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

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CEVOLVER – Deliverable Report

D6.1 – Assessment of the performance of the novel functionalities and report of long range drive

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Publishable summary

This document reports on the work carried out in “Assessment of the demonstrator BEVs in real world driving” during the CEVOLVER project. It gives an overview of the specific details for the testing on open road as well as the results with respect to the technical targets defined for the project. Moreover, the long-distance drive of achieving a 700km daytrip with the goal of not taking longer than 1h additional to a combustion engine vehicle is demonstrated. This deliverable together with “Deliverable 6.2 – Assessment of the vehicle range improvements for demonstrators developed in WP4 and WP5” will serve to benchmark the developments from prior work packages in an environment as realistic as possible. In this context, Deliverable 6.2 and Deliverable 6.1 supplement each other, where Deliverable 6.2 focusses on the test bench testing activities. In the analysis, as open road testing has many noise factors, special attention is given to the varying boundary conditions, The document reports on the activities regarding 4 technical targets: Technical Target 1 - TT_RouteEnergyConsumptionAccuracy, Technical Target 2 - TT_ArrivalTimeAccuracy, Technical Target 3 - TT_EcoChargingSaving, Technical Target 4 - TT_EcoDrivingSaving and the KPI KPI_LongDistanceDemo. Technical Target 1 focusses on the energy consumption prediction of electric vehicles in open road environment, while Technical Target 2 addresses the arrival time accuracy. Both functions are enablers to reach a charging station at a certain time to charge during a booked charging time slot. Moreover, Technical Target 3 focusses on the Eco-charging functionality, which calculates a time or energy optimal route as well as charging stops, and the amount of energy charged. Technical Target 4 evaluates Eco-driving, a function to reduce the energy demand by predictive speed advice to the driver. The savings theoretically enable a higher average velocity and by this a reduced travel time on the 700km trip. Finally, the KPI shall demonstrate a 700km daytrip with an electric vehicle that only takes one additional hour compared to an ICE vehicle. Deliverables 6.1 and 6.2 conclude the project from a technical point of view, while Deliverable 6.3 will continue assessing the developments from an economic and ecological viewpoint.

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Project partners:

#	Partner	Partner Full Name
1	FEV	FEV Europe GmbH
2	BOSCH	Robert Bosch GmbH
3	FORD	Ford-Werke GmbH
5	IFPEN	IFP Energies Nouvelles
6	RWTH	Rheinish-Westfaelische Technische Hochschule Aachen
7	VUB	Vrije Universiteit Brussel
8	UNR	Uniresearch BV
9	I2M	I2M Unternehmensentwicklung GmbH
10	RBOS	Robert Bosch AG
11	CRF	Centro Ricerche Fiat

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