

CEIT

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Organisation profile

CEIT is a private multidisciplinary non-profit research centre closely connected to TECNUN, the Faculty of Engineering of the University of Navarra (Spain). Its mission is to provide the industry with services through the development of technical research projects and to form young researchers and PhD students. CEIT has a staff of 296 employees and an annual budget over 14 M€. CEIT consists of three departments (Materials, Applied Mechanics, and Electronics and Communications) and two R&D Units (Unit on Microelectronics and Microsystems, and Environmental Engineering Unit).

Facilities:

- Full Immersive bus and truck combined simulator.
- Development Environments for CAN and Flex ray.
- Scanning/Transmission electron microscopy.
- Simulation tools to describe the microstructural properties of new materials.
- Laboratory for rapid prototyping.

Main Green Cars activities: Products and Projects

Electronics and Power Electronics: Techniques for the safety critical software and programmable logic development. Electronic design of new on board devices. / **Advanced electrical drive systems.** Electrical energy management and storage. Design and development of traction systems for sustainable transport. Advanced electromagnetic design. / **Development of power electronic systems.** Advanced drive control: Vector control, sensorless control, DTC.

Materials and Processes : Mechanical properties, structural integrity and forming processes. / **Materials for micro-nanotechnologies.** / **P**rocessing of metallic and ceramic powders.

Communication: I2V communication systems for on board signalling and Traffic Information. / **Experience with on board communication buses:** CAN and Flex Ray.

HMI: Design of Human Machine Interfaces (HMI) for new on board devices. / **The design cycle can be partially closed validating the new systems in our full immersive bus and truck combined simulator.**

Projects:

- Environmentally friendly Technologies oriented to the urban transport.
- New generation, High Energy and power density SuperCAPapcitor based energy storage system.
- TESTMOV Automatic testing system for embedded systems for transport applications.
- TERETRANS (Intelligent systems for the new generation of terrestrial transportation)
- High performance on new processes and components for the automotive sector by nanotechnology applications.
- CABINTEC (Intelligent Cabin for Road Transport) (2007-2011)
- Ambience Intelligent – Electronics for Intelligent Transport (2007-2008)

EBSF European Bus System of the Future.