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Connected Electric Vehicle Optimized for Life, Value, Efficiency and Range

GRANT AGREEMENT No. 824295



CEVOLVER – Milestone Report
Milestone NO. 4 – Simulation Framework

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Publishable summary

The milestone presented in this milestone report is towards the completion and usability of the simulation platform developed in work packages 2.1-2.3 and the relation of real connected vehicles taking the example of work package 5.1 and 5.2. In order to give the context and a bit more detail about the outcome of the respective deliverables, they are summed up briefly in the following paragraphs.

D2.3 - Verification of operation of virtual simulation framework

In order to develop functions a common approach in the automotive industry is the usage of Model-in-the-Loop simulations. The function is tested using a modelled plant to reflect the system behavior as realistic as possible. As reported in the previous milestone, a base vehicle model was established. In D2.3 this model was extended using connectivity and environmental simulations in order to reflect realistic speed profiles and environmental conditions. This also includes the implementation of an advanced driver model.

D5.1 - Documentation of the additional functional and architecture for realizing connected energy and thermal management for a Fiat class A cloud-connected vehicle

D5.1 describes the modifications to the brand-specific existing hardware, software and information infrastructure that enable the usage of the advanced functions in the CRF demonstrator. Specific requirements for the communication between the car and the OEM cloud have been defined, taking care of data security and user privacy for data exchange between vehicle and OEM cloud and especially for the interface between the OEM cloud and the independent cloud.

D5.2 - SW design specifications - summary report

D5.2 reports on the modifications to the brand-specific existing hardware, software and information infrastructure that enable the usage of novel predictive functions in the CRF demonstrator.

Subtask 5.2.1 states that all functions will be implemented in the vehicle validator VCU to reduce deadtime of the system in order to reduce its complexity. This leads to refining the interface for data exchange between FCA vehicle information infrastructure and the Eco-Routing/Driving App by IFPEN which is direct connected to the Brand Independent Cloud.

In subtask 5.2.2 CRF has adjusted its vehicle architecture to connect the Eco-Routing/Driving App following the Task 5.1 specs. CRF and IFPEN teams have collaborated to define the details of the communication which will be described deeply in this document.

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