Electromobility +

WIC2IT

Wireless Inductive Charging to Interoperation Testing

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AGENCE NATIONALE DE LA RECHERCHE ANR

DLR

Danish Agency for Science Technology and Innovation
Ministry of Science, Innovation and Higher Education

RENAULT

Schneider Electric

automotive engineering iav

BOSCH

CONDUCTIX wampfler

cnrs

GEP

DAIMLER

AALBORG UNIVERSITY DENMARK

AARHUS UNIVERSITY

QUALCOMM

afaq ISO 9001 Qualité AFNOR CERTIFICATION

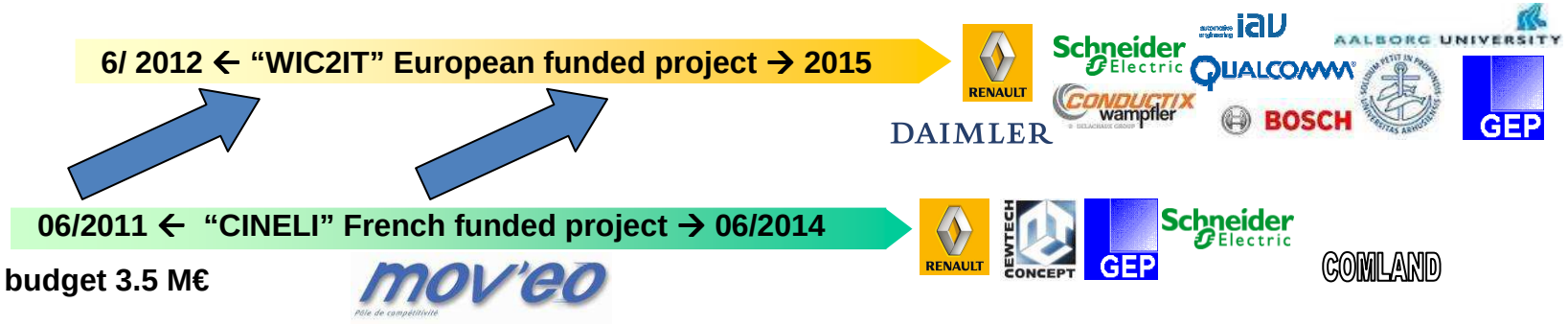
WIC2IT

- Programme ANR:Electromobility+
- DAS Mov'eo Concerné : SSE (Système de stockage d'énergie)
  - SSE3 : Intégration système de stockage dans véhicule et infrastructure de recharge
  - SSE4 : Sécurité, Qualification
- Overall cost : ≈ 6 580k€ (EU)/ 2 220 k€ (FR)
- Fund : ≈ 2 743 k€ (EU)/ 715 k€ (FR)
- Duration : 36 months
- Kick off :06/2012
- *Coordinator:* **RENAULT**

Partenaires: *AALBORG University*
AARHUS University
BOSCH
CNRS LGEP
CONDUCTIX
DAIMLER
Qualcomm
Schneider Electric

Target of the Project

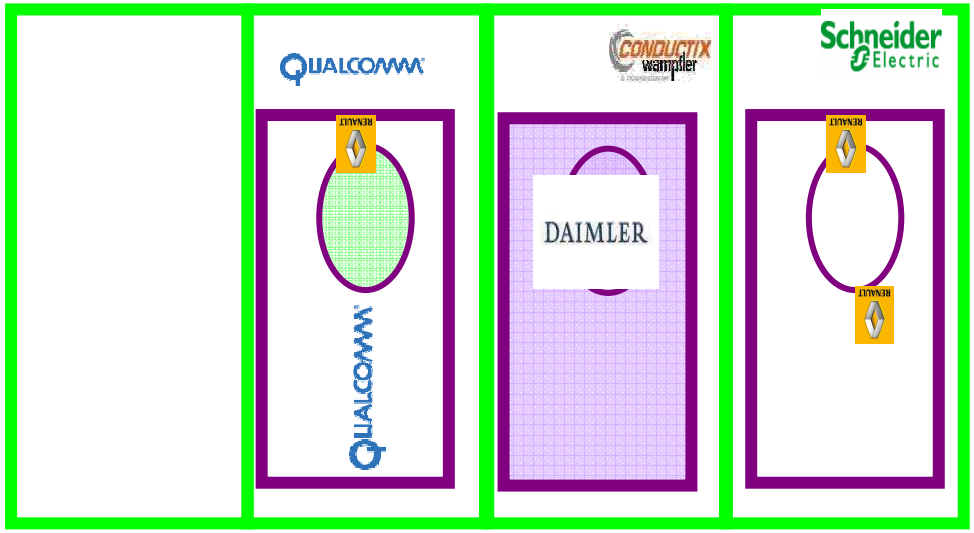
- Subject : ***" Power transmission contact less by Induction "***.

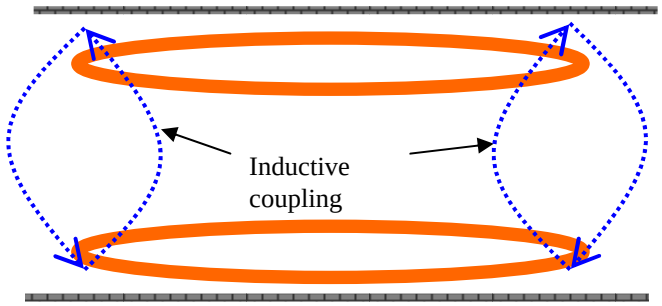


- Interoperability testing
  - 3 charging systems
  - 2 car manufacturers
- Coordination with CINELI (movéo)

WIC2IT:

Target: Share the recharging infrastructure





Project overview

Innovation: Design of charging system with positioning tolerance.

Cross-manufacturer Team : Requirement written with system manufacturers for the compatibility from emitter and receiver from divers technologies.

Improve the EV usage: Easy battery charging.

In addition to the other Funded project: CINELI The interoperability testing in France is used as database for the European project.

Technological barrier

High efficiency and Positioning tolerance : The design of the magnetic parts for coupling provides a high efficiency of the power transmission.

High efficiency and interoperation between emitter and receivers : The coupling is achieved by a perfect tuning between the two systems. The objective is to control the coupling characteristics of different manufacturing systems. Compatible Transceivers with different designs.

Radiation mastering: the system is designed in order to transmit a high power without contact. The radiated field has significant level. Study of Electromagnetic Compatibility

Health studies: a study on the health impact will give data on the levels of radiation. Protection against the electromagnetic radiation.

Benefits and Impacts

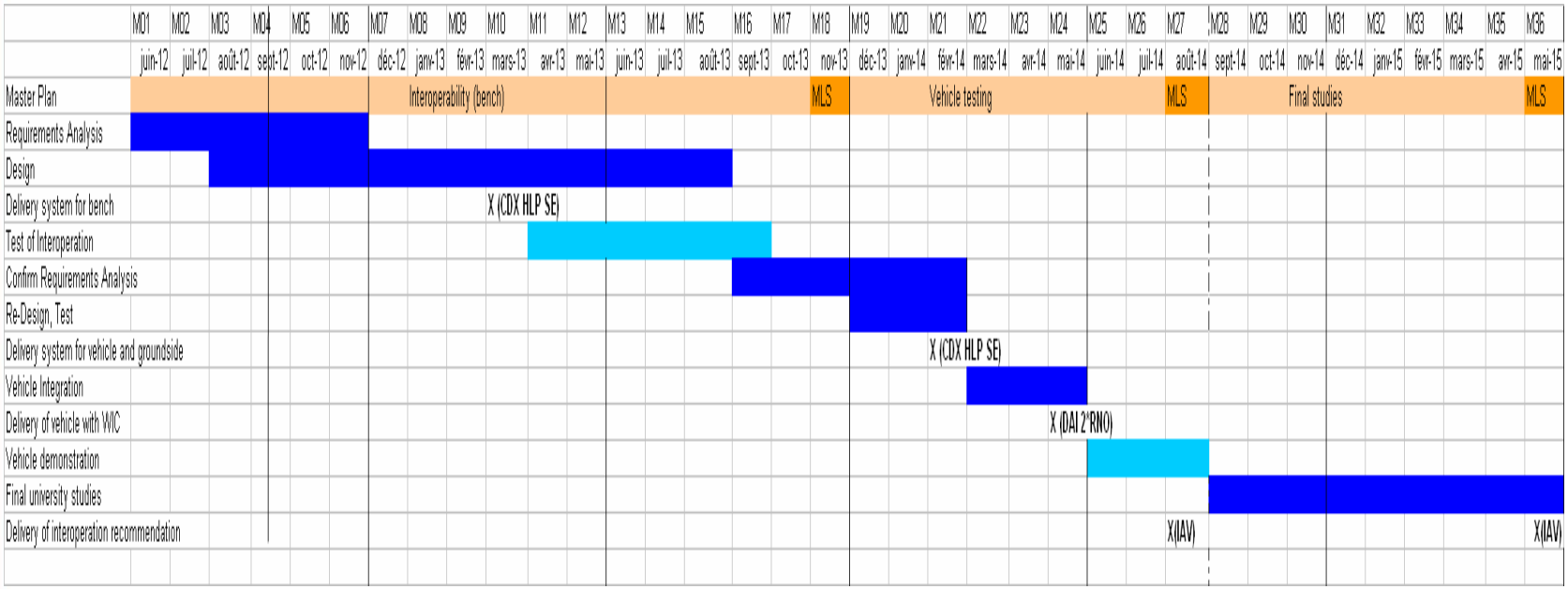
- Technical and scientific impacts
  - Technical expertise :
    - Advance engineering
    - Applied Physics (CNRS-LGEP; AAU)
    - Applied Health Studies
  - Applied on a contact less charging system for vehicle
    - Proposal of requirement for interoperation
    - Design of new component (inverter, emitter, receiver)
- Social and environmental impacts
  - PhD and Post Doc hire by the Universities
  - Improve the acceptance of the electric vehicle.
  - Increase the use of the Electric Vehicle.
- Economical impacts
  - Increase turnover
  - Cost effective deployment of infrastructure
  - New offer with contact less charging
  - Increased of the competitiveness

Progress

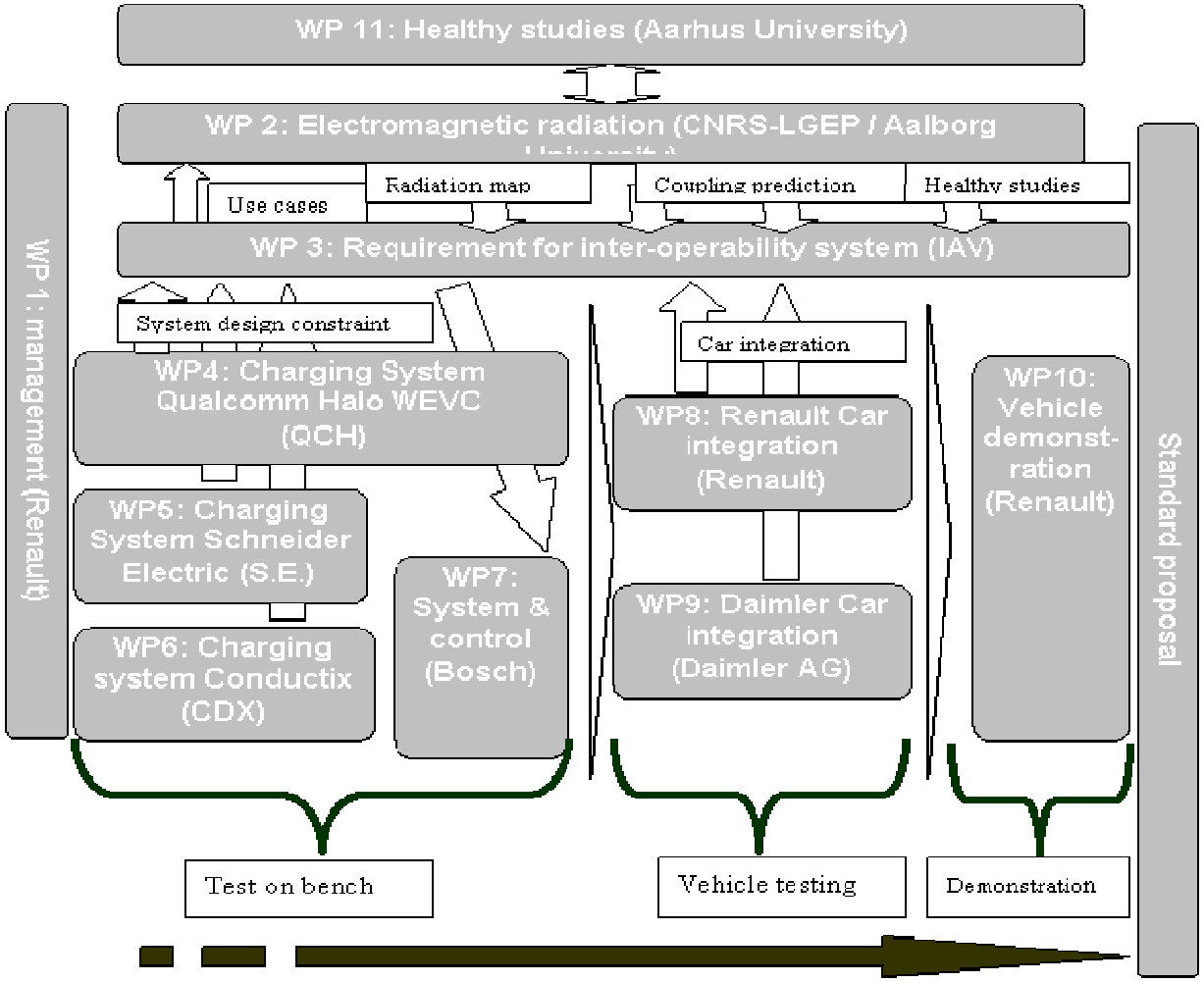
- Kick off in June
- First technical meeting
- NDA under signature (mandatory for the next technical meeting)
- Next meeting 17th of September
- Consortium agreement target 6/2013

Next Step

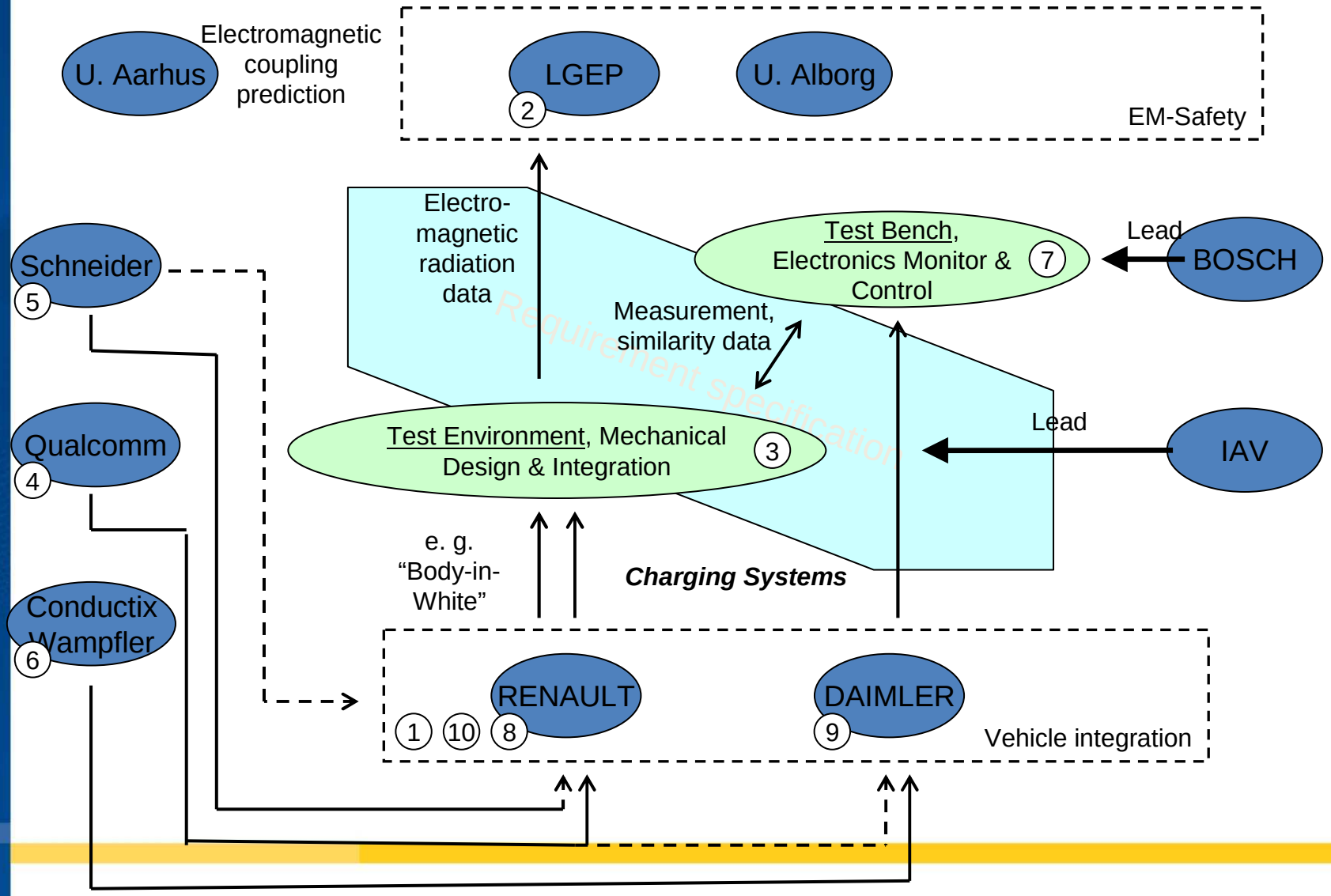
- Requirement Analysis



Work Package Structure



Methodology



Conclusion

- Negotiations
  - Difficulties due to trans-national project
- Interoperation
  - Standardization : IEC has started discussion
  - WIC2IT is a very good support for standardization

Thank you for your attention