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INTERCONNECTIONS

At a time of global conflict, technology is vital in bringing our world together

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Systems Laboratory

The Technological Research Institute of the University of Santiago de Compostela, Spain, showcases its Systems Laboratory

The Technological Research Institute (ITI) of the University of Santiago de Compostela (USC) was founded in 1995 and now has around 80 researchers working in projects mainly in the fields of energy, the environment and nanotechnology. Over the last five years, 65 research projects have been developed, as well as 207 contracts and 24 consulting services led by senior researchers. Consequently, scientific productivity has reached 423 papers published in scientific magazines, books and congress, obtaining 14 patents.

As a unit of the ITI, the Systems Laboratory (SL) is focusing its research on remote sensing, climate change, spintronics, computational physics, nanotechnology and nanostructures, energy efficiency, smart cities, modelling and simulation.

Researchers at the SL focus their research on excellence through multidisciplinary, co-operation and internationalisation in basic and applied research.

They like to participate in international and/or strategic projects with a big socioeconomic impact. The SL is therefore increasing its activity in researching several European funding programmes, participating as partners in European Commission co-funded projects. Examples of some of the projects developed over the last five years include:

The PLEEC project: a Seventh Framework Programme (FP7) project developing methodology, best available practices and technology to plan energy efficient cities in a more integrated way. The SL played a significant role regarding the energy efficiency of and within buildings, especially in refurbishment and renovation techniques, and advising on the technology selected for implementation.

The CORE LNGas hive project: a strategic Connecting Europe Facility (CEF) project with 42 partners wherein the Technical University of Madrid (UPM) and USC (through the SL) collaborate with other public and private organisations to develop a safe, efficient, integrated logistics and supply chain for liquefied natural gas (LNG) in the transport industry, particularly for maritime transport to and from the Iberian Peninsula. In this way, our contribution is in designing and modelling a framework that improves capacities and trains people in the LNG logistic chain.

The LIFE-OPERE project: a LIFE+ energy efficiency demonstration project led by the SL. We have found energy efficiency solutions in an old university building with savings of up to 35%. Included in the solution is an energy storage and cogeneration engine, flexible monitoring and control as well as other key aspects. Energylab, an energy efficiency technology centre, is the technology partner within this project. These interventions have been designed and are being tested through control systems specifically developed by our researchers for each particular case, allowing duplication and adaptation in any other scenario.



The LNG-Hub project: a Trans-European Transport Network (TEN-T) project developing preliminary studies and tasks regarding the feasibility of increasing the LNG market around the LNG plant located in the port of Ferrol in northwestern Spain.

The Systems Laboratory participates in several work packages to develop demand studies, to undertake promotion and dissemination tasks, and in modelling and simulation on bunkering areas.

Researchers at the Systems Laboratory are always open to collaboration with European and international organisations, and are always willing to contribute to a new Europe and a better world.



INSTITUTO DE INVESTIGACIONES
TECNOLÓGICAS

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