

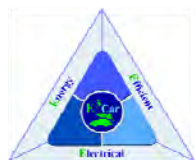
Electric
Mobility



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JOINT UNDERTAKING



Nanoelectronics and Embedded Systems for Electric Mobility



The conference will aim at:

- Establishing an European network of researchers focused on nanoelectronics and embedded systems for electric mobility applications,
- Cooperation among project across Europe, and discussion of the possible role of each project in supporting the European electric vehicle development.



ALMA MATER STUDIORUM
UNIVERSITA DI BOLOGNA



Information:

www.artemis-ioe.eu/events/
www.artemis-pollux.eu/events/



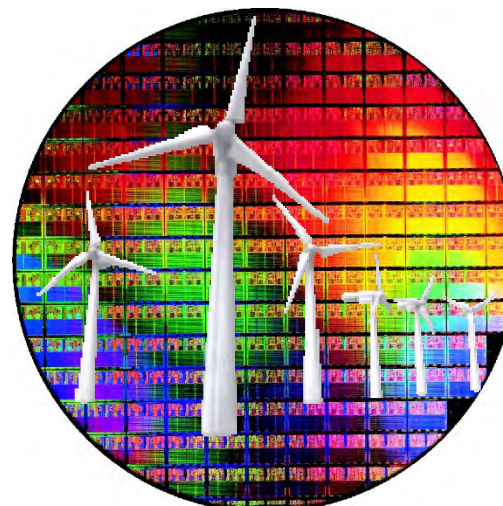
European Conference on Nanoelectronics and Embedded Systems for Electric Mobility

“eMotion in Smart Cities”

25-26th September 2012, at University of Bologna, Italy

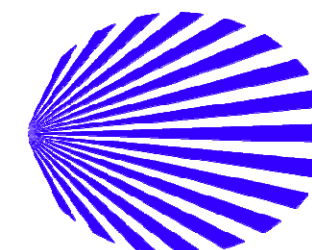
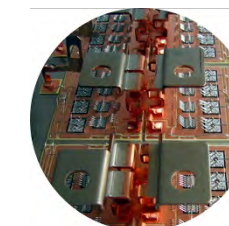
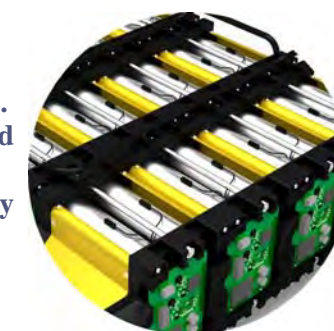
Electro Mobility Week

24-28 September, 2012, Bologna, Italy



“From Design to Applications”

- ❑ Nanoelectronics technologies, devices, circuit architectures and modules for EVs.
- ❑ Constraints on and drivers of electrification to assess the future of EVs and HEVs.
- ❑ EVs architectures. EVs system architectures for passenger, service and utility vehicles. Distributed architectures and real time embedded systems platforms.
- ❑ Internet of Energy Architecture
- ❑ Innovations in EVs component design
- ❑ EVs motor drives and controllers
- ❑ Innovations in EVs energy storage solutions (e.g. battery chemistry, ultra capacitor, fuel cell, battery management system). Battery management systems and integration with the uni- and bi- directional charging modules
- ❑ EVs systems modelling, simulation and testing
- ❑ AC and DC conductive charging, wireless charging, smart charging, fast charging, bidirectional charging
- ❑ Power grid and renewable energy resource interfacing
- ❑ Communication platforms and energy broker integration for electric mobility.
- ❑ Information Technology and Communication services for the EVs ecosystem. Vehicle integration with information and communication technologies
 - Vehicle to Vehicle (V2V)
 - Vehicle to Infrastructure (V2I)
 - Vehicle to Grid and Internet Connection (V2G+I)
- ❑ Global standards development for EVs and their impact on EVs deployment
- ❑ Trends and roadmaps in EV technology



Electric
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OBJECTIVES

NANOELECTRONICS Electric Vehicles EMBEDDED SYSTEMS

The integration between the nanoelectronics and electronics hardware components and the software information driven functions, resulting in integrated mechatronic systems for next electric vehicles generations will be a main research and development area in the next few years.

The objective of the European Conference on Nanoelectronics and Embedded Systems for Electric Mobility – eMotion in Smart Cities (NESEM 2012) is to bring together experts from the fields of nanoelectronics semiconductor, mechatronic and embedded systems to present the recent advances made in the area, discuss the future research directions, and exchange application experience with respect to the developments in the electric mobility applications.

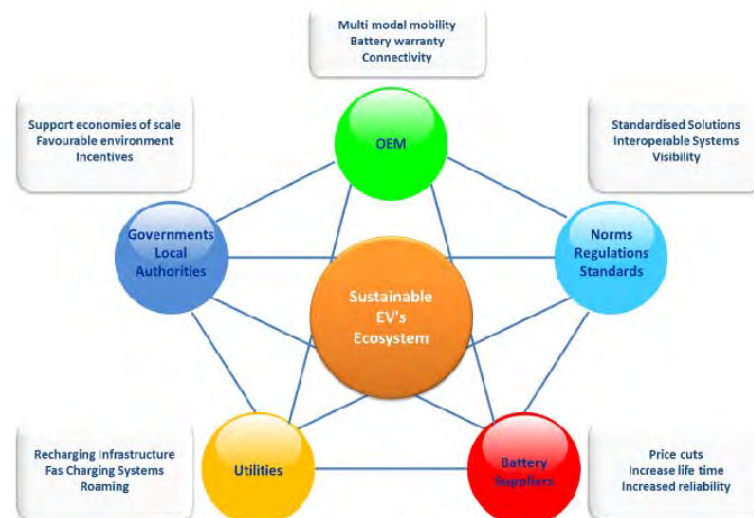


- NANOELECTRONICS TECHNOLOGIES, DEVICES, CIRCUITS ARCHITECTURES AND MODULES FOR ELECTRIC VEHICLES.
- DISTRIBUTED REAL TIME EMBEDDED SYSTEMS PLATFORM FOR NEXT GENERATION ELECTRIC VEHICLES, BY USING A COMPONENT AND PROGRAMMING-BASED DESIGN METHODOLOGY. BATTERY TECHNOLOGIES.
- CONSTRAINTS ON AND DRIVERS OF ELECTRIFICATION TO ASSESS THE FUTURE OF EVS AND HEVS.

Experts representing several projects with a total budget of over 200 M€ (ARTEMIS-POLLUX, ARTEMIS-LoE, ENIAC-E2SG, ENIAC-MotorBrain, ARTEMIS-eDIANA, ENIAC-E³Car, FP7-CASTOR) funded by national public authorities from several countries in Europe, ARTEMIS Joint Undertaking Initiative, ENIAC and the European Commission will focus during the Conference on the nanoelectronics and embedded systems technologies developments for electric mobility applications and the impact on the future of EVs and HEVs.



THE CONFERENCE IS ORGANIZED ON 25-26 SEPTEMBER 2012 AS PART OF THE ELECTRO MOBILITY WEEK EVENTS, AND IS OPEN TO A LARGER AUDIENCE AND DESIGNED TO BRING TOGETHER THE PUBLIC AUTHORITIES, GOVERNMENT POLICY MAKERS AND THE TECHNICAL EXPERTS FROM DIFFERENT EUROPEAN COUNTRIES WORKING IN THE FIELD OF THE NANOELECTRONICS AND EMBEDDED SYSTEMS, COMMUNICATIONS, AUTOMOTIVE AND ELECTRIC ENERGY UTILITIES TO ADDRESS THE TECHNOLOGICAL, INDUSTRIAL, INFRASTRUCTURE AND MARKET CHALLENGES FOR ELECTRIC MOBILITY APPLICATIONS.



ELECTRIC VEHICLE RESEARCH NOVELTY AND ENERGY EFFCIENCY



ENVIRONMENT:

Reduce the environmental impact of the manufacture, operation and end of life disposal of vehicles.

ECONOMY:

Enhance the quality and performance of vehicles while reducing life cycle cost.

HEALTH:

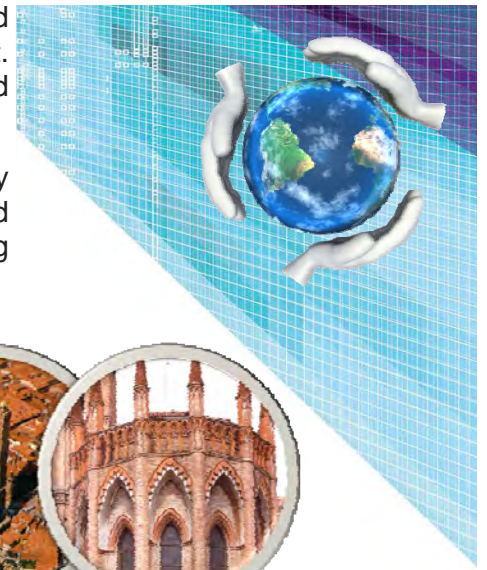
Enhance the safety of citizens, drivers, occupants and the public in the manufacture and use of vehicles.

SOCIETY:

Enhance the economic and social benefits derived from the manufacture and use of vehicles in Europe.

Europe is targeting research on innovative electronic components and embedded systems that play a key role in electric vehicle development. Research is focusing on semiconductor components, power modules and embedded systems that control the different functions in electric vehicles.

The efforts are concentrated on extending the travel range per battery charge, on integrating components to make the battery, charge unit and power distribution network lighter and more compact, and on increasing the efficiency of the power modules.



EVENT INFORMATION

VENUE

The Conference will take place at:

University of Bologna
Faculty of Engineering
Viale del Risorgimento, 2,
40136 Bologna – Italy
Plenary session: Aula Magna

The Project Workshops will take place at:

Camplu Bononia
Via Sante Vincenzi, 49
40138 Bologna
Italy

BOLOGNA, ITALY

Bologna is the principal city of the Emilia-Romagna Region in Northern Italy. Bologna is a lively and cosmopolitan Italian college city, with spectacular history, art, cuisine, music, and culture. It is the seventh largest city in terms of population in Italy and it is the heart of a metropolitan area (officially recognized by the Italian government as a metropolitan city) of about 1,000,000 inhabitants.

ORGANISING COMMITTEE

Ovidiu Vermesan, SINTEF, Norway
Tullio Salmon Cinotti, University of Bologna, Italy
Roberto Zafalon, STMicroelectronics, Italy
Randolf Mock, SIEMENS, Germany
Riccardo Groppo, CRF, Italy
Harald Gall, ams, Austria
Peter Caldera, Lantiq, Austria
Peter Hank, NXP, Germany

LOCAL ORGANISING COMMITTEE

Tullio Salmon Cinotti, University of Bologna, Italy
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