

5th meeting in Bilbao



INNOVATIVE FAST INDUCTIVE CHARGING SOLUTIONS FOR ELECTRIC VEHICLES

**Reda EL HAJJAJI
DBT-CEV**



FastInCharge is supported by
European Union's Seventh
Framework Programme
{FP7/2007-2013} under grant
agreement n° 314284



Project overview

- Main features

Starting date: 01/10/2012
End date: 30/09/2015

Duration:
36 months

FastInCharge
GA n°: 314284

Total budget:
2,397,042.60 €

Maximum EC contribution:
1,654,085 € (69%)



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Project partners

- *Project Coordinator:* DBT-CEV
- *Partners:*
 - Technical University of Gabrovo
 - Automotive Cluster – West Slovakia
 - BATZ
 - Douai
 - Euroquality
 - Institute of Communications and Computer Systems – Technical University of Athens
 - Tecnalía
 - Fiat Research Center



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Objectives

- Develop and demonstrate a complete charging infrastructure in order to:
 - Address consumers' acceptance of electric vehicles by getting rid of the autonomy issue,
 - Test its implementation and assess its easy feasibility,
 - Optimise the energy delivery to stations and its interaction with the grid and vehicles,
 - Study the impact of its integration in the urban environment to foresee eventual problems that would occur in the frame of a real integration.
- The solution will be integrated in one vehicle (*IVECO Daily*) and demonstrated in Douai (one static and one dynamic situation).



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Main expected results

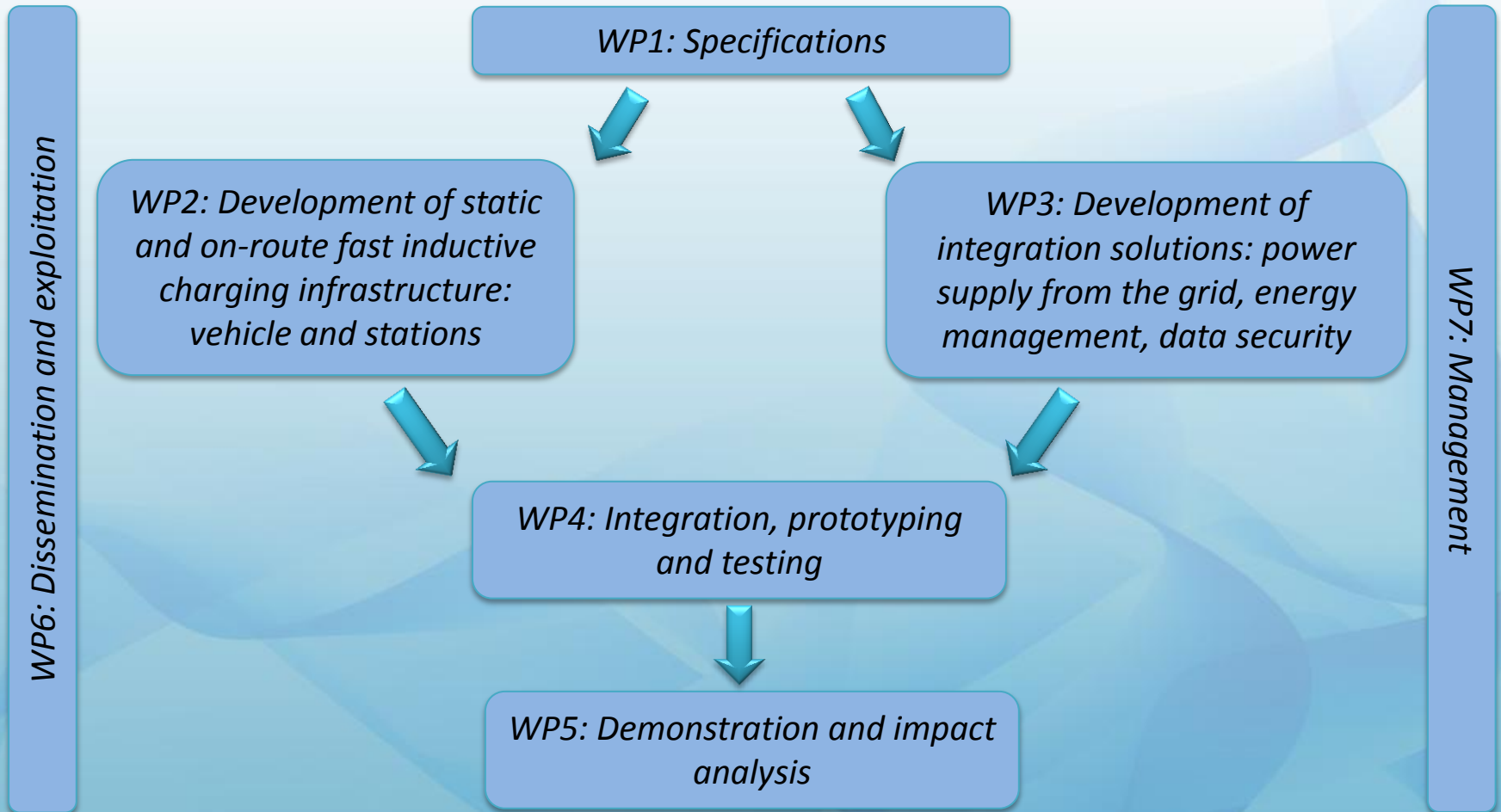
- Development of one primary plate to be integrated to one vehicle.
- Development of two charging stations (static and on-route) to be integrated in Douai.
- Optimisation of the energy management system.
- Demonstration of the efficiency and viability of the solution in real-life conditions.
- Study on the exploitation of the solution and the integration in other vehicles and situations.
- Evaluation of the impact



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Work programme



WP1: Specifications

- WP leader: DBT
- Calendar: October 2012 – March 2013
- Objectives:

*Define the functional specifications.
Define the technical specifications.
Provide a study on the EV consumption patterns.*

- Organisation

*T1.1: Functional specifications (DBT)
T1.2: Technical specifications (DBT)*

WP2: Development of static and on-route fast inductive charging infrastructure: vehicle and stations

- WP leader: TUG
- Calendar: January 2013 – December 2014

- Objectives:

*Development of the primary infrastructure.
Development of the secondary on board circuit.
Testing and prototyping.*

- Organisation

*T2.1: Design of the electronic elements for the stationary fast inductive charging (TUG)
T2.2: Design of the stationary charging station (DBT)
T2.3: Design of the on-route inductive fast charging system (TUG)*

WP3: Development of integration solutions: power supply from the grid, energy management, data security

- WP leader: ICCS
- Calendar: April 2013 – September 2014
- Objectives:

*Facilitate the integration of the charging infrastructure into the grid.
Optimize the energy distribution.
Design the energy management system*

- Organisation

*T3.1: Simulation of the integration of the charging stations into the grid (ICCS)
T3.2: Design of the demand management system (ICCS)*

WP4: Integration, prototyping and testing

- WP leader: CRF
- Calendar: April 2013 – September 2014

- Objectives:

*Implement the charging stations in Douai.
Integration of the secondary circuit in the vehicle.
Control and validation of the prototype.*

- Organisation

*T4.1: Implementation of charging stations: static and on-route (DOUAI)
T4.2: Development of the prototypes (CRF)*

WP5: Demonstration and impact analysis

- WP leader: DOUAI
- Calendar: October 2014 – September 2015
- Objectives:

*Demonstrate the feasibility and viability in real urban context.
Evaluation of the impact of the solution
Extrapolation at a more global scale.*

- Organisation

T5.1: Trials and validation in real context (DBT)

T5.2: Extrapolation of the limited demonstration results to a city size simulation (as well as extra-urban situations) (ICCS)

T5.3: Global synthesis (DBT)

WP6: Dissemination and exploitation

- WP leader: ACWS
- Calendar: October 2012 – September 2015
- Objectives:

Dissemination of the project results
Exploitation for further industrial development

- Organisation

T6.1: Development of a web platform on the project (EQY)
T6.2: Dissemination campaign (ACWS)
T6.3: Workshops and congresses (ACWS)
T6.4: Exploitation plan (ACWS)



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WP7: Management

- WP leader: DBT
- Calendar: October 2012 – September 2015

- Objectives:

To ensure the optimal coordination of financial resources.

To ensure the appropriate functioning and efficiency of the coordination board.

To ensure the timely and appropriate reporting to the EC.

- Organisation

T7.1: Administrative, financial and information flow management (DBT)