PROJECT

MOBILITY2.0

Co-operative ITS Systems for Enhanced Electric Vehicle Mobility

Funding: European (7th RTD Framework Programme)

Duration: Sep 2012 - Feb 2015

Status: Complete

Total project cost: €2,778,400

EU contribution: €1,999,973

Call for proposal: FP7-2012-ICT-GC

CORDIS RCN : 104779

Background & policy context:

Mobility2.0 will develop and test an in-vehicle commuting assistant for FEV mobility, resulting in more reliable and energy-efficient electro-mobility. In order to achieve a maximum impact, Mobility2.0 takes an integrated approach of addressing the main bottlenecks of urban FEV mobility: 'range anxiety' related to the limited FEV range, scarcity of parking spaces with public recharging spots, and the congestion of urban roads. Our integrated approach means the application developed by Mobility2.0 will utilise co-operative systems to simultaneously consider these bottlenecks, so that such an optimisation can be achieved which still guarantees reliable transportation for each FEV owner. Mobility2.0 will focus on assisting the daily urban commute, which represents the bulk of urban mobility.

Objectives:

Mobility2.0 outcomes will be the following:

- an FEV-specific multi-modal urban guidance application implemented for prolific smart-phone platforms; this application will include the integrated reservation of a suitable FEV recharging spot, while also prioritising FEVs with low battery levels for the reservation, and making optimal use of the available public transportation along the journey.
- the above application will include the capability to allow municipal/utility control over the temporal and spatial aspects of recharging; the corresponding tools will be dynamic electricity pricing and a map analysis framework
- the project will specify the scalable broadcasting of FEV recharging spot notification over 5.9 GHz networks and MBMS technology
- the project will specify and contribute to standardisation the technology which enables plugged-in FEVs to act as 5.9 GHz road-side units, maintaining infrastructure connectivity via the V2G interface.
- end-to-end validation of the above results at two test sites

Besides FEV manufacturing, FEVs may also be produced by the conversion of traditional vehicles into FEVs. Mobility2.0 shall ensure that its results are applicable to both FEV types.

The 'Mobility2.0' proposal name is meant to express that the co-operative electromobility technology targeted by this project is a next level concept for personal mobility.

Methodology:

In order to compensate for the limited autonomy range, gains in energy efficiency, charging strategies and route optimisation by using of traffic information are needed to turn the FEV into a mass market product. (under ‘Integration of the FEV in the cooperative transport infrastructure ’)
Adaptive strategies, algorithms and operation modes are needed for the charge and discharge management of the FEV’s that balance, predict the range and adapt to the energy needs of the user in respect of the properties of vehicle’s battery and the grid. (under ‘Integration of the FEV in the cooperative transport infrastructure)
Research will also address adaptation and improvement of in-vehicle active safety for FEVs, integrated driver-vehicle infrastructure safety, protection of vulnerable road users, and FEV emergency handling

procedures. (under ‘Functional Safety and Durability of the FEV)

Parent Programmes:

FP7-ICT - Information and Communication Technologies

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Broadbit Energy Technologies Sro

Address:
Eotvosova 12
94501 Komarno
Slovakia

EU Contribution: €310,680

Partner Organisations:

Institut National De Recherche En Informatique Et Automatique

Address:
Domaine de Voluceau- Rocquencourt
B.P. 105 LE CHESNAY
France

Organisation Website:
http://www.inria.fr/

EU Contribution: €88,150

Universiteit Twente

Address:
Drienerlolaan 5
7522 NB Enschede
Netherlands

EU Contribution: €285,363

Prive' Srl

Address:
Via Martiri Di Marzabotto 9
60044 Fabriano An
Italy

EU Contribution: €230,115

Association Pour La Recherche Et Le Développement Des Méthodes Et Processus Industriels

Address:
Boulevard Saint Michel 60
75272 Paris
France

Organisation Website:
http://www.armines.net

EU Contribution: €73,588

Fundacio Privada Barcelona Digital Centre Tecnologic

Address:
CARRER ROC BORONAT 117, 5 PLANTA
08018 Barcelona
Spain

Organisation Website:
http://www.bdigital.org

EU Contribution: €201,985

Etra Investigacion Y Desarrollo Sa

Address:
Calle Tres Forques
46014 Valencia
Spain

Organisation Website:
http://www.grupoetra.com

EU Contribution: €196,419

Nec Europe Ltd

Address:
WEST END ROAD ATHENE ODYSSEY BUSINESS PARK SOUTH RUISLIP
LONDON
HA4 6QE
United Kingdom

Organisation Website:
http://www.neceurope.com

EU Contribution: €186,957

Institute Of Communication And Computer Systems

Address:
Patission
10682 Athens
Greece

Organisation Website:
http://www.iccs.gr

EU Contribution: €248,320

Ecole Nationale Superieure Des Mines De Paris

Address:
BOULEVARD SAINT MICHEL 60
75272 PARIS
France

EU Contribution: €27,436

Comune Di Reggio Emilia

Address:
Piazza Prampolini 1

42100 Reggio Emilia
Italy

EU Contribution: €150,960

Technologies:

Information systems
Eco-Drive app

Development phase: Validation

Documents:
D1.1 Project Presentation (Other project deliverable)

STRIA Roadmaps: Transport electrification, Smart mobility and services

Transport mode: Road transport

Transport sectors: Passenger transport

Transport policies: Digitalisation

Geo-spatial type: Other