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EUROPEAN COUNCIL FOR AUTOMOTIVE RENT

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ADAS&ME develops Advanced Driver Assistance Systems (ADAS) that incorporate driver/rider state, situational/ environmental context and adaptive interaction, to automatically transfer control between vehicle and driver/rider and thus ensure safer and more efficient road usage for all vehicle types (conventional and electric car, truck, bus, motorcycle). The holistic approach of ADAS&ME considers automated driving/riding along with information on driver/rider state, to develop optimised HMI and support strategies, where automated and partly automated driving/riding is seen as, both an influencing factor, and a tool to affect driver/rider state.



www.adasandme.com

EXHIBIT posters and a Mixed Reality Demonstration of an Adaptive HMI for Driver Monitoring capable Autonomous Truck.



DENSE



RobustSENSE developed a robust and reliable sensor platform for automated and assisted driving capable of adapting to harsh conditions like snow, rain or sun-flare, and single sensor failures. RobustSENSE improved sensor technologies and advanced the methods for sensor signal processing and sensor data fusion. Based on an integrated system approach RobustSENSE added redundancy on sensor and processing level.

Reliable detection of vehicles' surroundings is absolutely necessary for higher automation levels. Currently used sensors in the automotive domain show significant performance decreases under adverse weather conditions. DENSE overall objective is to design, develop, and validate an all-weather sensor suite for driver assistance and automated driving to enable operation especially in adverse weather like rain, snow and fog.



www.dense247.eu

EXHIBIT posters and a Mixed Reality Demonstration of an Adaptive HMI for Driver Monitoring capable Autonomous Truck.



L3Pilot tests the viability of Automated Driving as a safe and efficient means of transportation. The project focuses on large-scale piloting of SAE Level 3 functions, with additional assessment of some Level 4 functions. The functionality of the systems used is exposed to variable conditions in 10 European countries, 100 vehicles and 1,000 test drivers. The tested functions cover a wide range from parking to overtaking, and urban intersection driving. The stringent user-centric approach of L3Pilot will lead to the optimal design and handling of Automated Driving functions and will generate knowledge about the most effective way of implementing these systems. Furthermore, it will contribute to knowledge about L4 function developments, and potential pitfalls while driving automatically..



www.L3Pilot.eu

EXHIBIT posters and roll-ups supporting 8 vehicles that will be used by the project on their large-scale pilot sites. On the demonstration area a BMW vehicle showing dynamic automated private parking.



The project aims at developing cost effective solutions, based on 48 V architectures, answering the need to reduce the environment impact of the transportation sector through a clever combination of advanced engine technologies, electrification and wider use of alternative/renewable fuels. The project provides an exhaustive evaluation of the hybrid concept through the development of two different 48V architectures, one integrating the e-machine on the front belt drive, the other between engine and transmission and on two different engine families: a mid-size 1.6 Diesel engine and a small downsized Spark Ignited CNG engine with Direct Injection system.



www.thomson-project.eu

EXHIBIT posters, video, and some of the developed components are showed as results achieved by the project.



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www.hdgas.eu

The overall objective of the HDGAS project is to develop, demonstrate and optimize advanced powertrain concepts for dual-fuel and for pure natural gas operation engines, perform integration thereof into heavy duty vehicles and confirm achievement of Euro VI emissions standards, in-use compliance under real-world driving conditions and CO₂ or greenhouse gas targets currently under definition. HDGAS developed all key technologies (LNG fuel system including low and medium Pressure tank design, compact and insulation in tank, cryogenic pump, ATS systems), and three engines as well as new fuel systems. System integration into 3 Demonstration vehicles and evaluation and independent testing has also taken place within the frame of HDGAS.

EXHIBIT posters, videos, and some of the engine components developed are showed inside the venue, while one of the vehicles developed can be seen in the demonstration area.



To achieve sustainable mobility in Europe, future vehicles for road transport have to be significantly more efficient by 2020. The GasOn project aims to develop advanced CNG only, mono-fuel engines able to comply with post-2020 CO₂ emission targets, claiming the 20% CO₂ emission reduction compared to the current best in class CNG vehicle segment by segment, to fulfil the new homologation cycle and to guarantee a low fuel consumption even in real driving conditions. GasOn is based on 3 parallel technology ways leading full development of demonstrator vehicles, all based on the integration of the gaseous direct injection system developed in the project matched with advanced variable valve actuation or advanced boosting system with variable compression ratio or lean burn/charge dilution combustion.



www.gason.eu

EXHIBIT posters, videos, and some of the developed engine and components are showed to illustrate the results achieved by the project.



AEROFLEX



The aim of AEROFLEX is to develop and demonstrate new technologies, concepts and architectures for complete vehicles meeting future logistics and co-modality needs to be met for the different segments and markets. The optimal matching of novel vehicle concepts and infrastructures require the definition of smart performance-based standards for future trucks, load carriers and road infrastructures. AEROFLEX will develop the knowledge, concepts and technology to improve the efficiency of long-range freight vehicles by 18-33% while drawing up recommendations for implementing the results within European regulations and in the transport & logistic industry.



www.aeroflex-project.eu

EXHIBIT posters and video explaining the project and the results achieved so far.



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Even though hybrid passenger cars are already in production, their market penetration is still relatively low. To increase user interest in hybrid vehicles, the ECOCHAMPS project has delivered efficient, compact, low weight, robust and cost effective hybrid powertrains for both passenger cars and commercial vehicles (buses, medium duty and heavy duty trucks) with increased functionality, improved performance, comfort, functional safety and emission levels below Euro 6 or VI. These key innovations, at affordable cost, will strengthen the technological leadership in powertrain and system optimization, will establish a leading position in hybrid technology and increase the competitiveness of European road vehicle manufacturers.



www.ecochamps.eu

EXHIBIT posters showing the results achieved, two of the vehicles developed are also showed in the demonstration area.



ENSEMBLE



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 up to seven differently branded trucks in one (or more) platoon(s) under real world traffic conditions across national borders. Firstly, the project partners will concentrate on setting the specifications and developing a reference design with acceptance criteria. This reference design will be taken up by the OEMs and suppliers for implementation on their own trucks. Then the project will focus on testing the multi-brand platoons on test tracks and international public roads.



www.platooningensemble.eu

EXHIBIT poster explaining the project and its technical approach.



AffordabLe Lightweight Automobiles AlliaNCE

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ALLIANCE aims to achieve a reduction of the automotive sector's environmental impact by decreasing the energy consumption of road vehicles by 10%, decreasing life-cycle environmental impact (GWP) by 6%, and ensuring that the developed technologies reach widespread adoption by keeping the cost of lightweighting <3€/kg saved. The project brings together partners from the lightweighting value chain, aiming at developing innovative materials and their respective manufacturing technologies using a holistic framework that will ensure their market viability. The developed technologies will be validated in 8 demonstrator modules.



www.lightweight-alliance.eu

EXHIBIT

posters and videos showing the results achieved.