

## INTRODUCTION

MCIA, Motion Control and Industrial Applications, is a Research and Technology Center incorporated to the Technological Innovation Network recognized by Academic and Government Institutions.

The MCIA Group is located at Terrassa Campus, which belongs to the Universitat Politècnica de Catalunya (UPC).

The MCIA's interests are focused on the main problems of concern nowadays in the industry, the safety and the energy management.



The MCIA Center seeks the excellence in the research by means of the leadership and cooperation in research programs funded in a competitive basis. Furthermore, technology transfer is ensured by agreements and contracts with industry or by the participation in Research Consortiums.

## WORKING AREAS

### ***Industrial Diagnosis.***

- Motor Drives safety
- Supervision and fault detection
- Online condition monitoring
- Non-destructive tests

### ***Energy Management.***

- Renewable Microsources
- Micro-Grid Management
- Energy Quality
- Demand-side management and optimization

### ***Industrial Electronics.***

- Power electronic converters and control
- Instrumentation and signal conditioning
- Digital control of systems and equipments
- Industrial communication and wireless networks



## SERVICES

The MCIA Center offers to its customers a high level staff and specialized facilities. The extensive experience is based on a big amount of scientific and technological developed projects, many of them published in prestigious journals.

- Simulation of mechatronic systems.
- Finite Element Modeling and Analysis.
- Control and design of Motor Drives.
- Hardware development in power converter topologies, condition circuits, interfaces.
- Software development of customized applications based on DSP, microcontroller, and FPGA technologies.
- Implementation of Supervision and Data Acquisition Systems to industrial processes and energy management.
- Instrumentation and Measurement of Mechanical Systems and Industrial processes.
- Application of Artificial Intelligence Techniques to System Diagnosis.
- Measurement and Analysis of energy consumption in industrial processes.
- Energy Quality Reports.
- Software development for Energy Management
- Development of high performance power audio amplifiers.
- Assessment and technical reports to the enterprises.
- Customized professional training and technology transfer to the companies.
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# PROJECT PARTNERS

## Industrial

CIRCONTROL  
 CIRCUTOR  
 ENERTIKA  
 MECALUX  
 PROMAUT  
 RUFFINI  
 TECNOTRANS

## Audiovisual

ACTIVASOFT  
 LAVINIA  
 MASTERAUDIO

## Transport

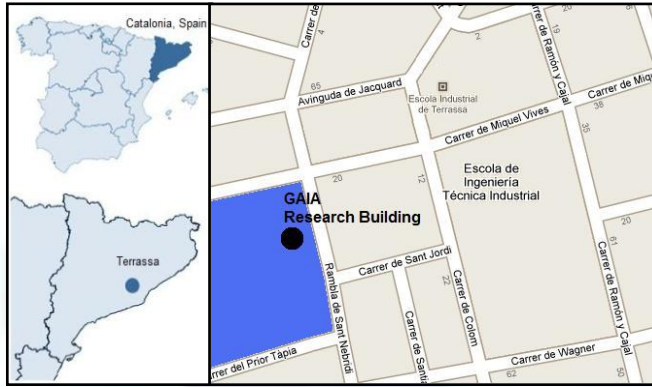
AERTEC  
 AIRBUS  
 DLR  
 EADS Astrium CRISA  
 GOODRICH  
 SEAT

## Research Centers

CRIC  
 CTM  
 GDE I+D+i



# LOCATION



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