1 Grid integration

Forschungscampus Mobility 2 Grid EUREF

Actors in the energy market can assume different roles, each pursuing individual objectives and having access to specific data. This diversity of roles results in a complex system landscape in which the mutual influence and interaction of the participating actors play a central role. Understanding these interactions forms the basis for the successful integration of electric vehicles into existing grid and market structures. The focus of the work package is therefore the development of a sound actor model. It comprises the systematic identification and categorization of roles and actors occurring in the energy market. The overarching goal is to make the resulting complexity visible and to abstract it. By purposefully distributing roles and associated responsibilities among selected actors with differing interests, synergies are to be created. A holistic approach promotes cooperation among actors in order to generate multilateral benefits. In addition, realistic use cases are analyzed through simulations to evaluate technical and economic impacts and to identify optimization potentials.

Goals

Optimised energy procurement and market participation
- Identification of actors, roles, and information systems for the grid and market integration of electric vehicles
- Simulation of use cases to analyze roles, interactions and optimization potential

→ innovating by considering actor constellations

Operation and control of micro smart grids
- End-to-end digitalization from the grid control level to the low-voltage level
- Integration of automated charging infrastructure and grid-supporting control algorithms

→ Progress through the digitalization on the low-voltage level

Interface systems and intelligent networking
- Scalable communication architecture for smart charging through standardization of interfaces and protocols
- Consideration of regulatory, technological, and user-oriented requirements

→ Implementation of smart charging in public spaces

The Mobility2Grid research campus is coordinated by the Mobility2Grid e.V. association.
Further information: **www.mobility2grid.de | info@mobility2grid.de**

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