

PROJECT

1000kmPLUS

Scalable European Powertrain Technology Platform for Cost-Efficient Electric Vehicles to Connect Europe

Funding: European (Horizon 2020)

Duration: Jan 2019 - Jun 2022

Status: Ongoing

Total project cost: €6,736,651

EU contribution: €5,405,286



Call for proposal: H2020-LC-GV-2018

[CORDIS RCN : 218287](#)

Objectives:

The need for common, scalable and brand-independent technology platforms for the key elements of EV, like the inverter-motor-transmission/gearbox (powertrain) and the battery, is evident. The project 1000kmPLUS will ensure the superiority of European automotive key technologies in terms of performance, scalability and costs for the 2nd and 3rd generation of EV. The EV powertrain and battery technologies must now start to mature, in order to fulfil existential human mobility needs in terms of affordability and usability: this is the key to enter the early mass market. It assumes ramp-up of series production and affordability by economies of scale. 1000kmPLUS will provide key arguments regarding the usability of the 2nd generation of EV to the Early Majority customers. Further, it will speed up the development and the ramp-up of series production of the 3rd EV generation.

Methodology:

To obtain breakthroughs in terms of energy efficiency, driving range, charging and costs, the 1000kmPLUS project develops a Scalable European Powertrain Technology Platform ([SEPTop@SiC](#)), which will define automotive powertrains for EV as commodities. It will use 1200 V SiC-MOSFETs to enable a 400 V/800 V cross-compatible inverter-motor-gearbox combo, scalable as a function of the required performance. Furthermore, ultra-fast charging up to 350 kW for everyday use will be demonstrated in an EV providing an initial driving range of 500 km based on its battery energy capacity. The 1000kmPLUS project will enable, demonstrate and set up European mass production capabilities of EV key components (inverter, motor, transmission, SiC-MOSFET power modules, battery cells) by Europe's leading automotive companies. Further, it will build ECS value chains with focus on quality, safety, efficiency and costs. The 1000kmPLUS project will build up a Mercedes-Benz EQ vehicle to demonstrate the project achievements by performing 3 challenges, representing real use cases for business as well as private travellers.

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: LC-GV-01-2018 Integrated, brand-independent architectures, components and systems for next generation electrified vehicles optimised for the infrastructure

Lead Organisation:

Imarine Deniz Teknolojileri Ve Arastirmalari Sanayi Ve Ticaret Anonimsirketi

Address:

GOZTEPE MAH. GOKSU EVLERI MENEKSE SOK. B237B ANADO EYKOZ

34815 ISTANBUL
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Organisation Website:

<http://www.infineon.com>

EU Contribution: €762,218

Partner Organisations:

Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.v.

Address:

HANSASTRASSE 27C
80686 MUNCHEN
Germany

Organisation Website:

<http://www.fraunhofer.de>

EU Contribution: €699,885

Ionity Gmbh

Address:

MOOSACHER STR 84
80809 MUNCHEN
Germany

EU Contribution: €75,469

Vysoke Uceni Technicke V Brne

Address:

Antoninska 548/1
60190 Brno
Czech Republic

Organisation Website:

<http://www.vutbr.cz>

EU Contribution: €405,625

Daimler Ag

Address:

Mercedesstrasse
70327 Stuttgart
Germany

Organisation Website:

<http://www.daimler.com>

EU Contribution: €381,772

Ostbayerische Technische Hochschuleamberg-Weiden

Address:

Kaiser Wilhelm Ring 23
92224 Amberg
Germany

EU Contribution: €345,000

Valeo Siemens Eautomotive Germany Gmbh**Address:**

FRAUENAUERSTRASSE 85
91056 ERLANGEN
Germany

EU Contribution: €858,725

Avl List Gmbh**Address:**

Hans-List-Platz
8020 Graz
Austria

Organisation Website:

<http://www.avl.com>

EU Contribution: €980,385

Hutchinson Sa**Address:**

Rue Balzac 2
75008 Paris
France

EU Contribution: €47,950

Saft**Address:**

Rue Sadi Carnot 12
93170 Bagnolet
France

Organisation Website:

<http://www.saftbatteries.com>

EU Contribution: €363,373

Technische Universitaet Dresden**Address:**

Helmholtzstrasse 10
1069 Dresden
Germany

Organisation Website:

<http://www.tu-dresden.de/>

EU Contribution: €484,885

Technologies:

Road vehicle propulsion
Efficient and compact hybrid powertrains

Development phase: Research/Invention

Transport

STRIA Roadmaps: electrification

Transport mode: Road transport

Transport sectors: Passenger transport

Transport policies: Environmental/Emissions aspects, Decarbonisation

Geo-spatial type: Other