

EUROPEAN COMMISSION

HORIZON 2020 PROGRAMME - TOPIC H2020-LC-GV-01-2018
Connected Electric Vehicle Optimized for Life, Value, Efficiency and Range

GRANT AGREEMENT No. 824295



CEVOLVER – Deliverable Report

Deliverable 6.3. Assessment of the ecological and economic impacts of the solutions developed in this project including the whole lifetime of the vehicle

Deliverable No.	CEVOLVER D6.3	
Related WP	WP6	
Deliverable Title	Assessment of the ecological and economic impacts of the solutions developed in this project including the whole lifetime of the vehicle	
Deliverable Date	2022-10-30	
Deliverable Type	REPORT	
Dissemination level	CO	
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Approved by	Jens Tang	2022-10-25
Status	Final version	2022-10-25

Publishable summary

The deliverable assesses the economic and environmental impacts of the features developed in CEVOLVER. During the project, experiments were conducted to test the ability of the developments to reach the different technical targets. The procedure allocated the different developments to three demonstrators (Ford, and CRF 1 and 2) and to different usage scenarios, corresponding to the actual customer needs the vehicle should meet such as delivery services or long trip to relatives.

The methodology used for the assessment is the Total Cost of Ownership and the Total Cost for Society (TCO and TCS). These methodologies support the assessment of the direct impacts of the developments on climate change. The TCS of the baseline vehicle is compared to the TCS of the demonstrators with novel features including hardware and software changes.

The results show rather small impacts due to changes in energy consumption. The higher impact concerns the use of Ford demonstrator with a saving potential of up to 300 € per year with features of eco-charging and eco-driving, and with the use case of delivery goods. For some investigations, an increase of the TCS occurs. However, functions like smart fast charging decrease the travel time and by this add customer value. This increases the acceptance of electric vehicles in the future. Moreover, the impacts of a TCS increase are marginal compared to the indirect and expected main benefits of the CEVOLVER feature to reduce the battery capacity need. The potential savings on battery capacity have shown to be beneficial for the environment with expected reduction on energy, land, water and materials use.

1 Acknowledgement

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

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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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824295. The information and views set out in this publication does not necessarily reflect the official opinion of the European Commission. Neither the European Union institutions and bodies nor any person acting on their behalf, may be held responsible for the use which may be made of the information contained therein.