

PROJECT

ADVICE

ADvancing user acceptance of general purpose hybridized Vehicles by Improved Cost and Efficiency

Funding: European (Horizon 2020)

Duration: Apr 2017 - Sep 2020

Status: Complete

Total project cost: €11,717,524

EU contribution: €9,359,908



Call for proposal: H2020-GV-2016-INEA

[CORDIS RCN : 208459](#)

Objectives:

ADVICE aims at increasing the number of HEVs up to 10% of all vehicles registered in the mid-term range. This will be achieved by focusing on a market segment called “premium class”, which covers medium class, upper medium class and luxury vehicles up to SUVs. This segment is facing severe problems in reaching European environmental exhaust targets, when running on fossil fuel only, not the least due to the considerable vehicle weight.

In ADVICE three physical demonstrator vehicles are built, ranging from mild-hybrid, plug-in-hybrid to full-hybrid and – concerning fuel type – from gasoline to diesel-driven.

In addition, it will be shown that the whole range in between these demonstrator vehicles can be well covered by means of validated simulation, yielding a complete coverage of the whole “premium class” segment.

ADVICE aims for a reduction of exhaust and CO₂ emissions on WLTP of 20% and a 25% increase in electric driving range for P-HEVs at a maximum premium cost of 5% for HEV (15% for P-HEV) with respect to the best in-class non-hybrid diesel vehicles. Particular attention is devoted to optimum driveability and drive performance, which are essential when purchasing a “premium class” vehicle and thus crucial to achieve the market penetration aimed at.

Methodology:

These objectives will be accomplished by:

- Architecture-level hybrid powertrain solutions, suited to be modularly applied to different segments to increase their volumes while reducing costs
- Advanced predictive control strategies and model predictive control strategies, taking the entire vehicle into account (not only the hybrid part)
- Novel optimised approaches in the after treatment system
- Newly developed high-temperature electronics, enabling novel strategies and approaches for energy- and thermal-management
- Multi-core processor architectures, enabling sophisticated control strategies and models processed on-board the vehicles

ADVICE results will be verified through vehicle validator independent tests

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:

Volvo Personvagnar Ab**Address:**

Avd 50090 Hb3S
405 31 Goteborg
Sweden

EU Contribution: €1,231,555

Partner Organisations:**Torotrak (Development) Limited****Address:**

1 ASTON WAY LEYLAND LANCASHIRE
PRESTON
PR26 7UX
United Kingdom

EU Contribution: €680,244

Gm Global Propulsion Systems - Torino Srl**Address:**

CORSO CASTELFIDARDO 36
10129 TORINO
Italy

EU Contribution: €1,114,050

Ideas & Motion Srl**Address:**

Via Santa Margherita 8
12051 Alba
Italy

EU Contribution: €217,788

Centro Ricerche Fiat - Societa Consortile Per Azioni**Address:**

Strada Torino, 50
10043 ORBASSANO (TO)
Italy

Organisation Website:

<http://www.crf.it>

EU Contribution: €1,291,375

Rheinisch-Westfaelische Technische Hochschule Aachen**Address:**

Templergraben
52062 Aachen
Germany

Organisation Website:

<http://www.rwth-aachen.de>

EU Contribution: €172,395

Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.v.**Address:**

HANSASTRASSE 27C
80686 MUNCHEN
Germany

Organisation Website:

<http://www.fraunhofer.de>

EU Contribution: €108,994

Fundacion Tecnalía Research & Innovation**Address:**

PARQUE CIENTIFICO Y TECNOLOGICO DE GIPUZKOA PASEO MIKELETEGI 2
20009 DONOSTIA/SAN SEBASTIAN (GIPUZKOA)
Spain

Organisation Website:

<http://www.tecnalia.com>

EU Contribution: €194,688

Avl Schrick Gmbh**Address:**

Dreherstrasse 3-5
42899 Remscheid
Germany

EU Contribution: €679,963

Imarine Deniz Teknolojileri Ve Arastirmalari Sanayi Ve Ticaret Anonimsirketi**Address:**

GOZTEPE MAH. GOKSU EVLERI MENEKSE SOK. B237B ANADO EYKOZ
34815 ISTANBUL
Turkey

Organisation Website:

<http://www.infineon.com>

EU Contribution: €148,750

Siemens Industry Software Sas**Address:**

Avenue Morane Saulnier 13 Espace Velizy Immeuble Le Chavez
92320 Chatillon
France

Organisation Website:

<http://www.ugsplm.com>

EU Contribution: €227,588

Idiada Automotive Technology Sa**Address:**

L Albornar
43710 Santa Oliva
Spain

EU Contribution: €399,166

Kompetenzzentrum - Das Virtuelle Fahrzeug Forschungsgesellschaft M.b.h.

Address:

Inffeldgasse 21a / 1. Stock
8010 GRAZ
Austria

Organisation Website:

<http://www.v2c2.at>

EU Contribution: €646,725

Valeo Systemes De Controle Moteur Sas

Address:

Avenue Des Beguines 14
95800 Cergy
France

EU Contribution: €502,861

Ceske Vysoke Ucenı Technıcke V Praze

Address:

Zicova 4
16636 PRAHA 6
Czech Republic

Organisation Website:

<http://www.cvut.cz> <http://www.c-a-k.cz>

EU Contribution: €223,913

Avl List Gmbh

Address:

Hans-List-Platz
8020 Graz
Austria

Organisation Website:

<http://www.avl.com>

EU Contribution: €75,215

Alma Automotive Srl

Address:

VIA UMBERTO TERRACINI 2C
40131 BOLOGNA
Italy

EU Contribution: €83,213

Iesta - Institut Fur Innovative Energie & Stoffaustauschsysteme

Address:

NIBELUNGENGASSE 28
8010 GRAZ
Austria

EU Contribution: €171,875

Ifp Energies Nouvelles

Address:

1et 4 avenue de Bois-Préau
92500 RUEIL MALMAISON
France

Organisation Website:

<http://www.ifp.fr>

EU Contribution: €572,116

University Of Surrey

Address:

Stag Hill
Guildford
GU2 7XH
United Kingdom

EU Contribution: €308,980

Gkn Driveline Zumaia Sa

Address:

Calle Sagarbidea 2
20750 Zumaia
Spain

EU Contribution: €165,025

Fev Europe Gmbh

Address:

Neuenhofstrasse 181
52078 Aachen
Germany

EU Contribution: €774,025

Technologies:

Electric road vehicles
Hybrid vehicle
demonstrators

Development phase: Demonstration/prototyping/Pilot Production

Transport

STRIA Roadmaps: electrification

Transport mode: Road transport

Transport sectors: Passenger transport

Transport policies:

Societal/Economic issues, Environmental/Emissions aspects, Decarbonisation, Deployment planning/Financing/Market roll-out

Geo-spatial type: Other