

CITCEA-UPC is a technology transfer centre of Universitat Politècnica de Catalunya (UPC BarcelonaTech), specialized in responding to the needs of enterprises to build functional prototypes that can be industrialized and commercialized. In order to carry this out, it is built a client-supplier relationship with the enterprises we collaborate with.

The center is expert in all types of applications requiring the control of energy, also known as Enertronics, and the control of the movement, also called Mechatronics.



Enertronics

Enertronics is the synergistic combination of electronic signal and power, computing and control systems. In this area CITCEA-UPC has expertise in wind energy, photovoltaics, Smarts Grids and Microgrids, railway, grid integration of electric vehicles and IEC68150 standard. The engineers of the center have become specialized in double-fed induction generator, back-to-back converters, PMSG, HVDC, off-shore wind energy, grid stability, energy market, FACTS, energy pricing, PSS, DigSilent and EMTP-RV.



Mecatronics

Mecatronics combines the fundamentals of mechanical, electrical, and computer engineering. CITCEA-UPC develops this field working on power electronics, drives, motion control, electrical machines, automation and industrial communications. Researchers operate with digital control of power converters, DSP, frequency converters, energy storage, battery chargers, CHAdEMO, PLC, high precision synchronon power supplies, automation, CAN, industrial communications, ASi, web servers and microprocessors.

Training

CITCEA-UPC offers training for enterprises and professionals in its fields of expertise, since in an economic context where knowledge is increasingly important the human capital of an enterprise becomes a valuable asset. For this reason, ongoing training is a basic element for competitiveness. The masters, professional courses and tailor-made courses offered by CITCEA-UPC provide specific and cutting-edge knowledge which mean improved productivity in the workplace and advances in the area of professional career.

More activities

Several patents and utility models have been developed in the recent years in the field of mechatronics, energy systems and motion control. Moreover, CITCEA-UPC is involved in several cooperation project supported by the European Commission.

In addition, the center has organizes seminars and workshops with the participation of internationally renowned experts. In October 2007 the center organized 9th edition of Electrical Power Quality and Utilization (EPQU'07) and in 2009 the "European Conference on Power Electronics and Applications (EPE'09)" in Barcelona.



Since 2001 CITCEA-UPC has been part of the TECNIO network, which provides support for technological innovation, driven by ACCIÓ, an organism of the Government of Catalonia.

