

# The University of Seville Power Electronics Group



The Group is an international research centre for power electronics and industrial applications. At 15/01/2010 the Group had 10 academic staff, 12 post-doctoral and PhD researchers, and a grant portfolio of €4,3M. Its strategy focuses on the energy and transportation sectors with an important activity in the renewable energy fields. The activities range from basic technology research to applied research, culminating with industrial demonstrator's development.

## Key Research Fields & Competence Areas:

### POWER CONVERSION

- Power Converter Topologies and Control

### ENERGY SYSTEMS

- Power Electronics for Renewable Energy Systems
- Grid Codes
- Energy Storage Systems
- Transmission, Distribution and Micro-Grid Power Electronics (HVDC, FACTS)

### TRANSPORTATION SYSTEMS

- Power Electronics for Electrical and Hybrid Vehicles Transportation Systems
- Aerospace Applications
- Energy Efficiency in railway Transportation

## Institute Highlights:

### RENEWABLE ENERGIES

- Windpower Test Bench (double fed, direct drive, full converter technologies, grid codes)
- Photovoltaic Inverters Test Bench
- Fuel Cell Power Conditioning Test Bench
- Flywheel Test Bench
- New Technology Batteries

### GRID APPLICATION

- FACTS. Test Bench (UPFC, STATCOM, Active Filter)
- HVDC-IGBT Test Bench (1MW on schedule)

### MEDIUM VOLTAGE APPLICATIONS

- Multilevel Power Converters (NPC, Cascade, 4-Phases)



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