



Proposal ID **653931**

Acronym **OPTIMAS_GV**

1 - General information

Topic **GV-2-2014**

Type of action **RIA**

Call identifier **H2020-GV-2014**

Acronym **OPTIMAS_GV**

Proposal title* **Optimization of an Intelligent and Active Energy Management System Developed for Green Vehicles**

Note that for technical reasons, the following characters are not accepted in the Proposal Title and will be removed: < > " &

Duration in months **36**

Fixed keyword 1 **Automotive engineering**

Add

Fixed keyword 2 **Transport engineering**

Add

Remove

Free keywords

Battery Lifetime, Battery Management System, Electric Vehicles, Energy Efficiency, Energy Harvesting, Energy Management System, Energy and Power Flows, Real-time Digital Platform

Abstract

Range limitation, due to the limited storage capacity of electric batteries, is one of the major drawbacks of electric vehicles. The main challenge will be to achieve a systematic energy management of the vehicles based on the integration of components and sub-systems. The systematic management of energy in EVs is a means to gain extended range of EVs in all weather conditions. The main objectives of this project proposal are to develop and design an intelligent energy management system for electric vehicles (Green Vehicles-GV), including the development of a Battery Management System (BMS), with an innovative thermal management sub-system (considering thermal insulation and heating and cooling approaches), a battery lifetime sub-system to be able to predict and extend the battery life duration as an effect of thermal management. Another objective of the OPTIMAS_GV project is to design and test an electronic control system of energy and power flows, including the optimization design and testing of electrical drive system components of the green cars, using a laboratory real-time digital platform. As a part of this project a renewable (solar/wind) powered EV charging station with energy harvesting functions will be designed and a marketing and feasibility study will also be made to develop and analyze the opportunities for energy harvesting. The final objective will be achieved by developing an automatic and pro-active eco-driving platform, using real components and vehicles, and testing different strategies, including driver assistance sub-system, to be able to further optimize EV components efficiency and safety of EVs. A number of on-going demo projects will be used as reference. The research and innovation activities in this project will contribute to a faster introduction of GV, increasing the cars autonomy and maximizing the benefit of energy recuperation manages the state of charge of the battery and the electrical and electronic components, in the same time.

Remaining characters

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Has this proposal (or a very similar one) been submitted in the past 2 years in response to a call for proposals under the 7th Framework Programme, Horizon 2020 or any other EU programme(s)?

Yes No