PROJECT

TransAID

Transition Areas for Infrastructure-Assisted Driving

Funding: European (Horizon 2020)

Duration: Sep 2017 - Aug 2020

Status: Ongoing

Total project cost: €3,836,354

EU contribution: €3,836,354

CORDIS RCN : 210918

Objectives:

As the introduction of automated vehicles becomes feasible, even in urban areas, it will be necessary to investigate their impacts on traffic safety and efficiency. This is particularly true during the early stages of market introduction, where automated vehicles of all SAE levels, connected vehicles (able to communicate via V2X) and conventional vehicles will share the same roads with varying penetration rates. There will be zones and situations on the roads where high automation can be granted, and others where it is not allowed or not possible due to missing sensor inputs, high complexity situations, etc. In the areas where those zones merge many automated vehicles will change their activated level of automation. Therefore, we refer to these areas as “Transition Areas”.

TransAID will develop and demonstrate traffic management procedures and protocols to enable smooth coexistence of automated, connected and conventional vehicles especially at Transition Areas. A hierarchical approach will be followed where control actions will be implemented at different layers including centralised traffic management, infrastructure and vehicles.

The main objectives are to create:

- Improved traffic quality
- Innovative traffic management and intelligent vehicle communications
- Support of a stepwise introduction of road automation

Methodology:

1. First, simulations will be performed to find optimal infrastructure-assisted management solutions to control connected, automated and conventional vehicles at Transition Areas, taking into account traffic safety and efficiency metrics.
2. Then, communication protocols for the cooperation between connected/automated vehicles and the road infrastructure are developed. Measures to detect and inform conventional vehicles will also be addressed.
3. The most promising solutions will be implemented as real world prototypes and demonstrated under real urban conditions.
4. Finally, guidelines for advanced infrastructure-assisted driving will be formulated. The guidelines will also include a roadmap defining activities and needed upgrades of road infrastructure in the upcoming 15 years in order to guarantee a smooth coexistence of conventional, connected and automated vehicles.

Parent Programmes:

H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Deutsches Zentrum Fr Luft Und Raumfahrt E.v

Address:
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Germany

Organisation Website:
http://www.dlr.de

EU Contribution: €1,215,289

Partner Organisations:

Transport & Mobility Leuven Nv

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Organisation Website:
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EU Contribution: €530,344

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Organisation Website:
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EU Contribution: €367,438

Hyundai Motor Europe Technical Center Gmbh

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EU Contribution: €178,438

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EU Contribution: €783,438

Map Traffic Management Bv

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EU Contribution: €316,813

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Spain

Organisation Website:
http://www.umh.es

EU Contribution: €444,596

Technologies:

Road and traffic management systems
Traffic behaviour assessment in relation to classes of autonomous driving

Development phase: Research/Invention

Documents:
transaid_flyer.pdf

STRIA Roadmaps: Cooperative, connected and automated transport

Transport mode: Road transport

Transport sectors: Passenger transport, Freight transport

Geo-spatial type: Other