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Introduction of an Electric Mobility Technological Architecture Framework – An Overview of EV specific Services and Functionalities

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ABSTRACT

Based on a three-dimensional morphological analysis approach embedded in an explorative technology roadmapping process, we have developed a framework which is intended to help organize the multitude of entities and functional requirements within the domain of electric mobility. The goal was to gain, in a structured way, a better understanding about this complex field. For that purpose, descriptions and an initial validation of physical interfaces and prospective services in EV scenarios are introduced. An experts' evaluation clearly shows that the framework encompasses all interfaces and service groups existing within an electric vehicle setting. The development of the framework is intended to be a contribution to the energy informatics domain and aims at reducing the electric mobility domain's complexity. Thus it is supposed to encourage market players to get engaged with the domain supporting the shift towards sustainable mobility.

Keywords

Electric mobility, electric vehicles, technological architecture framework, morphological analysis, technology roadmapping