to the:
[EC funding & tenders portal](#)





International Cooperation for CCAM

New opportunities for cooperation between EU and International partners

CCAM topics encourage International Cooperation

“In order to achieve the expected outcomes, international cooperation is advised, in particular with projects or partners from the US, **Japan**, Canada, South Korea, Singapore, Australia”

Rationale for cooperation

- share experiences, knowledge and data collected in research projects and large-scale demonstration pilots
- identify common research areas and fields of cooperation to exploit synergies.
- In the longer term: cooperation can lead to harmonised approaches in terms of testing, methodologies and standards.

Japanese entities can get directly involved in EU-funded projects



Thank you for your attention