



ARCADE

Joint CAD Network Stakeholder

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European Commission

Overview

- *EC turns policy into action*
- *More than 40 projects/initiatives participate in this workshop*
- *Horizon 2020 EC funded projects and other initiatives*

Horizon 2020 projects (1/7)

ADAS & Safety & end user acceptance

- User requirements, expectations, concerns
- Next generation ADAS
- Innovative HMI
- Increased reliability, trustworthiness in complex, mixed traffic
- Cooperative interaction with other road users in mixed traffic

Road infrastructure to support automation

- Traffic modelling methods
- Hybrid infrastructure – design, upgrade, adaptation
- Safety performance criteria
- Guidance and recommendations for road authorities

Traffic management solutions for AD

- New solutions for smooth integration of automated vehicles into traffic systems

Projects



Horizon 2020 projects (2/7)

Large Scale Pilots

- Test and evaluate AD functions at SAE Level 3 and 4 (for parking, urban driving, motorways)

ICT infrastructure for automated road transport

- Design, implement and test ICT infrastructure for higher levels of automation (up to level 4)

Multi-Brand truck platooning in real traffic conditions

- Testing multi-brand platooning on European roads across national borders

Urban road transport automation

- Full scale demonstrations of fleets of autonomous mini-buses in low to medium demand areas
- Prepare cities to include concept such as self-driving buses by utilizing Pre-Commercial procurement

Projects



Horizon 2020 projects (3/7)

Testing, validation and certification procedures

- Comprehensive testing, validation and certification procedures for highly automated functions for different use cases in various traffic scenarios including cross-border
- Solution of combining both simulation and real-world tests

Impact assessment

- Assessment of short, medium and long term impacts, benefits and costs of different scenarios for CCAD systems

Driver behaviour and acceptance of connected, cooperative and automated transport

- Assess public acceptance for higher levels of connectivity and automation
- Analyze driver behaviour under different scenarios/use cases
- Estimate the effects of driver-vehicle interaction on transport safety
- Address the ethical and legal issues associated with driver and/or vehicle decision making process

Projects



**4 new projects
(May/June 2019)**

Horizon 2020 projects (4/7)

5G for cooperative, connected and automated mobility

- Applicability of 5G connectivity to CCAM V2X use cases
- Qualify and quantify from a business perspective the added value of cellular connectivity
- Validation of 5G in a broad CCAM context through cross border trials along 5G corridors

Internet of Things in automated mobility

- Foster the deployment of IoT solutions in Europe through integration of advanced IoT technologies; demonstration of multiple IoT applications at scale and in a usage context, and as close as possible to operational conditions.
- Large scale IoT pilots

Study for interoperability in the adoption of AD in Europe

- Contribution to the deployment of C-ITS for the implementation of AD
- Recommendations for regulations and large scale C-ITS deployments

Projects



Horizon 2020 projects (5/7)

Stimulating European research and development for the implementation of future road transport technologies

- Define and promote research priorities for sustainable road transport in Europe
- Comprehensive approach ranging from components to system integration and including enabling technologies and other transport modes,

Roadmap towards CAM & Support for networking activities

- Explore ways to strengthen cooperation amongst European and international stakeholders
- Forum for European and international stakeholders of road automation
- Support and accelerate implementation of roadmaps towards safe, electric, automated and connected smart mobility

Projects

FUTURE RADAR



Horizon 2020 projects (6/7)

Systems abilities, development and pilot installations

- validates the technical and economic viability of Big Data to reshape transport processes
- Building the European AI on-demand platform

Big Data PPP: Large Scale Pilot actions in sectors best benefitting from data driven innovation

- Industrial sectors for Large Scale Pilot actions include also transport
- Pilot actions propose solutions by using existing technologies or very near-to-market technologies that could be integrated

A new KIC of Urban Mobility

- Cross-cutting challenge; fully autonomous vehicles included

Projects



Horizon 2020 projects (7/7)

Behavioural aspects for safer transport

- Study those key factors that influence safe transport user behaviour taking into account demographic factors and societal framework conditions
- Assess risk perception and decision making for road users including VRUs such as pedestrians, cyclists, motorcyclists and powered two wheelers

Transport infrastructure innovation to increase the transport system safety at modal and intermodal level

- Infrastructure safety improvement by design and upgrading
- Efficient maintenance methods to ensure continuity of high level safety performance
- Adaptation to new vehicles characteristics including V2I/I2V

Deployment of C-ITS as a part of the C-Roads platform

- Cross-border tests with other C-Roads Member States
- Further develop interoperable Day-1 & Day 1,5 C-ITS services and support infrastructure readiness for connected and automated driving in Denmark, Finland, Norway and Sweden.

Projects



Projects/Initiatives besides Horizon 2020

- MANTRA (CEDR)
 - **How National Road Authorities are affected**
- *ADASTRA (UK)*
 - **Allow CAVs to see other vehicles not as objects but as they are and make a decision based on that**
- *DRIVE SWEDEN (SE)*
 - **One of 17 SIPs**
 - **A new mobility business model and new system for personal mobility are being shaped**
 - **A service that combines different vehicles and other modes in a seamless and connected system with an integrated payment mechanism.**
- Smartwayz.nl (NL)
 - **Smart mobility solutions, such as self-driving vehicles, co-usage systems and the efficient use of logistic flows.**
 - **Focus on testing these solutions and putting them into practice on a wider scale.**

Projects/Initiatives besides Horizon 2020

- Truck Platooning Initiative (JP)
 - **To run trucks in platooning with other truck brands on public roads outside Tokyo**
- *SIP-adus (JP)*
 - **Cross-Ministerial Strategic Innovation Promotion Program (one of 11 themes Automated Driving System)**
- Level 4 Mobility Service Project (JP)
- Strategic Transit Automation Research (US)
 - **Outlines a research agenda for transit bus automation over five years**



Thank you for your attention!

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