

Deliverable D200.3

System and component specifications



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1. Summary

The eCo-FEV project aims at achieving a breakthrough in Fully Electric Vehicle (FEV) market introduction, including possibly any suitable battery-based road vehicle, by proposing a general service platform for integration of FEVs with different infrastructure systems cooperating with each other - thus allowing precise FEV telematics services and charging management services based on real time information.

The general concept of eCo-FEV is based on the development of innovative next generation electric mobility (E-mobility) infrastructure by mutual system cooperation among FEVs and independent FEV-related infrastructures being networked. The cooperative E-mobility infrastructure enables the information collection from independent infrastructure systems and provides data aggregation functionalities to enable cloud based high quality FEV services for FEV users. For this purpose, an eCo-FEV system is defined and will be developed by the consortium. Multiple cloud based FEV user services will be developed and demonstrated. The eCo-FEV system includes sub systems integrated at FEV, at road side, at charging infrastructure and at backend to realize FEV assistance services before and during a trip and charging.

In previous deliverable D200.1 [1] and D200.2 [2], the eCo-FEV consortium has defined a set of use cases and designed the eCo-FEV system architecture. The selected set of use cases provide services to FEV users or to FEV fleet operators to improve the FEV usage efficiency in real travelling and traffic situations. Each use case is defined in a way to guide the system architecture design instead of imposing any system architecture. The deliverable D200.2 [2] takes D200.1 [1] as input and defines the architecture of the eCo-FEV system from different viewpoints. D200.2 [2] has further defined the functional architecture of the eCo-FEV system and its sub systems, namely in vehicle on-board unit (OBU), roadside unit (RSU), charging infrastructure system and eCo-FEV backend sub system as well as the information exchanged between sub systems per use case. The present deliverable takes D200.2 [2] as input to further specify the sub components of each eCo-FEV sub system. The specifications of the components consist of defining functions and interfaces of the components. Furthermore, eCo-FEV put special focus on specifications of a selected set of exposed interfaces, for which standards apply or are considered as required, to ensure the system interoperability and flexible business model set-up.

The present deliverable will be provided to WP300 for system development and to WP400 for testing and validation.