

CAMPUS OF INTERNATIONAL EXCELLENCE

"SMART ENERGY"

**UNIVERSIDAD REY JUAN CARLOS
UNIVERSIDAD DE ALCALÁ
(SPAIN)**

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Program scope

The ***Campus of International Excellence Program (CEI)*** is part of the *Strategy University 2015* to develop international campuses of excellence in Spain.

Program launched by the Spanish Ministry of Education in 2009 to foster the modernization and internationalization of Spanish universities.



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It aims to promote strategic aggregations between universities and other institutions to create "*knowledge ecosystems*" that promote employment, social cohesion and economic development planning.

“Developing International Campuses of Excellence in Spain”

www.oecd.org/dataoecd/23/51/44721049.pdf

Program scope

The project was born by the initiative of a few Spanish public universities to achieve advances in innovation by fostering public and private strategic aggregations among universities, other research institutions and business located around the campus.

Environmental sustainability is a key element of the project.

R&D activities will focus on the areas of:

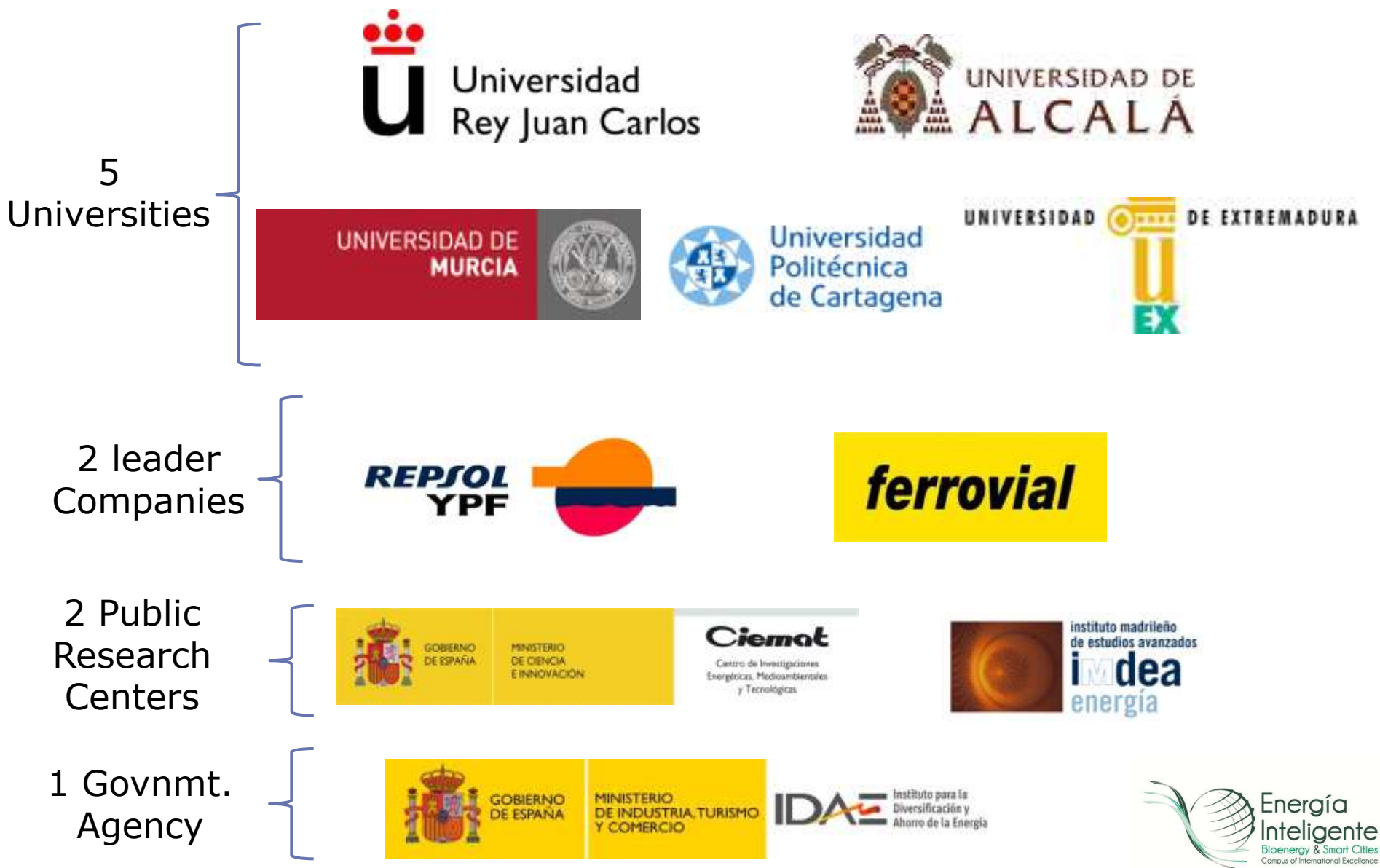
- energy sustainability, particularly **bio-energy**
- design of **smart infrastructures** for increased energy efficiency

To achieve this goal, the project is supported by:

- **Five universities**
- **Two Spanish multinational companies**
- **Two public research centers**
- **A governmental agency**, responsible for the **energy efficiency** development program

ALL OF THEM ENERGY & ENVIRONMENTAL-CLOSELY RELATED

Participants



Relevant Figures

The alliance of these institutions involves more than:

- 9,000 researchers
- Total R+D investment >250 million Euros in 2010



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Bio-energy

The Bio-energy program will explore biological strategies for obtaining energy products allowing to maintain economic development with no carbon footprint.

Working Areas

1. Biomass feedstocks: Technology solutions for improving sustainable energy crops (new feedstocks, new pathways based on micro-organisms for improved energy products,...)
2. Conversion processes to obtain biofuels (biodiesel from oil and fats, enzyme technology, lignin pre-treatment,...)
3. Integration of Bio-based plants into existing/new industrial facilities



Smart infrastructures

The Smart Infrastructure program will focus on new integrated models for urban environmental analysis, including the rational use of energy, to fit to the “smart city” concept:

- Green infrastructures
- Management of environmental parameters for citizen well-being

Working Areas

1. Improving energy efficiency and energy management (lighting, traffic lights, communication networks...)
2. Improving movility and transportation (electric cars, geolocation systems...)
3. Enviromental sustainability and citizen welfare (evaluating impacts of environmental & noise pollution on citizens'health...)

Project elements

- Research program in **Bio-energy (+REPSOL)**
- Research program in **Smart Infrastructures (+FERROVIAL)**
- **International Research School (IRS)** focused on project issues, including **post-graduate courses** in *bio-energy* and *smart infrastructures*, with the full involvement of companies
- **Attraction and Mobility of Researchers** international program (linked to the IRS)
- **Efficient Energy-sustainable City** pilot-lab
- **Vocational-Long Life Training** program

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Creative Enviroment

An additional goal of the project is the promotion of a **creative environment** where researchers and students develop their ideas and their results with the help of *proof of concept* projects, and the **creation of innovative technology-based companies.**



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website of the C.E.I “Smart Energy”:
www.campusenergiainteligente.es

**We are open at C.E.I. “*SMART ENERGY*”
JOIN US!**

Thank you for your attention

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