

PROJECT

EVC1000

Electric Vehicle Components for 1000km daily trips (EVC1000).

Funding: European (Horizon 2020)

Duration: Jan 2019 - Dec 2021

Status: Ongoing

Total project cost: €6,772,944

EU contribution: €5,149,429



[CORDIS RCN : 218688](#)

Objectives:

The project brings together ten participants from industrial and academic backgrounds to provide innovative and mass-production optimised components enabling the efficient integration of powertrain and chassis systems, which will increase EV range and user acceptance. Given the recent progress related to in-wheel motors technology, and the benefits of in-wheel architectures in terms of active safety, packaging and drivability, EVC1000 will focus on in-wheel drivetrain layouts, as well as a wheel-centric integrated propulsion system and EV manager. More specifically, the consortium will develop:

New components for in-wheel powertrains:

- efficient, scalable, reliable, low-cost and production-ready in-wheel motors, suitable for a wide range of torque and power specifications;
- dual inverters for in-wheel motor axles based on Silicon Carbide technology. The designs will include detailed consideration and measurement of the electro-magnetic compatibility aspects, as well as the implementation of model-predictive health monitoring techniques of the electronic components.

New components for electrified chassis control with in-wheel motors:

- brake-by-wire system for seamless brake blending, high regeneration capability and enhanced anti-lock braking system control performance;
- electro-magnetic active suspension actuators, targeting increased comfort and electric vehicle efficiency;
- controllers for the novel EVC1000 components, exploiting the benefits of functional integration, vehicle connectivity and driving automation for advanced energy management.

The new EVC1000 components will be showcased in two production-ready electric vehicle demonstrators of different market segments. EVC1000 will assess the increased energy efficiency and will include demonstration of long-distance daily trips. The vehicle demonstration phase will consider objective and subjective performance indicators for human factor analysis to deliver enhanced customer experience.

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:

Avl List Gmbh

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Austria

Organisation Website:

<http://www.avl.com>

EU Contribution: €598,343

Partner Organisations:**Ideas & Motion Srl****Address:**

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EU Contribution: €497,438

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

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Organisation Website:

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EU Contribution: €359,015

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EU Contribution: €898,538

Jac Italy Design Center Srl**Address:**

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EU Contribution: €299,950

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-
85045 Ingolstadt
Germany

EU Contribution: €334,188

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EU Contribution: €495,000

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EU Contribution: €540,247

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EU Contribution: €619,500

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EU Contribution: €507,211

Technologies:

Electric road vehicles
Efficient electric vehicle chassis

Development phase: Demonstration/prototyping/Pilot Production

Road vehicle propulsion
Efficient and compact hybrid powertrains

Development phase: Demonstration/prototyping/Pilot Production

STRIA Roadmaps: Transport electrification, Vehicle design and manufacturing

Transport mode: Road transport

Transport policies: Environmental/Emissions aspects, Decarbonisation

Geo-spatial type: Other