Campus of Excellence:
The Power of Diversity in Engineering Education

R. Arnaldo Valdés; M.A. Barcala; J. Crespo Moreno
Universidad Politécnica de Madrid
Madrid, Spain
rosamaria.arnaldo@upm.es

V.Fernando Gómez Comendador
INECO
Madrid, Spain
fgomez@ineco.es

Abstract—**This paper presents the results of a strategy to modernise the Spanish University system through the establishment of an International Campus of Excellence (CEI). The current, ambitious but realistic, project is a joint initiative of a number of institutions located in the Moncloa Campus, amongst them the Complutense and the Technical Universities, as well as CIEMAT, CSIC and INIA. The aim of the project is to transform the Moncloa Campus into an international point of reference with regard to research, education and innovation. This paper describes the project and presents the qualitative and quantitative results**

Keywords-component; formatting; Excellence, campus, diversity

I. INTRODUCTION

The Spanish Government launched University Strategy 2015 (SU-2015) to modernise universities and harness their potential to contribute to the development of a knowledge-based economy and society. This strategy promotes the development of highly internationalised, well-managed and well-funded universities contributing to the global production of knowledge, and to sustainable economic development and innovation within the regions where they are based.

As part of this strategy, the Spanish Government launched a programme known as International Campus of Excellence (CEI) [1] in July 2009. The principal aim of CEI is to ensure that Spanish universities are ranked amongst the best in Europe. This will be achieved through a mixture of international recognition and by promoting their strengths.

The main objectives are to:

- Improve the international visibility of the best Spanish universities through the promotion of strategic aggregations to achieve critical mass and international excellence;

- Promote diversification and specialisation with a focus on excellence; and

- Encourage the development of "Regions of Innovation" whose economic development is based on knowledge.

Within this context, the "Universidad Complutense de Madrid" and the "Universidad Politécnica de Madrid" along with other research organizations, have jointly developed the "Moncloa Campus: The Power of Diversity" Project. This is a strategic plan to transform the Moncloa Campus into an International Campus of Excellence: an international point of reference with regard to research, education and innovation

The project is a collaborative agreement between the institutions involved. The strategic lines are to:

-Achieve scientific excellence and internationalisation;

-Guarantee connectivity and integration;

-Convert the Campus into a sustainable system that will boost student employment and contribute to innovation and development.

A key characteristic of the Moncloa Campus, which comprises diverse institutions, is its multi-disciplinary and horizontal nature. The campus aims to attract students and researchers from all over the world, with their own language and culture. One of the principal scientific objectives is protection of the environment. In short, it is firmly committed to the project "Diversity as Energy" which it views as an innovative and integrated scheme to enable it achieve excellence and sustainable development.

This article describes the project in detail and presents its qualitative and quantitative results.

II. PROJECT BACKGROUND

Some of the challenges faced by the Spanish university system are common to other EU countries. There are, however, some unique aspects due to the largely decentralised administrative structure of the country and the very large impact of the current economic crisis on the Spanish economy. The Spanish university system comprises 77 universities of which 50 are public. There are almost 200 university campuses throughout Spain. Catalonia, Madrid and Andalusia account for nearly 75% of the total number of university campuses. Fig. 1 gives the global figures of the Spanish university system.
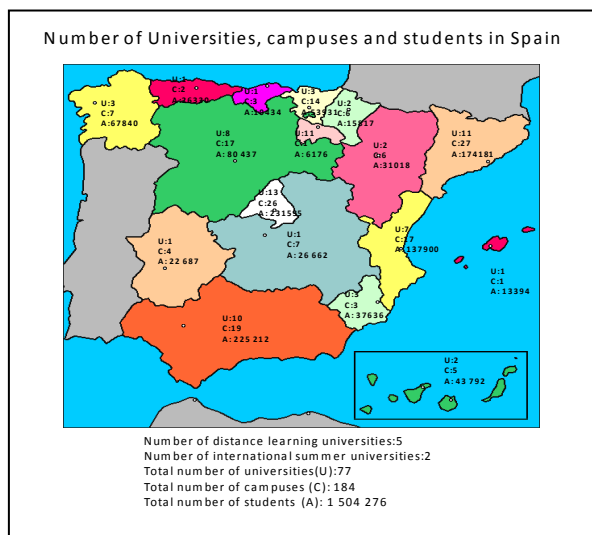
Figure 1. Global figures of the Spanish university system

A large number of Spanish universities have practically completed the curricular reforms required under the so-called Bologna Process, the aim of which is to achieve a common framework for university education within the European Higher Education Area (EHEA). However, other reforms such as those dealing with links to business, internationalisation, the social dimension of universities, quality, and funding, still have to be completed.

To promote the modernisation of the universities and harness their potential to contribute to the development of a knowledge based economy and society, the Spanish Government launched a new strategy in 2008: University Strategy 2015 (SU-2015) [2]. The strategy, which has a time horizon of 2015, covers four core areas and comprises 13 strategic lines:

- Missions: Education, Research, Knowledge Transfer, Social Dimension;

- People: Academics, Researchers, Students and Administrative Personnel;

- Institutions: Governance, Funding, Internationalisation and Quality;

- Environment: Campus, University – City – Region.

As part of this strategy, a new programme, International Campus of Excellence (CEI) [3,4], was launched in July 2009. The programme is managed by the Ministry of Education in collaboration with the Ministry of Science and Innovation. It has the support of the Autonomous Communities and pursues three main objectives:

- Aggregation: the programme encourages strategic aggregations between universities and other research institutions and businesses located on the campuses. The objective is to develop knowledge ecosystems that contribute to regional economic development, social cohesion and employment.

- Excellence: the strategy will promote diversification and specialisation with a particular focus on excellence.

- Internationalisation: it is vital to improve the international visibility of the best Spanish university campuses. This will be done through the promotion of strategic aggregations to enable them reach critical mass and help them achieve international excellence.

The programme began in 2009 with a budget of €203m (along with an additional €150m which was made available in 2008). Having evaluated the proposals submitted, grants totalling €53m and loans (€150m in 2009) were awarded to the Autonomous Communities where the selected campuses are located. The first submissions process, which ended on 8 September 2009, received 51 submissions from 84% of the public universities and 8 private institutions. The evaluation criteria were as follows:

- Improved lecturing, adaptation of lecture spaces in line with European Higher Education Area guidelines, and renovation of lecture buildings.[5]

- Improvements in science and the transfer of university-based knowledge to business.

- Sustainability: campus transformation; development of an integral social model; interaction with the regions.

A technical committee carried out an initial evaluation to pre-select 18 proposals. The ambition, feasibility and adequacy of the actions and goals of each institution were assessed against the evaluation criteria. The 18 institutions who were successful received sums of up to €200,000 to enable them elaborate a detailed action plan to transform their campus into an International Campus of Excellence. The selected projects were defended by the corresponding project co-ordinators and rectors in a public session chaired by the Ministers of Education, Science and Innovation in front of an international commission made up of 9 independent experts. Over 600 people from the political sphere attended, representing the Spanish state, regions, parliament, senate and municipalities. The international commission selected a total of five campuses to be an International Campus of Excellence (CEI). They are:

- University Campus of La Moncloa (University Complutense of Madrid and Technical University of Madrid), [6]

- Barcelona Knowledge Campus (University of Barcelona, Polytechnic University of Catalonia), [7]

- Campus Carlos III (U. Carlos III of Madrid), [8]

- UAB-CEI Knowledge and Innovation (Autonomous University of Barcelona), [9]

- UAM-CSIC CEI (Autonomous University of Madrid – CSIC). [10]

The remainder of this paper presents the details of the University Campus of "La Moncloa" as well as the main results to date.

III. Description of the Campus

The Moncloa Campus has some unique characteristics that set it apart as an outstanding university Campus. It comprises over 450 hectares of land in the northwest of the Madrid metropolitan area and is one of the most valuable assets in Madrid's urban fabric. At the same time it is the site of various Higher Education study and research institutes a number of which are mentioned in Fig. 2. The Complutense University (UCM) and the Technical University of Madrid (UPM) jointly coordinate the Campus, in conjunction with other on-campus institutions such as CIEMAT, various CSIC institutes and INIA. The institutions on the campus have a combined total of more than 10,000 researchers in many different knowledge areas, representing over 10% of Spain's scientific output. This is the largest national concentration of researchers in an area of comparable size.

The following table outlines some of the specific strengths of the campus:

TABLE I.   CHARACTERISTICS AND STRENGTHS OF THE CAMPUS

Characteristics and strengths of the campus	
Science and knowledge transfer areas	• Campus researchers produce 10% of the national total of scientific publications. • Funding for research projects between 2004 and 2008 exceeded €731 million. [11] • In the last 10 years over 70 technology spin-off companies have been created. • Business incubator currently comprising 80 firms and over 100 associated companies. • The research groups and institutions on campus take part in ambitious international research projects such as the ITER project[a] or prominent archaeological excavations such as Atapuerca, Pompeii, Numancia or the Olduvai Gorge (Tanzania). The campus is home to exceptional scientific installations. [a]
Lecturing and the EHEA	• The campus attracts nearly 57% of all university students in Madrid, (80,000 students each year). • It offers over 100 official four-year degrees. • Nearly 100 official Master's degrees and many other diplomas and certificates. • It has over 10,000 Ph.D. students, and 1,000 doctoral theses are submitted each year, 10% with a European Mention. • Results from the external accreditation system used to accede to university positions show the high quality of academics on the campus. [12,13]
Social model	• The largest university library in Spain, with over 3 million volumes, surpassed only by the National Library. • The Campus has over 40 residences offering student accommodation. • The Campus has the largest underground car park in the city of Madrid. • The Campus has the PequeCampus day nursery for staff children.

a. For example: the ICTS TJ-II located in the CIEMAT which participates in the European Fusion Project; the new ICTS for nuclear fusion (TechnoFusion) shared by the CIEMAT and the UPM; the laboratories of the IES (Solar Energy) and ISOM (Materials); the Instituto Tecnológico PET (which means that the campus is the only one in Spain with two cyclotrons for research and the production of radiopharmaceuticals); the central ICTS node of the Advanced Microscopy Centre; a node of the National Centre for Biomedical Imaging; the Centro de Vigilancia Sanitaria Veterinaria, VISAVET, with a European P3 reference laboratory for specific animal pathologies.
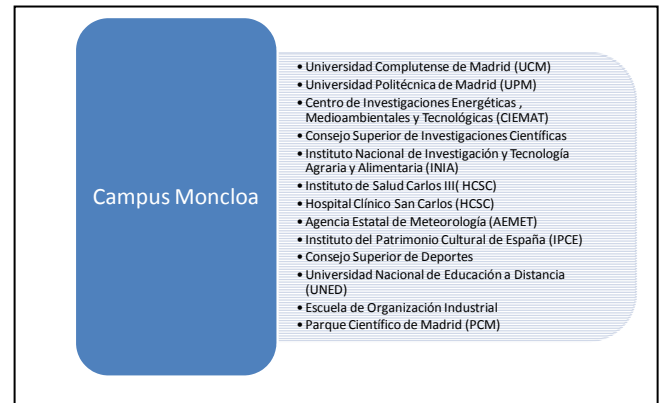

Figure 2.   Higher Education Study and Research Institutes on the Moncloa Campus

- Universidad Complutense de Madrid (UCM)
- Universidad Politécnica de Madrid (UPM)
- Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT)
- Consejo Superior de Investigaciones Científicas
- Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA)
- Instituto de Salud Carlos III(HCSC)
- Hospital Clínico San Carlos (HCSC)
- Agencia Estatal de Meteorología (AEMET)
- Instituto del Patrimonio Cultural de España (IPCE)
- Consejo Superior de Deportes
- Universidad Nacional de Educación a Distancia (UNED)
- Escuela de Organización Industrial
- Parque Científico de Madrid (PCM)

Campus Moncloa

IV. Strategy

A. Vision: The power of diversity

The Moncloa Campus is a new project, and as such has its own logo, URL and so on.. The Moncloa Campus is conceived as a meeting place based on **plurality, diversity, talent and internationalisation**. This diversity applies to language and study background, as well as to student variety in terms of gender, age, social, ethnic or cultural background, and any other personal or collective features. The Moncloa Campus defines **itself as sustainable, socially responsible and health-aware**, and its strength derives from its diversity, commitment to non-discrimination, deep-rooted intercultural, multilingual and cosmopolitan co-existence and its promotion of tolerance, respect, freedom and equal opportunities. These values are the best breeding ground for creativity and innovation, and attracting and enhancing talent.

It is based on an **interdisciplinary and cross-curricular approach**; it seeks to attract students and researchers from around the world, with their own languages and cultures, and has environmental diversity as a principal objective. In short, it is committed to partnership in **Diversity as the Innovative Power** for excellence and sustainable development.

B. Strategic Areas

The project is based on a framework agreement between the coordinating universities and other partner institutions. It is the springboard for a series of transversal actions within the following **four strategic areas**:

- **Research (Creating):** to achieve research excellence.

- **Teaching (Sharing):** to integrate and coordinate teaching.

- **Management (Connecting):** to offer optimal services.

- **Social Responsibility and Sustainability (Growing):** to promote institutional and individual commitment to social and environmental sustainability. [14,15]

C. *Strategic objectives*

From the strategic areas the following **six main strategic goals** and **three overlapping objectiv**es have been defined.

- **SO1- Knowledge**: to be a reference centre in knowledge and technology, particularly with regard to clusters.

- **SO2- Transfer:** to make a qualitative leap forward in the collaboration between university-society-business.

- **SO3- Education:** to generate an identity that will be recognized in Europe as a guarantee of professional excellence.

- **SO4- Services:** to improve management and the services offered to students, lecture and administrative staff, and visitors**.**

- **SO5 - Social Responsibility and Sustainability: t**o implement social, environmental and health-related improvements on the campus**.**

- **SO6 - Employability:** to promote the employment and employability of students on campus by facilitating study/work compatibility

- **TO1 - Internationalisation:** to increase the internationalisation of the campus in all areas.

- **TO2 - Connectivity:** to ensure permanent connections between individuals, research groups and institutions, as a tool and driving force for the campus.

- **TO3 - Equity:** to promote Gender and Social Equality on campus, eliminating physical barriers and paying special attention to those with disabilities or special educational needs.
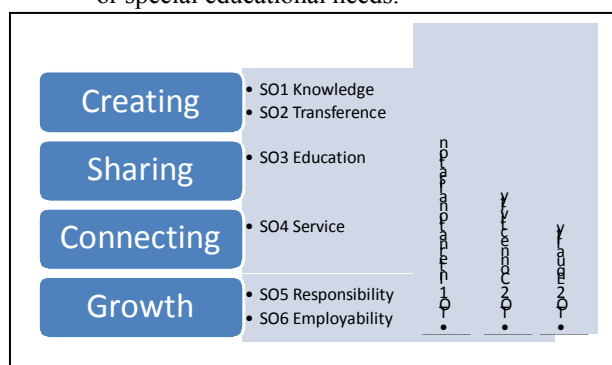

Figure 3.   Strategic objectives

D. *Thematic Programmes - Clusters and action plan*

The thematic programmes in the CEI Moncloa strategic plan are structured into **five specialised clusters** that aim for excellence in teaching and research are the following:

- **Global Change and New Energies:** integrating the various groups of the Campus working on the environment and new energies. Partnership with CIEMAT, the top Spanish scientific institution in energy and environmental studies, with its outstanding facilities (Nuclear Fusion Reactor TJ-II, TechnoFusion) is a key added value to the cluster.

- **Materials for the Future:** integrating high level research groups dealing with structural and advanced functional materials, as well as biomaterials, together with two specialised scientific and technical units (ISOM and CMA).

- **Agri-Food and Health:** based around the *Moncloa Agri-food Corridor* and incorporating the activities of the groups working in such specialised areas as agricultural and livestock production, and the processing of safe, healthy and high-quality food products for human and animal consumption.

- **i-Health Innovative Medicine**: harnessing the synergies of the Centres of Biomedicine, University Hospitals and experts in Information and Communication Technologies present on the Campus to develop Health applications oriented to improving the quality of life.

- **Heritage**: dedicated to the study of the *Science and Technology of Heritage*, using the combined expertise of the School of Architecture, and the Faculties of History and Geography, and Fine Arts, as well as that of the various research groups and laboratories.

Each cluster has drawn-up a Master Action Plan and appointed a coordinating committee co-chaired by lecturing staff from the cluster institutions.

To ensure the success of the project consideration has also been given to the general structures responsible for visitor services and Campus communications, and the governing bodies responsible for supervision and coordination.

Furthermore, to consolidate the project and achieve a far-reaching international dimension several important steps have been planned based on the current clusters:

- International Programme for Attracting Talent

- Campus International Post-Graduate School

- Campus International Doctoral School

The following tables summarise the general and specific actions to be carried out within the scope of the Project.

General Actions: Coordination and connectivity	
Governance and Coordination	• Coordination and management structures. • Relationship with other Campuses of International Excellence and Similar Activities. • International Communication Project
Adapting Infrastructures to EHEA	• New classroom lecturing tools (electronic whiteboards, cameras, etc.) • Five multimedia classrooms.
International Doctoral School	• European Doctorate mention, written and defended in English before an international board, including at least two external referees.
International Postgraduate School	• Designed for an international environment and conducted in English. International lecturers. Semi-classroom based, via on-line lectures using the virtual campus and video conferencing tools.
Moncloa Campus Call for Research Grant.	• Annual Call for research grants open to the groups participating in the clusters. • Proposals co-directed by at least two researchers from the two universities.
Cluster Master Plans	• Each cluster to develop a Master Action Plan monitored annually to ensure connectivity.
Communication Network	• Greater accessibility and bandwidth to provide new services and applications for the university community.
M. Zambrano Library	• Capacity for 2 million volumes and a reading room with more than 2,000 new study places.

General Actions: Internationalisation and Talent Recruitment	
Programme for International Talent Recruitment (PICATA)	• 20 doctoral scholarships for a four-year period starting in the academic year 2010-11. • 15 post-doctoral contracts for a two-year period starting in the academic year 2010-11. • Chairs of Excellence Programme: an annual chair for one visiting professor or prestigious researcher.
International Visitors Reception Centre	• Providing information to campus visitors. This will be the first port of call for possible tours exploring the campus, and will provide students and researchers with a "one stop" shop for information on all aspects related to settling in.
International Meeting Centre	• To provide a medium-sized centre (max. 100 places) including possible on-site accommodation for some participants.

General Actions: Research Environment and Knowledge Transfer	
Evaluation of Research Results	• The Research Knowledge Transfer Offices (OTRI) in the UCM and UPM will be used to ensure enhanced protection of results obtained by the clusters. This will also cover issues relating to patents.
Campus Radio and Television	• A Campus Radio Television service (IRTV-Campus Moncloa), will be broadcast via webcast to enable students to learn and acquire practical work experience.
Campus Museum	• The museum will house both the rich artistic heritage of the partner universities and their specific collections.
Career Guidance in Secondary Schools	• The aim is to inform secondary school students about the institutions and educational possibilities available on the Moncloa Campus. This will involve visits to Secondary Schools (IES) and an increase in the number of Educational Action Workshops for final year students.

General Actions: Architecture and Urban Planning/Accessibility	
International Office for Communication and Knowledge Promotion	• In charge of the design, coordination and implementation of the outgoing communication and knowledge dissemination activities: image and internationalisation campaigns, coordinating the existing scientific dissemination platforms in partner universities, Campus Radio and Television, Campus Museum, Botanical Garden and Mediterranean Gardens, presence at Science Fairs, etc.
Campus Recovery Plan	• Regenerate common areas of the campus from the viewpoint of urban planning, environmental considerations, mobility and sustainable development.
Flagship Building	• The flagship building and focal point of the Campus will serve as the Campus head-office housing the Governing Authority.
General Accessibility Plan	• Campus-wide support for people with disabilities, supported by approved Campus norms. UNE 170001, 1-2 certification process
University Residence	Renovation of the current Colegio Mayor Antonio de Nebrija (UCM).

General Actions: Social Responsibility and Equity	
Social Responsibility Campus Plan	• Promoting socially responsible values; development cooperation or voluntary work; and sustainable transport…
Campus Gender Equality Plan	• Specific actions designed to attract talented women. • PequeCampus nursery school open to the whole campus as and from the 2010-11 academic year. • Awareness and information campaigns on gender-based violence and the creation of protocols for intervention in this area. • Equality awareness campaigns on campus, specifically for students.
Campus Employment Programme	• An increase in the number of scholarships, collaboration scholarships and others. • Inclusion of maximum possible training content. • Specific focus on areas of maximum relevance: libraries, research related services, supervision by lecturers. • Employability training, in the form of short courses, workshops and seminars available throughout the academic year. • Moncloa Campus Enterprising Student Award with municipal and regional co-funding.
Healthy Campus Programme	• Prevention programmes to reduce work-related risks and physical and psychological harm. • Sustainable development and social responsibility. • Development of life skills and human strengths. • Development of a healthy lifestyle (healthy diet, physical exercise, banning tobacco and other addictive substances). • Creation of a positive psychosocial environment.
Moncloa Student Centre Programme	• The goal of this programme is to encourage student participation in campus life and student associations as well as in academic, social, cultural or environmental projects of their own. Some of the proposed actions are as follows: • Creation of a new site for the Moncloa Student Centre; • Weekly publication on the Student Centre website of a section including planned activities and a space for student associations to publish their own information; • Holding a Student Association Fair at the start of the academic year; a week when all the student associations on campus can display their activities and proposals; • Holding an International Student Day once a year and also specific student nationality days with the cooperation of the respective Embassies; • Organising a quarterly competition for funds to support student projects.

TABLE VII. CLUSTER ACTIONS

Cluster	Work Areas	Action
Global Change and New Energies	Transversal Actions: *E1. Construction of a Multipurpose Bioclimatic Building (EBM).* *E2. The Joint UPM-UCM Centre for Environmental Research on the Moncloa Campus (CIMAM* *E3. Creation of an Incubator for Environmental Companies Stage 1: Chemical Incubator.*	
	Sustainable Technologies & New Energies	*E4. Creation of a Centre for Research into Soil Degradation and Alternative Land Uses.* *E5. Creation of a Centre Supporting Research into Photovoltaic Device Technology.* *E6. Development of Support Programmes for the ITER Project.* *E7. Creation of a Network for Atmospheric Pollutant Dispersion Modelling*
	Observation of the Earth	*E8. Creation of a Remote Sensing and Monitoring Laboratory.* *E9. Laboratory for Climate Change and Impact.* *E10. Moncloa Natural Hazards Network.* *E11. Advanced Scientific Instrumentation Laboratory (LICA).*
	Biodiversity Study and Conservation	*E12. Creation of a Joint Unit for ex-situ Conservation.* *E13. Creation of a Programme for the Cataloguing, Conservation and Dissemination of Biodiversity in the University Campusy.*
Materials for the Future	Transversal Actions: F1 *CMA (Advanced Microscopy Centre)*	
	Functional Materials	*F2. Platform for the Design and Construction of Electromagnetic Sensors and Actuators.* *F3. Workshops for the Development of New Thin Film Materials.*
	Structural Materials	*F4. Mechanical Properties Workshop: Durability and Sustainability of Materials.*
	Biomaterials	*F5. Workshop for the Design of Biomaterials for Bone Tissue Regeneration.*
AgriFood and Health	Transversal Action: *G1. Creation (Environmental Restoration and Land-Use Planning) of the Moncloa Agri-Food Corridor.*	
	Animal and Plant Production	*G2. Development of an Integrated Agricultural Systems Consortium: Sustainability, Environmental Services and Risk Management.*
	Animal Health and Food Safety	*G3. International School for Communicable Animal Diseases (EIEAC).*
	Food Hygiene and Technology	*G4. Developing Safety and Technology Sub-units for IMDEA-Food.*
i-Health	Innovative Medicine (i-Health)	*H1. Creation of the Technical Unit for the Development of New Drugs and Pharmaceutical Technology.* *H2. Creation of an Advanced Platform for Pre-clinical Development.* *H3. Developing a Clinical Validation and Pharmaco-vigilance Network.*
	Medical Imaging (i-Maging)	*H4. Creation of an Advanced Biomedical Imaging Platform* *H5. Creation of a Laboratory for new Nano-magnetic Markers and Radioactive Tracers.* *H6. Creation of a Laboratory for Advanced Biomedical Imaging Analysis.*
	Personalised Health	*H7. Installation and Consolidation of the Living-Lab.*
Heritage	Transversal Action: *P1. Programming and Management of the Moncloa Campus Museum (MUCAM).*	
	Cultural Heritage and Museums	*P2. International Centre for Heritage Studies (CIESP). P3. Science and Technology of Heritage Conservation Laboratory Network RedLabPat.*
	Natural Heritage	*P4. Implementation of the Heritage Dating Laboratory (DACIPA).*
	Architecture, Archaeology–Palaeontology Heritage	

E. Funding

The estimated total budget for general actions is €65,8 euros with €18,2 to come from the Campus of International Excellence programme funding. The estimated total budget for specific actions is €62,875,000 with €10,716,000 to come from the Campus of International Excellence programme funding.

V. EVALUATION FRAMEWORK AND RESULTS

A framework has been design to evaluate the success of the project. This framework is based on four areas and their corresponding indicators. Three of the areas correspond to the vertices of the knowledge triangle, and the fourth area corresponds to social responsibility and sustainability. The following tables show the starting-point of the project, the improvements achieved in the short term (2012), and the expected long term benefits (2015).
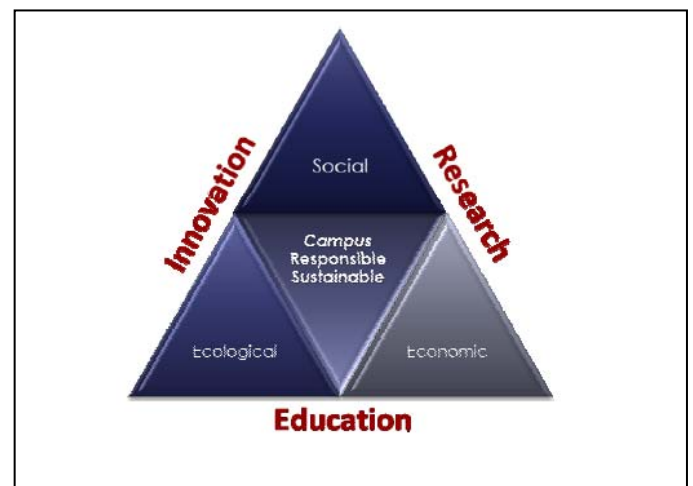

Figure 4. Evaluation framework

TABLE VIII. INDICATORS IN THE EDUCATION VERTEX OF THE KNOWLEDGE TRIANGLE

Indicator Name	Initial Status	2012	Δ (%) 2012	2015	Δ (%) 2015
% of non-Spanish students studying graduate courses	24.0%	30.0%	25.0%	35.0%	45.8%
% of non-Spanish students studying doctoral courses	28.0%	35.0%	25.0%	42.5%	51.8%
% of Spanish students not living in Madrid enrolled in degree courses	15.0%	18.0%	20.0%	22.5%	50.0%
% of non-Spanish students studying degree courses	4.5%	5.5%	22.2%	7.0%	55.6%
Number of incoming Erasmus scholarship holders (in)	2,385	2,625	10.1%	3,000	25.8%
Number of enrolled Erasmus students abroad (out)	2,090	2,400	14.8%	2,700	29.2%
% non-Spanish lecturers	4.0%	5.5%	37.5%	6.0%	50.0%
Number of joint UPM-UCM graduate and doctoral courses	2	4	100.0%	8	300.0%
Number of students enrolled in joint UPM-UCM graduate and doctoral courses	25	50	100.0%	100	300.0%
Number of joint degree courses with non-Spanish universities	32	35	9.4%	40	25.0%
Number of joint graduate and doctoral courses with non-Spanish universities	11	25	127.3%	40	263.6%
Number of distance learning lecture halls for EHEA deployment	2	7	250.0%	9	350.0%

TABLE IX. INDICATORS IN THE RESEARCH VERTEX OF THE KNOWLEDGE TRIANGLE

Indicator Name	Initial Status	2012	Δ (%) 2012	2015	Δ (%) 2015
Number of scientific publications, ISI journals	4,281	5,200	21%	6,500	52%
Number of joint publications by partners	194	400	106%	600	209%
Number of national-government-funded R&D Projects	793	920	16%	1,000	26%
Amount spent on national-government-funded R&D Projects (€)	65,750,000	75,600,000	15%	85,000,000	28%
Number of R&D Projects of international programs	161	200	24%	220	37%
Amount spent on R&D Projects of international programs (€)	14,000,000	17,500,000	25%	19,000,000	36%
Number of non-Spanish students on post-doctoral visits	69	150	117%	200	189%
Number of unique scientific-technical laboratories (ICTS)	2	4	100%	5	150%
Number of students receiving pre-doctoral grants (EPIF)	2,007	2,208	10%	2,408	20%
Number of post-doctoral contracts	253	278	10%	304	20%
Number of joint doctoral theses	1	3	200%	12	1,100%
Number of doctoral theses	894	1,000	12%	1,100	23%

TABLE X. INDICATORS IN THE INNOVATION VERTEX OF THE KNOWLEDGE TRIANGLE

Indicator Name	Initial Status	2012	Δ (%) 2012	2015	Δ (%) 2015
Number of Spin-offs	7	10	42.9%	14	100.0%
Number of national patents applied for	36	50	38.9%	70	94.0%
Number of applications for international patents (PCT)	22	30	36.4%	40	82.0%
Number of Intellectual Property registration certificates	9	12	33.3%	16	78.0%
Number of technology licensing agreements	9	13	44.4%	18	100.0%
Amount spent on technology licensing agreements (€)	144,000	200,000	38.9%	288,000	100.0%
Number of University-Business projects (R&D, consultancy)	1,371	1,600	16.7%	1,750	27.6%
Amount spent on University-Business projects (R&D, consultancy) (€)	85,420,000	100,000,000	17%	120,000,000	40.48%
Number of certified laboratories	10	14	40.0%	18	80.0%
University-Business Professorships or Chairs	68	85	25.0%	95	40.0%

TABLE XI. INDICATORS AT THE BASE OF SOCIAL RESPONSIBILITY AND SUSTAINABILITY

Indicator Name	Initial Status	2012	Δ (%) 2012	2015	Δ (%) 2015
Number of people involved in gender equality awareness activities	5,000	6,000	20%	6,750	35%
Number of people enrolled in Spanish sign Language courses (ILS)	317	380	20%	428	35%
Number of adapted workstations for people with visual disabilities	20	30	50%	40	100%
Number of tactile maps of the campus	0	10	-	20	-
Students that benefit from the Spanish Sign Language Program (ILS)	58	60	3.4%	65	12.1%
Students participating in programs for disabled persons	500	600	20.0%	800	60.0%
Number of collaboration scholarships	658	790	20%	888	35%
Number de internship agreements with companies	3,009	3,852	28%	4,483	49%
Number of people participating in employment events (fora, fairs)	42,031	47,075	12%	50,858	21%
Amount allocated to cooperation and development projects (€)	1,606,998	1,735,558	8%	1,831,978	14%
Number of Science Week visitors	22,000	24,000	9.1%	26,000	18.2%
Number of secondary-school students in pre-university guidance activities	16,833	18,180	8%	19,190	14%
Number of bicycle parking spaces on campus	175	300	71.4%	400	128.6%
Number of renewable energy facilities/buildings on campus	3	5	66.7%	8	166.7%

VI. Conclusions

This paper presents an ambitious yet realistic project currently being carried out by the Complutense University (UCM) and the Technical University of Madrid (UPM), to transform the Moncloa Campus into an international point of reference for research, education and innovation.

The project is a collaborative agreement between the partner institutions along the following guidelines: achieving scientific excellence and internationalisation; guaranteeing connectivity and integration; converting the Campus into a sustainable system that will promote student employment and contributing to innovation and development.

The aim is to create a plural and participative campus, inspired by the transforming power of diversity, exchange and dialogue; an efficient campus with transparent governance, open to all its members and institutions, interacting with the wider social, economic and cultural fabric.

This firm commitment to partnership in Diversity as the innovative Power for excellence and sustainable development has brought about improved results. The previous tables highlight a few notable achievements :

- The large effort to increase campus internationalisation has led to an increase in non-Spanish students of about 30% up to 2012. This increase is expected to be 40% in 2015.

- There has been a remarkable improvement in research. In 2012 the number of R&D projects with international or national funding has increased by 25%. There has also been a similar increase in the number of scientific publications in high quality indexed journals.

- The improvement with regard to innovation has been even more spectacular. The increase in the number of patents, licensing agreements and spin-offs to the year 2012 has been over 40%.

- The figures also show the outstanding involvement of people in actions related to social responsibility and sustainability.

These excellent results have led to the expectation of even greater results in 2015. The researchers, lecturers and students who make-up the "Moncloa Campus" are fully committed to this project and look forward to reaping the full benefits in 2015

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