

« **ENERGY MANAGEMENT in EVs and HEVs** »

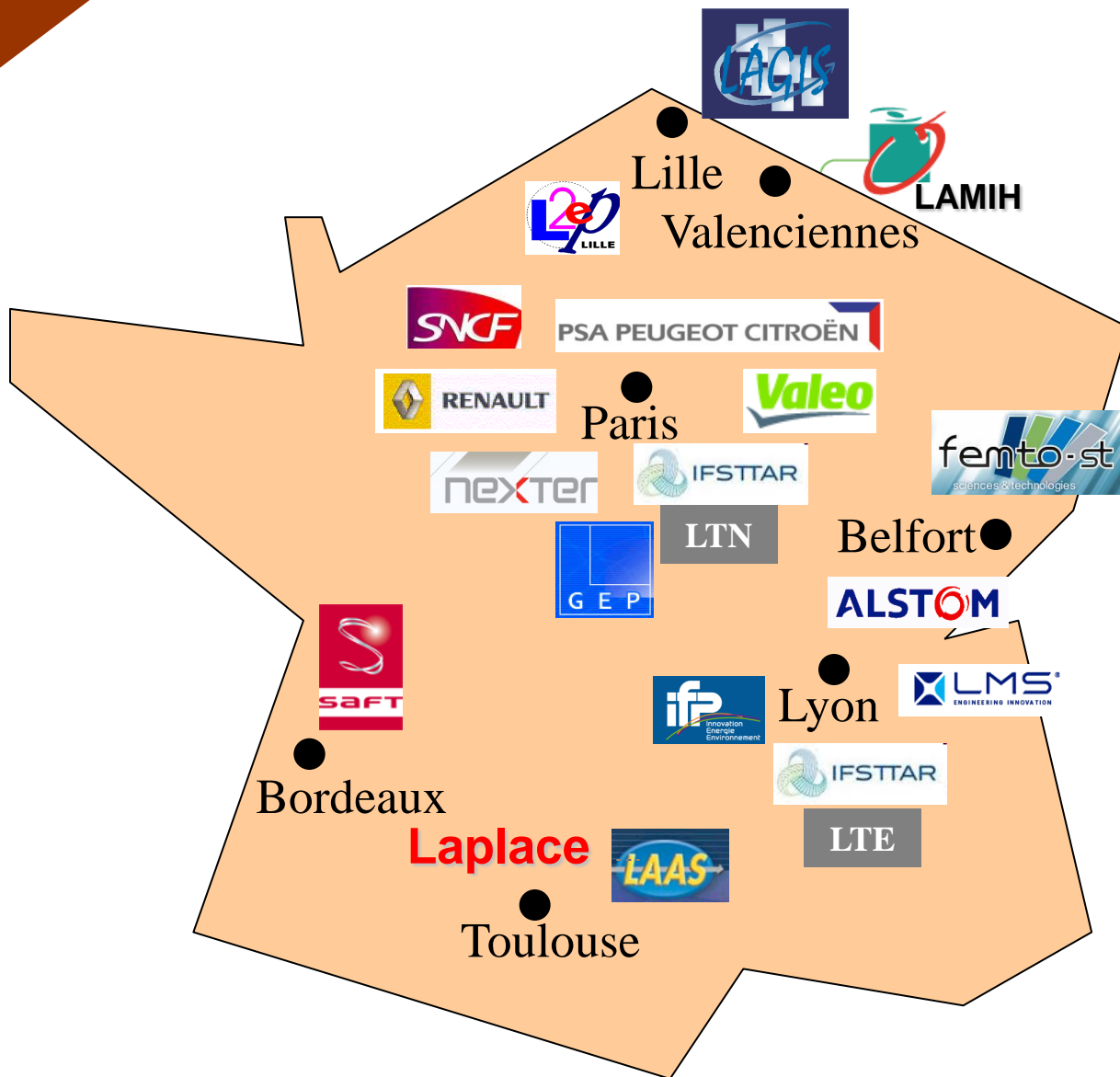
Invited session organized by MEGEVH
(French scientific network on EVs and HEVs)

Co-chairs

Dr. R. TRIGUI (IFSTTAR, MEGEVH, France)

Prof. J. KESSELS (Eindhoven University of Technology, DAF Trucks, Netherlands)

- MEGEVH network -



MEGEVH
French network on HEV's

(Energy management of Hybrid Electric Vehicles)

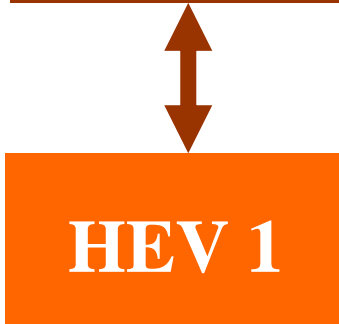
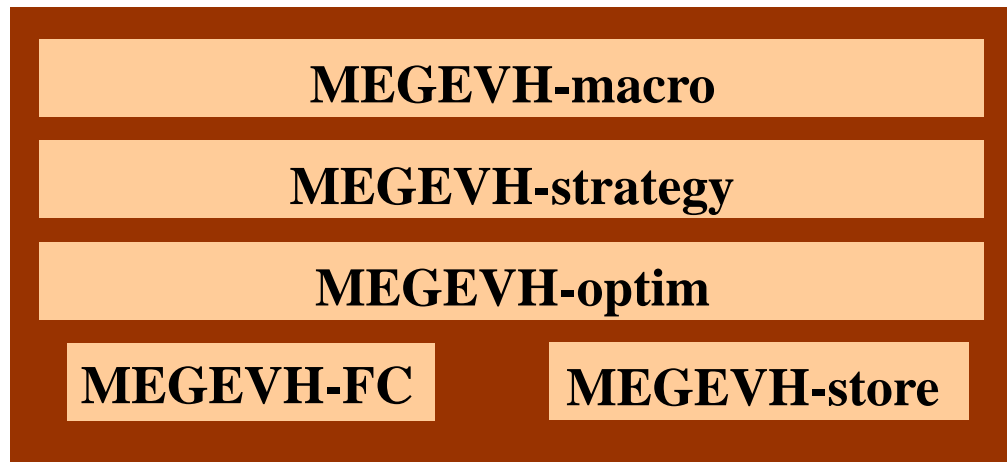
Coordination:
Prof. A. Bouscayrol

6 projects
6 PhDs in progress
7 PhDs defended

8 industrial partners
10 academic Labs

- MEGEVH philosophy -

Theoretical level

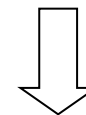


Vehicle level

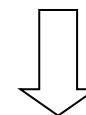


Development of methodologies of modelling and energy management

independently of the kinds of vehicles



- co-supervised PhD
- collaborative projects



- EMR as common tool
- generic model of HEV (Prize)



Paper Prize Award of IEEE-VPPC'08

- Experimental platforms, and vehicles -

plate-form « eV »

Real-time energy management



Toyota Prius II



plate-form

« storage devices »



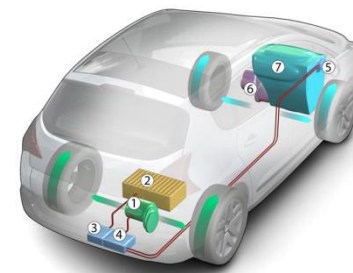
DPE 6x6



plate-form « propulsion »



3008 HY4



- EVs and HEVs are complex systems with new types of energy sources
- High dynamic performances and high efficiency are required

⇒ Energy management is a key point

First part (morning):

1. Signal Hardware-In-the-Loop Simulator of Hybrid Railway Traction
(SNCF, France)
2. Reduced-scale HIL Simulation of a Peugeot 3008 HEV
(Univ. Lille1, PSA Peugeot Citroën, MEGEVH, France)
3. MPPT Control Strategy on PEM Fuel Cell
(Univ of QTR, IRH, Canada)
4. Integrated Energy and thermal Management for Heavy HEVs
(Eindhoven Univ. Tech, DAF Trucks, Netherlands)
5. Smart Vehicle Powernet Enabling Complete Vehicle Energy Management
(Eindhoven Univ. Tech, DAF Trucks, Netherlands)

Second part (afternoon):

1. Optimal Management and Comparison of SP-HEV Vehicles
(IFSTTAR Institute, MEGEVH, France, HIT China)
2. Vehicle Trajectory Optimization for Hybrid Vehicles
(IFSTTAR Institute, France)
3. Analysis of Energy Management Strategies for FC/UC EVs
(LGEP, ESTACA, France, IRII, Spain)
4. A High Efficiency Isolated Bidirectional Equalizer for Li-ion Battery String
(Harbin Institute of Technology, China)
5. Fault-Operation Modes of a Highly Redundant Military HEV
(UQTR, Canada, Univ Lille1, UFC & Nexter Systems, France)

MEGEVH has organized 2 other special sessions in VPPC'12
“Energy Storage Systems” and “EMR and other graphical tools”