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CEVOLVER – Deliverable Report

D2.3 - Verification of operation of virtual simulation
framework

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Publishable summary

This work package deals with the development of the CEVOLVER connected features: eco-routing, eco-driving, assured charging, predictive thermal management and smart fast charging. The goal is to optimize the energy consumption and provide more confidence to the user in the usage of an electric vehicle. The latter is achieved by preventing low battery situations thanks to an optimal trip planning that includes the schedule of the charging processes besides that of the energy-optimal trip.

To develop and validate the connected features, a connected simulation platform had to be designed. This platform includes a base electric vehicle model, as well as models of the driver and of the vehicle's surrounding environment in order to represent situations as close as possible to reality and to test the use-cases defined in other work packages.

This task aims at extending the base vehicle simulation platform developed in an earlier task with a driver model and an environment model. Contrary to the driver model included in the base vehicle model, the new driver model is sensitive to the vehicle environmental impact factors, such as the traffic, the route infrastructure, the route topology and the weather. In the new platform, the vehicle should be able to connect to the brand-independent cloud to receive information from third party providers, in particular, traffic and weather real-time or predictive data. This information will be exploited by the connected features developed in later stages of the project to optimize electric vehicle operation.

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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	Rheinisch-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	Centre Recherche Fiat



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