Thematic Actions

Coordinating Universities for the Proposal: UCM and UPM

Title of Action	**Creation of an Incubator for Environmental Companies Stage1: Chemical Incubator**		
Participating partners	UCM, CSIC, CIEMAT, UPM	**Other participants**	Madrid Science Park (UCM-UAM)
Personnel involved (indicate institution)	UCM (Chemistry, Chemical Engineering, Pharmacy, Biology, Geology, Veterinary) UPM (Telecommunications) CIEMAT		
Start date	2009	**End date**	2012
Cluster	Global Change and New Energies	**Other clusters**	Materials for the Future
Areas of action	Teaching Improvement and EHEA Deployment / Research / Knowledge Transfer / Local and Territorial Interaction		
Location	UCM Faculty of Medicine		
Infrastructures involved	Adapting the Building, Laboratories		
Keywords	Chemical Engineering		

Objectives:

The projects being developed by these companies include different phases covering feasibility studies, applied research and technological development, framed within the thematic areas of Chemistry (analytical chemistry, physical chemistry, organic or inorganic chemistry) and chemical technology (metallurgy, textiles, paper and environment). These projects are aimed at improving conventional processes and products, proposing increases in quality, performance, energy efficiency and sustainability, with cost savings and reduced environmental impact, all in compliance with health and environment requirements.

In the technological field, laboratories within the pilot plant with which the centre will be equipped, will enable the development of methodologies designed to scale for the testing of new processes for separation, concentration, purification, synthesis and for the testing of fermenters, catalysts, photochemical applications, etc. with a special emphasis on developing clean technologies with a minimal impact on the physical environment and on people.

Description of the action:

STAGE 1.- 2009-10

This stage covers the following:

a. A Semi-pilot Plant enabling innovative companies in the field of Chemistry to scale processes to kilo level in the same building.

b. A support service for the R&D of SMEs and incubated companies, fully equipped and in compliance with the quality standards of the pharmaceutical industry and therefore also useful for food and cosmetic industries.

c. A service for the analysis and quality control of wastewater and industrial waste, both chemical and biological, in keeping with EU quality standards.

d. A series of laboratories for chemical companies innovating new lines of Chemistry.

STAGE 2.- 2010-12

Creation of a business incubator focused on the areas of business development, renewable energy, telecommunications and nanotechnology in buildings A and B of the same complex.

The proposed action in the first phase covers the following measures:

I. The preparation of six labs that are adequate for the installation of company semi-pilot plants and for use by research groups.

II. Installation of eight chemical laboratories that meet ISO standards for the installation of innovative chemical companies.

III. The installation of a quality laboratory of the PCM P2-type (chemical and microbiological) to offer duly verified quality services in accordance with ISO standards, being officially recognised by the Spanish Agency of Medicines and Pharmaceuticals.

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IV. Installation of a laboratory for the chemical and biological control of water pollution in due compliance with quality standards with the mission of supporting and assessing companies on the implementation of EU *standards* on environmental pollution control.

V. Installing a PCM management service of reagents, gases, flammable materials, etc., as well as for controlling activities.

Planned key results:

In the Moncloa Campus, near the facilities intended for PCM adaptation, the Complutense University of Madrid has the Chemistry and Chemical Engineering Faculties which are among the best in the country given the scientific level of their teachers. There are also other faculties closely related to the scope and purpose of the project such as Pharmacy, Veterinary Medicine, Geological Sciences and Life Sciences, not to mention the UPM engineering schools. This unique location will indeed encourage the creation of new joint ventures and the effective development of a communicative environment between business, academia and research.

Rationale for the action:

The rationale for the Chemical incubator is based, on the one hand, on the fact that there is no such service in the PCM and that the UCM has great scientific/technological potential in the Moncloa Campus as shown by the patents and research groups of the faculties of Chemistry, Chemical Engineering and Pharmacy.

At present, the PCM has fifteen applications from companies wishing to settle in the PCM who could use the proposed incubator as soon as the facilities become available.

International aspects:

The chemical industry sector is one of the industries with the largest number of jobs in Spain (12% of all industry) and contributes nearly 15% of GDP in the industrial sector. The chemical sector is also the leading investor in our country, accumulating 25% of all investment resources in the private sectors, and it employs 20% of researchers engaged in the business sector. However, it needs to be adapted to new markets and this can only be done through a clear R&D programme.

Planned impact:

This proposal aims to help strengthen the chemical industry in Spain, promoting the process of new knowledge generation through an infrastructure located in the campus environment.