

ERA-NET Cofund Electric Mobility Europe

EMEurope

2016-2021

Promoting electric mobility through transnational collaboration

The need for transnational collaboration in Europe for advancing electric mobility

The European transport system is currently facing increasing challenges particularly regarding air pollution and climate change. In this context, electrification of vehicles is a forward-looking option which provides significant potential for reducing transport-related noise emissions, air pollution and greenhouse gases.

Setting the conditions for lifting electric mobility to the transport mainstream is a pan-European objective. It meets a wide range of contemporary European objectives on sustainable transport, environmental and climate protection, alternative energy and health policies. Moreover, incentives for European economic added value will be set, suitable for creating additional green jobs. Most of these policies are also relevant for national, regional and local levels throughout Europe in their endeavour towards a sustainable development.

To realise these goals, feasible solutions have to be developed – specifically for urban and suburban areas. In recent years, a variety of initiatives for advancing electric mobility have evolved in European countries, regions and cities. As a result, the introduction of e-vehicles into the market has developed in a promising manner. However, in order to reach a notable breakthrough and widespread uptake of e-mobility in Europe, further progress and comprehensive policy initiatives are necessary. Support for research, innovation, and joint policy initiatives can make a significant contribution towards achieving these objectives.

The joint funding initiative Electromobility+ (2010-2015)

In 2010, eleven European countries, regions and the European Commission (EC) set up the pan-European initiative Electromobility+ and pooled some 25 million EUR to fund 18 joint research and innovation projects. With this approach, the initiative succeeded in bundling individual national activities and public research funding programmes and establishing a network of relevant authorities and stakeholders in Europe.

Electromobility+ has delivered tangible and applicable results for both policy makers and stakeholders from industry, academia and municipalities. The results of the funded research projects have helped to significantly broaden the knowledge base on electric mobility and have delivered important stepping stones for a wider uptake and roll out of e-mobility solutions throughout Europe. Moreover, Electromobility+ has provided policy makers and stakeholders across Europe with a variety of tools, scenarios, guidelines and models for introducing e-mobility.

Specific results include:

- optimised management of electric vehicles in commercial fleets
- simulation of the impact of electric vehicles on the electricity grid and their optimal integration
- simulation of the impact of the introduction of electric vehicles on the levels of greenhouse gas and further emissions produced in road transport
- performance of electric vehicles in accidents and resulting guidelines for emergency and towing services
- innovative solutions for extending the range of electric vehicles by optimising charging infrastructure
- efficient, cost-effective and sustainable approaches to battery recycling, charging and swapping and the application of super capacitors
- innovative materials for light-weight structures for the construction of electric vehicles
- optimisation of the relation between material structure and battery performance.

Further detailed information on Electromobility+ is available online at <http://electromobility-plus.eu>.

The next level of cooperation: ERA-NET Cofund *Electric Mobility Europe* (2016-2021)

In collaboration with the European Commission and the European Green Vehicles Initiative Association, European countries and regions set-up an ERA-NET Cofund to further promote electric mobility in Europe. *EMEurope* builds on the experiences, networks and results of Electromobility+ and is designed to take transnational e-mobility research and policy exchange to the next level.

Implementation approach

With a two-track approach, the initiative will link research and policy practice in support of electric mobility at the European level.

A. Co-funded call for proposals

The first of two pillars of *EMEurope* will fund innovation projects focussing on the application and demonstration of e-mobility with the objective of advancing the mainstreaming of the electrification of mobility in Europe. The initiative will bring together about 26 million EUR for supporting applied innovation projects, including around 9.5 million EUR of co-funding provided by the European Commission under Horizon 2020.

In the beginning of November 2016, the initiative will issue a trans-national call for project proposals addressing the key areas of electric mobility:

1. System integration (transport, (sub)urban areas)
2. Integration of urban freight and city logistics in the e-mobility
3. Smart mobility concepts and ICT applications
4. Public transport
5. Consumer behaviour and societal trends

Details of these key areas can be found in the annex. The call and a detailed guide for applicants will be published in autumn 2016.

B. Cooperation on policy level

Building on the achievements of Electromobility+, the new initiative will establish a strategic pillar for national governmental administrations at the ministerial level. *EMEurope* will provide a platform

for cooperation and exchange of information and experiences between the governmental organisations of the participating countries while also involving regions and other stakeholders.

An important focus will be the exchange of information on measures – planned or implemented – to introduce investments and conditions conducive to the further development of electric mobility in Europe. This exchange on the working level can possibly be linked to council meetings of the EU. *EMEurope* will support this by facilitating suitable means of cooperation such as workshops or seminars in order to exchange or coordinate required actions.

Secondly, in attunement with the European Green Vehicle Initiative Association, a close exchange of ideas and information between the governmental organisations and stakeholders from industry, academia and municipalities will be established.

Benefits of the initiative

This joint initiative and the involved partners will have a significant impact on the development of electric mobility on a European level.

EMEurope will:

- accelerate the time to market for affordable, cost-effective and socially acceptable solutions for integrating electric mobility in Europe's (sub-)urban transport systems
- generate tangible and practical guidance to the decision makers in relevant authorities
- support industry and the service sector to provide suitable and feasible solutions for electric mobility in European urban areas
- result in large-scale and highly visible demonstration and implementation projects
- bundle national knowledge and reinforce policy measures for the development of electric mobility in Europe

In addition the partners of the network will profit from a significant grant provided by the EC. In average each partner will benefit from a 50% topping-up on provided national funds plus a lump sum financing for policy cooperation measures.

The strength of the envisaged two-track approach for mainstreaming electric mobility in Europe lies in expanded collaboration for establishing a joint European understanding of the benefits of electric mobility for the transport sector and beyond.

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Annex 1: Key areas of electric mobility covered by *EMEurope*

<p>System integration (transport, (sub)urban areas)</p> <ul style="list-style-type: none"> • Safety of EVs and charging infrastructure, integration in the city (e.g. e-bike paths) • E-mobility adjusted and shared infrastructure (incl. inductive charging) and housing • ICT applications, e.g. for optimisation of forecast issues and battery management
<p>Urban freight and city logistics</p> <ul style="list-style-type: none"> • Zero emission city logistics • Innovative e-mobility solutions, considering last mile delivery
<p>Smart Mobility concepts and ICT applications</p> <ul style="list-style-type: none"> • Interconnected services for cross-modal e-mobility chains (e.g. smart phone applications) • Mobility and housing: technical aspects like home charging, organisational changes like novel e-car sharing systems and neighbourhood centred solutions • Shared use of physical & virtual e-(mobility) infrastructures: e.g. (trolley) bus + tram • Cross links with automated driving
<p>Public Transport</p> <ul style="list-style-type: none"> • Application in public transport, electric busses, personal rapid transport • Optimisation of remote/inductive charging system • Testing EVs and charging in extreme weather conditions, e.g. in polar areas
<p>Consumer behaviour and societal trends</p> <ul style="list-style-type: none"> • Regulations and standards, interoperability, compatibility and charging payment solutions • Fiscal measures, local planning measures, integration into the transport system, consumer information (e.g. charging infrastructure, access to charging) • Application in fleet companies (waste collection, taxis...) • Electric Car sharing system, rental system of city electric vehicles • Second hand market issues

Annex 2: Timeline

Date	Step
<i>First week of November 2016</i>	Launch transnational call
<i>25 November 2016</i>	Information and brokerage event
<i>06 February 2017</i>	Closure transnational call
<i>Mid 2017</i>	Evaluation of proposals transnational call
<i>Mid – End of 2017</i>	Negotiations proposals selected for funding
<i>End of 2017</i>	Start of Research & Innovation projects transnational call

**Annex 3: Countries and regions participating in the ERA-NET Cofund *EMEurope*
(Status as of 05 October 2016)**

