INSHIP

EUROPEAN COMMON
RESEARCH AND INNOVATION AGENDA

Horizon 2020
European Union funding
for Research & Innovation

CIC Energigune Presentation

Javier Rodríguez
jrodriguez@cicenergigune.com

CIC

Institution	Centro de Investigacion Cooperativa de Energias Alternativas Fundacion
Short name	CIC
Name of representative	Dr. Javier Rodríguez
Contact details	jrodriguez@cicenergigune.com
	+34 945 297 108

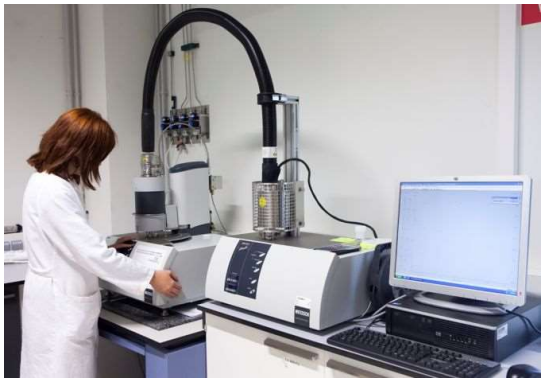
Mission Statement:

CIC energiGUNE has an **extensive experience and leadership on Thermal Energy Storage (TES) innovative solutions** for both, **Solar-Thermal electricity production and industrial heat recovery and management**.

CIC addresses the **complete research-innovation-technology value chain** with a transversal action: **Basic material science & characterization, conceptual design and modeling of new TES alternatives and the development of lab scale pilots**. All this experience is directly translated to the INSHIP framework.

SHIP Competences:

- Solar-Thermal energy capture and storage
- Thermal Energy Storage innovative solution design & optimization
- Optimization of the heat management in Solar-Thermal and Industrial processes
- Customization of industrial process heat management for optimum deployment
- Basic material science: characterization and synthesis
- Theoretical description and modeling of heat transport and management
- Design and construction of lab scale TES propotypes for concept demonstration



SHIP Research Infrastructure:

- **Material characterization**:
  - Thermal Analysis Platform (DSC, TGA, Mass-Spec, Dilatometry, Laser Flash etc
  - Optical/Electronic Microscopy (SEM/TEM)
  - Structural characterization (XRD)
  - Nuclear Magnetic Resonance (RMN)
  - Surface analysis (XPS, Sputtering)
- **Computational modeling**: CFD, and Structural theoretical analysis (Commercial CFD codes, Ansys, in-house developed codes, CAD)
- **Lab scale testing and prototyping facilities**:
  - Thermal Oil loop (up to 400 °C)
  - Air loop (up to 800 °C) (under construction, Feb 2017)

Participation in INSHIP:

Work package involvement:	WP6, WP8
Person months (national + EC):	1

Objectives:

The main goal of CIC within the INSHIP project is to **collaborate actively in the integration of a full capacity research structure in an EU level**. In this line, all the **research capacities aligned with INSHIP** (characterization, modeling & lab scale prototyping) available at CIC will be highly valuable.

The extensive **experience of CIC on several EU, National and regional project coordination** has provided a well **established and recognized position on the Solar-Thermal and Industrial process heat frames**. As a consequence, a complete network is available on this fields. This will be exploited in the INSHIP project.