PROJECT

ENSEMBLE

ENabling SafE Multi-Brand pLatooning for Europe

Funding: European (Horizon 2020)

Duration: Jun 2018 - Nov 2021

Status: Ongoing

Total project cost: €25,940,581

EU contribution: €19,780,383

Call for proposal: H2020-ART-2017-Two-Stages

CORDIS RCN : 216001

Objectives:

The main goal of the ENSEMBLE project is to pave the way for the adoption of multi-brand truck platooning in Europe to improve fuel economy, traffic safety and throughput. This will be demonstrated by driving six differently branded trucks in one (or more) platoon(s) under real world traffic conditions across national borders.

Following objectives are defined:

- Achieve safe platooning for trucks of different brands. Relevant authorities will be approached to jointly define road approval requirements including V2I communication.
- Work towards the standardization of different aspects of platooning: manoeuvres for forming and dissolving of platoons, operational conditions, communication protocols, message sets, and safety mechanisms. Platooning Levels will be defined to guide the design of different platooning functionalities and strategies, reflecting the full diversity of trucks with platooning functionality. Stakeholder groups will be set up to ensure that the pre-standards are taken up by the respective organisations and working groups to form the actual standards. If necessary, a multi-brand platooning working group will be initiated.
- Real-life platooning: The intended practical tests on test tracks and in real life serve a three-fold purpose:

1. “learning by doing” testing across a C-ITS corridor in Europe,
2. assess the impact on traffic, infrastructure and logistics, while gathering relevant data of critical scenarios and
3. promote multi-brand platooning through a final event.

Methodology:

ENSEMBLE brings the key actors for deployment together: six major truck OEMs will form the core of the project consortium, supported by CLEPA that will act as an umbrella organisation to involve all relevant suppliers. In addition, a limited number of expert organizations will be involved to cover specific topics such as safety assessment, traffic impact, and platoon control system design.

Brands and types of trucks inherently have different characteristics for braking, acceleration, power and speed as well as specific controllers (e.g. AEBS, ACC). To adequately address these heterogeneous aspects, ENSEMBLE firstly aims to conceptualize an un-branded platoon-enabled “white label truck” (a vehicle that collects all the common features among different OEMs), in order to define a multi-brand platooning concept and generic interface between vehicles of different brands. In the second phase, the focus will shift to the implementation, verification, and validation of platooning technology, using simulations, experiments on a test track, and ultimately driving on public highways in a multi-brand setting. During these real-life tests, data is collected for verification and validation of the developed platooning technology at the level of platoon coordination, and to import this data into a database of platooning-relevant traffic scenarios. Furthermore the impact of platooning on logistics, road safety, other drivers’ behavior, traffic and congestion, and infrastructures will be assessed and necessary mitigation measures will be proposed. Besides the technical aspects constituting the basis of the project, an integral multi-brand approach also requires a corresponding business concept, which will be

addressed as part of the project scope.

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)

Other programmes: ART-03-2017 Multi-Brand platooning in real traffic conditions

Lead Organisation:

Nederlands Organisation For Applied Scientific Research

Address:
Schoemakerstraat 97
6060 DELFT
Netherlands

Organisation Website:
http://www.tno.nl

EU Contribution: €2,154,706

Partner Organisations:

Scania Cv Ab

Address:
Vagnmakarvagen 1
15187 Sodertalje
Sweden

Organisation Website:
http://www.scania.com

EU Contribution: €2,208,063

Volvo Bus Corporation

Address:
Fästningsvägen 1
40508 Gothenburg
Sweden

Organisation Website:
http://www.volvo.com/bus/global/en-gb/home_new.htm

EU Contribution: €1,921,229

Agc Glass Europe Sa

Address:
AVENUE JEAN MONNET 4
1348 LOUVAIN-LA-NEUVE
Belgium

Organisation Website:
http://www.agc-flatglass.eu/

EU Contribution: €976,250

Kungliga Tekniska Hoegskolan

Address:
Brinellvagen 8
100 44 Stockholm
Sweden

EU Contribution: €285,100

Robert Bosch Gmbh

Address:
Robert-Bosch Platz
70839 Gerlingen-Schillerhoehe
Germany

Organisation Website:
http://www.bosch.com

EU Contribution: €340,375

Daimler Fleetboard Gmbh

Address:
AM WALLGRABEN 125
70565 STUTTGART
Germany

EU Contribution: €402,140

Iveco S.p.a.

Address:
Via Puglia 35
10156 Torino
Italy

Organisation Website:
http://www.iveco.com

EU Contribution: €1,561,875

Daf Trucks N.v.

Address:
HUGO VAN DER GOESLAAN 1
5600 PT EINDHOVEN
Netherlands

Organisation Website:
http://www.daf.com

EU Contribution: €885,945

Vrije Universiteit Brussel

Address:
Pleinlaan
1050 Brussel
Belgium

Organisation Website:
http://www.vub.ac.be

EU Contribution: €117,500

Wabco Gmbh

Address:
AM LINDENER HAFEN 21
30453 HANNOVER
Germany

EU Contribution: €980,560

Man Nutzfahrzeuge Ag

Address:
Dachauer Strasse 667
80995 MUENCHEN
Germany

EU Contribution: €2,026,522

Daimler Ag

Address:
Mercedesstrasse
70327 Stuttgart
Germany

Organisation Website:
http://www.daimler.com

EU Contribution: €1,422,956

Idiada Automotive Technology Sa

Address:
L Albornar
43710 Santa Oliva
Spain

EU Contribution: €1,244,653

Nxp Semiconductors Netherlands Bv

Address:
High Tech Campus
5656 Eindhoven
Netherlands

Organisation Website:
http://www.nxp.com

EU Contribution: €237,500

Freni Brembo Spa

Address:
VIA BREMBO 25
24035 CURNO
Italy

Organisation Website:
https://www.brembo.com/en

EU Contribution: €80,028

Zf Friedrichshafen Ag

Address:
Graf-von-Soden-Platz 1
88046 Friedrichshafen
Germany

Organisation Website:
http://www.zf.com

EU Contribution: €700,770

Continental Ag

Address:
Vahrenwalder Strasse 9
169 HANNOVER
Germany

Organisation Website:
http://www.conti-online.de

EU Contribution: €59,938

European Road Transport Telematics implementation Coordination Organisation (ERTICO) - Intelligent Transport Systems & Services Europe

Address:
Avenue Louise 326
1050 BRUSSELS
Belgium

Organisation Website:
http://www.ertico.com

EU Contribution: €547,400

Institut Francais Des Sciences Et Technologies Des Transports, De L'amenagement Et Des Reseaux

Address:
2, Avenue Du General Malleret-Joinville
94114 Arcueil
France

EU Contribution: €1,626,875

Technologies:

Road vehicle operations
Truck platooning

Development phase: Research/Invention

STRIA Roadmaps: Other specified

Transport mode: Road transport

Transport sectors: Freight transport

Transport policies: Safety/Security, Digitalisation

Geo-spatial type: Other