

ITE – Energy Technological Institute

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Organisation profile

The Energy Technological Institute, ITE, is a Center for Technological Investigation, orients its services, products and technological projects to companies and public organisms at national and international level. These projects belong to different sectors like energy, electrical, electronic and the communications. The aim of the institution is the promotion of the scientific research and the technological development in the areas related before. We are working in several projects involves in: Smart Grids, Renewable Energies, New Carbon Materials for Energy Storage, Power Electronics, Automatic Control, Modelling and Simulation, Advanced Control Techniques, Artificial Intelligent Control (Neuronal Networks, Fuzzy, Data Mining, etc.), Electric Vehicle, New Distribution Networks, etc.

Laboratories: Electrical Safety, Calibration, Quality of Supply, Electromagnetic Compatibility, High Voltage, Legal Metrology, Electromagnetic Fields Measurement, Electronic Circuits Prototyping, Environment and Quality. Pilot Renewable Energies Plant with solar PV, thermal solar, wind and fuel cell systems integration.

Main Green Cars activities: Products and Projects

- Project EPV: New Efficient Urban Transport Power System based on the use of Electrical Vehicles integrated in the grid and powered by renewable energies.
- Methodology for optimal location of charge stations and the vehicle charge process. Regional project with Iberdrola and AVEN (Valencian Regional Energy Agency) as advisory organization.
- Project IMPIVA 2009. Design and evaluation of hybrid systems for stationary and transport applications: developments of supercapacitor batteries and fuel-cell batteries.
- Project IMPIVA 2008: Improvement of the dynamic behavior of electrical storage based on supercapacitors.
- Project MCIN 2009-2011: New concepts in energy storage for medium and large systems.
- Project MCIN 2005-2008. Smart Grids. Design of new control strategies in distributed generation systems.
- PSE Renewable Hydrogen SUB-PROJECT N° 09: Systems integration of electrical energy generation based on fuel cells with renewable hydrogen (HYDROREV)
- Project IMPIVA 2005-2007: Generation of new systems of power storage based on nanotechnology techniques: carbon nano-structured.
- Design of automation and communication architectures for optimal integration between internal and external operation vehicle devices.
- Advanced modelling, simulation and control of vehicle behavior and its interaction with its surroundings, model grid and the Distributed Energy Resources. (Using DYMOLA and the Smart Electric Drives Library, Matlab, Power Factory, developments M.A.S.).
- Power Electronics and Battery Management Systems (control and charge).
- Nano-structured materials synthesis, modification and characterization for energy storage and synthesis of nanostructures carbon of controlled porosity and high electric conductivity.
- Carbon nano-foam preparation for catalysis and energy applications.

Carbon nano-fibers for energy storage in batteries and supercapacitors