

Fast In Charge		
Innovative fast inductive charging solution for electric vehicles		
Project Information: Budget / Funding: Duration: 3 years Funded by: FP7 Webpage: www.fastincharge.eu	Coordinator: Dionisio del Pozo TECNALIA Dionosio.delpozo@tecnalia.com	
<p>■ Motivation and objectives</p> <p>The overall objective of FastInCharge is to foster the democratization of electric vehicles in the urban environment by developing an easier and more comfortable charging solution using a highly performing inductive module.</p> <p>With the advent of new electrified vehicles (EV) for application in the urban environment, a significant need exists to drastically improve the convenience and sustainability of car-based mobility. In particular, research should focus on the development of smart infrastructures, and innovative solutions which will permit full EV integration in the urban road systems while facilitating evolution in customer acceptance.</p> <p>The proposed solutions should demonstrate the enhanced attractiveness of electric mobility, both in terms of convenience and reduced total cost of ownership, while showing how they ensure a correct relationship with the electric supply network and its requirements, as well as the economics of the needed investments.</p>		
<p>■ Technical approach</p> <p>Within this context, activities will focus on:</p> <ul style="list-style-type: none"> • Investigation into alternative, innovative solutions for recharging stationary EV minimizing risks deriving from vandalism (e.g. inductive charging). • Study of on-route charging technologies which would increase the vehicle range while reducing the size of on-board energy storage systems. • Development of innovative location based Demand Management systems by means of intelligent systems integrated in both EV and charging stations that can communicate and manage adaptively the charging process autonomously, if necessary, or taking into account the priorities of the user-grid. • Development of data security standards and crypto measures to ensure privacy protection. • Intelligent coordinated systems (micro-grids) that balance the simultaneous demand of a given geographically location (multiple, slow and fast charging EV combined with other electric consumers) with policies that prioritize emergencies, security of the net, minimal autonomy for all the elements, etc., and that can also coordinate with neighboring microgrids and upper level electric grid control. <p>Projects may address these issues by technology development and demonstration from a technological perspective while focusing on business case analyses and impact studies demonstrating the feasibility and viability of the proposed solutions across a wide-range of operational situations.</p>		
<p>■ Status / Achievements</p> <p>On going project</p>		
<p>■ Partners</p> <p>DBT, TUG, Automobilovy Klaster, Batz, Commune de Douai, Euroquality, ICS, TECNALIA, CRF</p>		



Please indicate the main EGCI areas covered by the project:

1.- ELECTRIFICATION OF ROAD AND URBAN TRANSPORT	
A. Energy storage systems Batteries / High voltage, management of storage systems	X
B. Drive train Electric motor/ machines, power electronics, active control units for electric motors and wheels	
C. Vehicle integration Energy efficient auxiliaries, integration of ICE range extenders, smart controls to manage requirements to keep driving performance and comfort, safety (active), advanced concepts for electrical architecture of the car with models and solutions for electrical and thermal management, safety and robustness of communication, actuators, electronic controls, power electronics, control methods and strategies related to different architectures, advanced electric vehicle concepts	
D. Infrastructure integration Advanced V2G interface, deployment of charging infrastructure, energy generation / distribution	
E. Electric car, integrated with the transport system Intermodality / interoperability, co-operative systems, connected car to improve safety and efficiency, car-in traffic control systems, communications, deployment of public infrastructure in parkings (public, home, work)/curb side with demos, large scale pilots, business models	
2.- HEAVY DUTY VEHICLES: Internal combustion engines, vehicle technologies for energy optimisation	
3.- LOGISTICS, CO-MODALITY AND ITS TECHNOLOGIES: Logistics, co-modality, Intelligent Transport Systems technologies	
OTHERS (related to GCI and not included above): Bio-fuels, other	
MATERIALS AND PRODUCTION TECHNOLOGIES	
Materials: Weight reduction (UHSS, Al, Mg, composites), use of recyclable and bio-materials (biopolymers, natural fillers), nanotechnologies to modify/improve surface characteristics and for specific functional properties (catalytic, electroactive, etc), other	
Production technologies: Smart & flexible manufacturing for cost efficiency, performance and robustness (automation, decentralised controls), modelling and virtual engineering, flexible production processes for customised products and small series, new joining, assembly and surface protecting technologies to ease dismantling and recycling processes, efficiency and energy use in manufacturing processes, other	

