

Concept ELV² – Technology

A large number of publicly funded projects on the subject of electric mobility focuses on the research and development of electric car concepts that are intended to contribute to the substitution of conventionally powered cars and thus to the reduction of emissions and particulate pollution, particularly in conurbations. Concept ELV² meets the challenge of developing and researching electric mobility concepts for heavy-duty distribution traffic and suitable innovative electric drives.

The project is divided into two parts. The first part "Concept ELV² - Fleet Test" is funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUB) and includes the conversion of ten diesel trucks into electric trucks by Daimler as well as an 18-month inner-city field test by various pilot customers. In the process, the user behaviour and optimisation potential will be analysed. The second part "Concept ELV² - Technology" is funded by the Federal Ministry of Economic Affairs and Energy (BMWi). This part is being worked on by four institutes of the RWTH Aachen under the direction of the Institute for Motor Vehicles (IKA). In addition to researching and developing innovative drive technologies and the associated charging infrastructure, the IKA is developing a platform for deployment and charging infrastructure planning in the urban environment.

In "Concept ELV² - Technology" the Institute for High Voltage Technology investigates the effects of charging processes of electric trucks on the utilisation of distribution grids. To this end, integration potentials of charging infrastructure in distribution grids are determined with the aid of power flow calculations. In addition, it is investigated how the placement of charging infrastructure negatively influences the integration potential at other locations. The results will be integrated into the IKA platform.

In addition, the project is supported by the Institute for Urban Construction and Transport (ISB) through the development of freight transport usage profiles and by the Institute for Road Transport (ISAC) through the determination of capacity-relevant transport network parameters.

Project information



Partners

- Daimler AG
- RWTH Aachen University



Facts

- Acronym: Concept ELV²
- Duration: 10/2017 – 01/2020

Supported by:



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Contact

Marcel Kurth, M Sc.

Teamleiter Verteilungsnetzplanung und -betriebsführung

m.kurth@ifht.rwth-aachen.de