**PROJECT INFORMATION**

**Type of CIE (Campus of International Excellence):**  Global ■ Regional □

**Acronym:** BKC

**Coordinating university:** Universitat de Barcelona

**Participating/sponsor universities in the alliance:**
- Universitat de Barcelona
- Universitat Politècnica de Catalunya

**Other sponsor institutions of the CIE:**
- Spanish National Research Council
- Barcelona City Council
- Barcelona Chamber of Commerce


**Period:** 2011-2012

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INTRODUCTION

The strategic alliance of the UB and the UPC on the Barcelona Knowledge Campus (BKC) is the main strength of the project, which in 2009 gained the support of the Barcelona City Council, the Barcelona Chamber of Commerce, the Spanish National Research Council, and the Catalan Government, along with the main international university networks to which the participating universities belong.

The actions described in this report were carried out in 2011 and 2012 and are aimed at achieving the objectives set out in the Conversion Plan for the Campus of International Excellence, which can be summed up as follows:

- internationalization as the basis of the project;
- an alliance of the institutions indicated above;
- the Campus as a driver of activity and change in the economic and social development model for the region, based on research and development;
- improving the position of the units involved in the BKC project in international rankings.

We have basically kept the structure of Progress Report 2009-2010. However, to improve the presentation, we have joined the sub-sections on the work done and the most significant results. In some cases, we have expanded on the facts provided in this document by referring readers to the Campus website for additional information. However, the document stands alone, and it is not necessary to follow links to the website to obtain a clear idea of the actions that we carried out in 2011-2012.

This Report follows on directly from the 2009-10 Report. It is not comprehensive, as the aim is to present some of the actions that we consider most relevant. Details of all actions can be found on the BKC website. In particular, we focus on and describe in detail the topics that have the greatest impact on the internationalization of the campus.
INTERNATIONAL COMMISSION REPORT ON ACTIVITIES IN THE PERIOD 2009-2010

The BKC’s Coordination and Management Unit duly submitted its “Considerations for the Evaluation Commission Report”, which were then sent on by the UB Rector and are now in the hands of the Ministry of Education.

In its report on the activities carried out in the 2009-10 period, the International Commission made the following recommendations:

- Increase the visibility of the BKC “brand”
- Focus more on specialization
- Make progress in integration processes in the areas of assessing research and knowledge transfer
- Create research group “clusters”
- Make the Scientific Committee’s structure “less institutional”
- Improve the structure of the web

We would like to make the following comments about the recommendations and the BKC’s response:

- The BKC is mentioned not merely in reference to the actions it organizes; it is now present in the infographics of the partner universities, particularly in the student file and guide. Examples can be found on the [campus website](http://example.com).
- Greater focus on specialization. Here we refer to the aforementioned “Considerations” document. The BKC is a regional campus; it was originally presented as such and received a positive evaluation. We have not deviated even slightly from the statements in the initial strategic plan: the BKC remains dedicated to actions in three areas of specialization: life sciences, social sciences and technologies. We are strengthening those areas that we expressed a commitment to strengthening in the strategic plan.
- The Governing Council of the CITA (the Centre for Innovation and Advanced Technologies of the University of Barcelona) was formed on 21 November 2011. Since then, it has identified areas in which synergy between the two universities enables the design of a strategy to collaborate on knowledge transfer from both institutions. Several broad areas have been identified in which this is possible. The managers of the CIT (the UPC Technology Centre) and CITA (Centre for Innovation and Advanced Technologies of the UB) are designing a joint action strategy in these areas. It was considered appropriate to establish areas of experience that are shared by both universities in the following areas:
  a) Health and quality of life
  b) Industrial processes
  c) Information, communication and knowledge technologies

To achieve this, converging areas of experience of CIT and CITA research groups are being identified for each one of the proposed topics. Subsequently, the
complementarity and strengthening of these areas will be examined. A proposal will then be made to the heads of the respective research groups to draw up the corresponding project. Then, meetings will be arranged with companies that may be interested in the technology and know-how, to actively promote the transfer and assessment of BKC knowledge.

- In the BKC’s language, campus “clustering” comes under BKC Initiatives. The Innovation and Entrepreneurship Initiative [document in Spanish] has been added to others developed in 2009 and 2010. In addition, a document on the GeoSTech Initiative has been agreed on by consensus and is being passed around participating institutions to sign. Other initiatives in the fields of Bio and Chemistry are still in an embryonic stage, but will be developed in the future. These involve not only the participation of the two universities, but also the CSIC.

- In its design, the composition of the BKC’s Scientific Committee is more institutional than strategic. This is because the associated institutions considered that the participation of school and faculty representatives (directors and deans) was particularly important in the first stage of setting up the Campus. Their participation would help the various schools and faculties to develop a feeling of belonging to the BKC. As stated by the Campus’s Evaluation Commission, and we share this opinion, the discussion of certain aspects of scientific planning may go beyond the natural skills of the institutional representatives. Consequently, a Scientific and Advisory Board has been formed from prestigious scientists who belong to the Campus, but have no direct management responsibilities for it. This Board advises on specific topics related to the establishment of the Campus. Neither the current economic situation nor the importance of the scientific decisions to be taken at this time makes it advisable or justifiable for Board members to come from outside the Campus. The members of the Scientific and Advisory Board have already been appointed (see the section on “Progress in the Governance of the Project”) and the first Meeting is planned for autumn 2012.

- Improvement of the structure of the web and the digital communication strategy in general. We would like to stress that the BKC Communication Unit and the Evaluation Commission have the same view of communication. The strategy of creating a Campus portal rather than just an informative webpage on technical and institutional aspects of the project was subsequently adopted by other campuses and assessed by the Evaluation Commission. As a result, it was possible to amend those areas requiring improvement through specific modifications and there was no need for wide-ranging actions.

The BKC has fully taken into account the observations of the Evaluation Commission, and has set up a Communications Unit formed by campus technicians, which follows an effective protocol for implementing improvements. Broadly speaking, this work has had the following results:
Increased visibility of information that is frequently accessed, such as contact addresses and the governance structure. Clear access to lists of Campus resources, departments, scientific units and services.

Greater visibility of ways to join the BKC, including postdoctoral contracts and invitations to participate in external competitive grant programs.

Clear explanation of various issues, such as the regional, rather than exclusively subject-based, nature of the campus, and a breakdown of information on units that focus on transfer and entrepreneurship.

Faster announcement of news and the establishment of an events calendar.

The advisability of joining various social networks was assessed, partly to improve the position of the BCK in search engines and partly to energize the BKC community. On the basis of the conclusions, a series of decisions were taken to **boost our participation in social networks**:

- Twitter and pre-existing YouTube channels were selected as means of communication. We decided not to use Facebook, as the contents and frequency of access are not suitable, and LinkedIn was rejected because users’ subjects are highly fragmented and there is an overlap with other groups.
- It was agreed that published contents should be of interest to all members of the community, that is, they should be about the Campus, relevant and up-to-date. A technician is responsible for ensuring that these objectives are met.
DESCRIPTION OF ACTIONS

A. ACADEMIC IMPROVEMENT

A1. International positioning
Progress towards objectives

The BKC has begun to form the BKCnet. The aim of this project is to set up headquarters in regions that are strategic for the Barcelona Knowledge Campus partnership (Brazil and China). In addition to the headquarters, secondary nodes will be established in Bolivia and the United States to aid the internationalization of the campus and to attract more talent. A bilateral agreement has been signed between the University of Barcelona (UB) and the Universitat Politècnica de Catalunya (UPC) to establish the basic terms for the BKCnet network of nodes. In the first stages of development of the BKCnet, an office was opened in China, to take advantage of the creation of the Sino-Spanish Campus at Tongji University (SSC@TU). Participants in this campus are the UPC and the Universidad Politécnica de Madrid (UPM). The office will serve to welcome BKC students and staff and those from other Spanish universities who are staying in or visiting China, and to promote and provide information for Chinese students, lecturers and researchers who want to come to Spain. The Sino-Spanish campus is the first Spanish university headquarters in China and is an important step for the BKCnet. Within the Sixth Spain-China Forum, which is the main meeting platform between Chinese and Spanish societies, and a tool for promoting bilateral relations between the two countries, a Chinese delegation headed by representatives of the Ministry of International Relations and the Ministry of Education visited the BKC project.

In addition, delegations from the UB and the University of Sao Paulo (USP) have visited each other to agree the conditions and schedule for establishing the first BCK office in Brazil and that of the USP in the BCK. Spaces have been fitted out in the southern headquarters of the BKC.
Management Unit to house the reciprocal Brazilian offices on our Campus. The offices should provide a comprehensive welcoming service, not only for visitors to the BKC.

In addition to the introduction of international nodes, several ERASMUS MUNDUS Action 3 projects began in 2011 and 2012. One of these is the first higher education project of its kind: JISER-MED (Joint innovation and synergies in education and research – Mediterranean region). The aim of this project is to build bridges between Europe and neighbouring Mediterranean states in the areas of higher education and research. The other two ERASMUS MUNDUS Action 3 projects that began in 2012 in the BKC are EQuAM (Enhancement of Quality Assurance Management in Jordanian Universities) and Boost Erasmus Mundus (European higher education and employability through video sharing community).

March 2012 saw the launch of the UPC abroad programme, a strategic action for expanding the international dimension of the university’s teaching and research activities.

Another of the projects of particular interest that the BKC has been involved in is bilateral cooperation with Russia in the area of Cosmos sciences research. This involved the participation of internationally leading UB and UPC groups, as part of the CosmosSciTech Initiative for the Dual Year Spain-Russia. In this Dual Year, events and meetings took place in which the scientific community of both countries built bridges of cooperation, for example through the “Joint Meeting on Particle Physics, Nuclear Physics and Astroparticle Physics” organized on 8-11 November 2011.

Work carried out and significant results:

- Specific collaboration agreement [document in Catalan] between the University of Barcelona and the Universitat Politècnica de Catalunya in the area of International Relations.
- Promotion of strategic partnerships with public institutions for training postgraduate students, including agreements with the CONACYT (Mexico), the Ministry of Education of the Dominican Republic and the CONICYT (Chile).
- International promotion of postgraduate studies through participation in various fairs in: Argentina, Canada, Chile, China, Colombia, France, Hong Kong, India, Italy, Japan, Mexico, Morocco, Portugal, South Korea, Taiwan and the United States.
- New agreements with leading Chinese universities under the BKCnet framework: Beihang University, Beijing Institute of Technology, Beijing Jiaotong University, East China Normal University, Harbin Institute of Technology, Lanzhou University, Nanjing University of Aeronautics and Astronautics, Tongji University, Tsinhuang University, University of Science and Technology Beijing, Wuhan University, Zhejiang University. The BKC forms part of a Chinese-Spanish consortium comprised of 11 top Chinese technology universities and five Spanish universities (Consortium of 11+5).
- Active participation in the networks of which the partner universities are members. Some international networks in which the BKC has played a key role in this period are CLUSTER, a consortium of 12 elite European universities whose “Steering Committee” meeting was held at the BKC, and the CINDA network, which brings...
together 36 Latin American and European Universities, and for which the UPC rector is currently president.

- Participation in the Science without Borders programme, which is funded by the Brazilian government, to train students of master’s degrees and doctorates and to receive exchange students.
- Participation in the UPC Placement Programme with the MIT to form multidisciplinary teams from the two institutions to solve in two months problems set by the sponsor companies.
- Study Abroad Programme with the universities of Brown, Chicago, Northwestern, Stanford, Columbia, Cornell, Harvard and Princeton, through the CASB (Consortium for Advanced Studies in Barcelona). The BKC also collaborates with the Monterrey Institute of Technology and Higher Education (Mexico) and the German University of Cairo (Egypt).
- Mobility programs in China in collaboration with the Santander Bank, through its Santander Universities Global Division. Mobility grants for the academic year 2011-2012 were awarded to 24 students (12 from Spain and 12 from China).
- Strategic agreements with the China Scholarship Council and the China Academy of Sciences.
- In July 2012, in association with the Confucius Institute in Barcelona, a Chinese food event was organized by Shiru Chang, a lecturer at the Beijing International Studies University, and Isabel Lugo from the Tourism and Hospitality Management University School (CETT-UB).
- Organization of the Erasmus Staff Week, a European Union initiative so that staff from other universities can get to know the campus. To date, 52 managers have taken part in the Erasmus Staff Week from Germany, Bulgaria, Estonia, France, Greece, Holland, Hungary, Italy, Latvia, Poland, United Kingdom, Czech Republic, Romania, Sweden and Turkey.
- Meetings and sessions to provide information for bachelor’s degree students who wish to carry out an Erasmus exchange on a campus of international prestige.
- Coordination of Erasmus Mundus (EM) Action 2 projects by the UB, with the participation of the UPC. These projects – the Euro-Russian Academic Network Mundus (ERANET-MUNDUS), and the Euro-Russian Academic Network Plus (ERANET PLUS) – facilitate student and teaching staff exchanges with Russia and cover all the teaching areas of the participating universities.

In conclusion, we are working to improve the international position of the campus. To achieve this, we are continuing to increase the number of English language activities at all levels of the university. For example, the UPC has published its postgraduate programme catalogue in English and Chinese.
A2. International Postgraduate and Doctoral School

Progress towards objectives

The Governing Council of the UPC approved creation of the university’s Doctoral School, giving greater visibility to offering of doctoral programs and contributing to the further professionalization of doctoral studies. Agreement 30/2012, by which the school’s creation was ratified, confers official status on the Doctoral School following the pilot project conducted during the academic year 2009-2010. Similarly, in March 2012 the Governing Council of the UB approved the creation of its own Doctoral School (EDUB). The School has been operational since May 2012. Work is now being carried out on proposals to streamline the doctoral programme offerings.

The BKC currently offers a total of 30 university master’s degrees taught entirely in English. The number of professional master's degree courses taught in English at the UPC School and the IL3 (UB) has also increased.

Work carried out and significant results:

- The range of Erasmus Mundus master’s degrees has been extended, with the BKC now offering a total of 15 programs, placing it ahead of all other campuses in Spain.
- The BKC offers more Erasmus Mundus Joint Doctorates (EMJDs) than any other campus in Spain. EMJDs are quality doctoral programs offered jointly by two or more European universities, with the official backing of the European Union. The Erasmus Mundus doctoral programme began in the last academic year. The BKC participated in 2 of the 13 pioneering doctorates. The BKC currently offers 3 Erasmus Mundus doctorates. Next year, it will participate in 6 of the 34 doctorates included in the European Union scheme, which is accompanied by a grants policy. In addition, the UPC boasts the greatest number of international master’s degree and doctoral students of any university in Spain.
- Seminars and other cross-disciplinary activities are organized for doctoral students. For example, in 2012, the EDUB helped to organize the League of European Research Universities’ (LERU) Summer School in Barcelona, which was about open access. Thirty students took part from the universities in the LERU, the MIT, the Weill Cornell Medical College, and Tsinghua University (Taiwan).

A3. Entrepreneurship and innovation

Progress towards objectives

2011 saw the launch of the ACCEL project. This programme provides training, advice and mentoring to foster and accelerate the growth of technology-based companies. An investment fund has been created in association with the programme, to invest exclusively in the participating companies. The aim is to provide support to 20 entrepreneurs each year through a custom business acceleration programme.
The design of the **Entrepreneurship BKC Initiative** has been completed. This is the main instrument for developing training activities and thinking related to the BKC. The aim is to contribute to entrepreneurial learning and dissemination, as well as the assessment of research results. The Initiative continues and expands on the activity that was being carried out by RedEmprendia, funded by the Santander Bank. A document about this Initiative is available on the BKC website, at the aforementioned link.

**Work carried out and significant results:**

- The ACCEL programme has involved training activities on various subjects: Funding sources available for *start-ups*, Negotiation techniques, Creation and management of high-performance teams, Design of new business models, Analysis of financial statements and valuation of *start-ups*, The investment process, legal documentation and negotiation between entrepreneurs and investors, Perfect presentation for investors (in March 2012 an investment forum was organized in which the 8 projects in the programme were presented), Project presentations for private investors, venture capital and family offices.
- Together with the rest of the public Catalan universities, the BKC collaborated on the creation of the “Xarxa d’Emprenedoria Universitària” (University Entrepreneurship Network). The Network’s aim is to identify entrepreneurial talent and create business vocations in the university community.
- In 2012, trainer training days on entrepreneurship were held for teachers of official vocational training (*formació professional*, FP) programmes teachers. Scores of people attended. In collaboration with the UB Entrepreneurship Chair and the UB Faculty of Economics and Business, the first symposium on Teaching Innovation in University Entrepreneurship was organized. The aim was to help bachelor’s degree and master’s degree students to produce final projects focused on setting up companies.
A Laboratory for Creativity and Innovative Projects has been set up in areas covered by the UB’s Faculty of Economics and Business to support bachelor’s degree projects that are focused on entrepreneurship, master’s degree projects on starting up companies and other related work.

B. SCIENTIFIC IMPROVEMENT

B1. Coordination of scientific infrastructure and Scientific and Technical Service units

Progress towards objectives

In 2011 and 2012, the coordination of the campus’s Science and Technology Centres (CCT) was improved. In addition, a strategic decision was taken to allocate resources that were initially assigned to the CICRIT (Centre of Scientific Infrastructures for Research and Technological Innovation) building, to completing and fitting out a building in the Barcelona Science Park (PCB), which is already in an advanced stage of construction (the Cluster II building), as well as the renovation and adaptation of areas of other buildings on the campus to house scientific instruments. Units that provide essential support for the campus’s scientific activity will occupy these areas.

Work carried out and significant results:

- The BKC has reorganized and produced its portfolio of scientific services and equipment, currently available on the campus website. This portal helps users to quickly and effectively form a network of contacts and find out about teams and services. Simultaneously, the “Handbook of instrumental techniques for materials, chemical and biosciences research” has been created by the Science and Technology Centres and distributed in a printed version and on a pendrive with the BKC logo.
- Contacts have continued to be made with researchers to form new collaborations in the BKC’s priority research areas (Initiatives). These collaborations enable the shared use of campus facilities and services, regardless of the institute to which the researcher belongs. The plan is to extend these initiatives to include chemical and biological sciences during 2013.
- The creation of the aforementioned Entrepreneurship initiative, which will facilitate greater research collaboration in the area of entrepreneurship. This initiative involves both applied and entrepreneurial aspects.
- Another initiative called GeoStech is imminent and will focus on research in the area of geological storage of CO₂. The Initiatives bring together and streamline the activity that is already taking place among UB, UPC and CSIC researchers in their specific fields, and promote shared use of the Campus’s science and technology installations.
B2. Improvement of scientific and technical equipment and modernization of facilities

Progress towards objectives

In the 2011-2012 period, facilities continued to be upgraded and modernized. Some of the actions are listed below. The UB has just allocated over half a million euros of the funds received from the University Investment Plan (PIU) to the purchase of exceptional equipment for the CCT. In particular, the BKC has established a Cryo-Electron Microscopy Unit to support biomedical research, and a Cytometry Unit for cancer research and for the design and production of new drugs and treatments for illnesses such as malaria or neurodegenerative diseases.

Work carried out and significant results:

- Work started on the installation of the Data Processing Centre (CPD) in the basement of the PCB’s Cluster II building. The CPD will help to rationalize the energy consumption and personnel costs associated with managing the many servers and clusters of computers distributed throughout the campus. It will reduce the risk of accidents in these facilities, which are often managed on a voluntary basis by the users themselves.
- The lecture room block in the Faculty of Biology has been modernized, as part of the second phase of renovation and upgrading of research areas.
- The Faculty of Chemistry’s Multipurpose Laboratory was opened in September 2012 for use as a working and teaching laboratory, mainly for bachelor’s degree final projects. This Laboratory is particularly useful as a ‘showroom’ for research groups from the Faculty and the Campus in general, and for companies. The facilities will also be useful in BKC researchers’ transfer activities.

*September 2012 – Multi-purpose Laboratory*
- Improvements to the Faculty of Economics and Business “Torre 6” building, which will enable various BKC groups to carry out their research in an environment that is adapted to their needs.
- Upgrading of gas detection and air conditioning systems in laboratories in the faculties of Physics, Chemistry, Biology and Geology.
- Opening of the Geomodels’ Analogue Modelling Laboratory in the Faculty of Geology. This forms part of the Laboratory of Simulation of Geological Processes (SIMGEO), a joint centre fostered by the UB Faculty of Geology and the Institute of Earth Sciences Jaume Almera (ICTJA-CSIC) and co-funded by FEDER, the enterprise Statoil and the BKC.

B3. Recruitment and training of researchers and technologists

Progress towards objectives

Despite the economic situation, the BKC has continued to take on new researchers with pre- and postdoctoral grants. This has been made possible by funding from the 2011 Strengthening programme and the efforts of the associated institutions.

The calls for applications are publicized on the BKC website, each university’s website, and by advertising in specialized publications. To announce calls for researchers and other offers, a new section of the project’s website has been created: “Join BKC”. In addition, the number of announcements made via Twitter has increased.

In the academic year 2012-2013, a call is planned for BKC Talented Visiting Lecturers, which will be funded from the Strengthening budget allocation for 2011.

Work carried out and significant results:

- In the area of Economics and Business, the BKC has co-funded 10 places offered to visiting lecturers, who will be talented postdocs selected through a rigorous international process coordinated by the Economics Job Market. Other places were co-funded by a specific La Caixa savings bank scheme.
- In the experimental, health and social sciences, and humanities, more than 21 predoctoral grants were provided for trainee research staff in 2011 (grants with a duration of two years that may be extended for an additional two years). In addition, 19 researchers joined different areas of the campus of excellence on teaching and research contracts. In 2012, 17 new researchers had already joined campus departments with postdoctoral grants for training in teaching and research. The total number of postdoctoral researchers who joined BKC schools and faculties was 27 in 2011 and 10 in 2012.
- In February 2012, a call for grant applications was announced to take on postdoctoral research staff training in teaching and research in the fields of mathematics, architecture, applied sciences, chemical engineering, materials engineering, engineering and ICT. This is part of the Talent Attraction and Loyalty scheme, and includes the possibility of co-funding by research groups.
C. TRANSFORMATION OF THE CAMPUS TOWARDS A SOCIALLY INTEGRATED MODEL

C1. Improvements in accessibility

Progress towards objectives

In this period, considerable progress has been made in removing architectural barriers on campus. In addition, the number of car parking spaces reserved for people with reduced mobility has been increased and the accessibility of information improved. This approach now forms part of the university’s culture.

Work carried out and significant results:

- In October 2011, the first edition of “Inclusive Campus, Campus without Limits” was held, which is organized by the Disability Care Programme as part of the Campus of Excellence project. The aim of the initiative is to encourage disabled students who are currently taking or completing secondary school, upper secondary and vocational training to go on to study at the university. The objective is to help them to obtain skilled jobs in the labour market. The activities that have been programmed involve the participation of BKC students with disabilities, who explain their experience at the university to the audience. The Inclusive Campus project is the first of its kind to be organized in Catalonia, and has received positive feedback from attendees.

- The UB Virtual Museum added to its “Virtual Visits” section with the first part of a route around Gaudi’s pavilions on the Güell Estate, which are situated in the BKC. As a result...
of funding from the 2011 Strengthening call, basic renovation work is being carried out on the pavilions (see F1).

- The Journal of Accessibility and Design for All (JACCES) has been created. This initiative was promoted by the ONCE Foundation and the UPC Accessibility Chair. The topics that the journal covers are associated with the areas of engineering, architecture and construction, health and medical care, education, society and economy. Articles can be submitted to the journal for publication through the online platform.

C2. Sustainability
Progress towards objectives

The campus continues to improve resource management by increasing the monitoring of consumption and applying sustainability criteria across BKC institutional activities. These steps make it possible to monitor performance in this area more regularly and to give greater accountability of results, ensuring that the relevant actions are consistent and visible, and that they contribute to the implementation and consolidation of campus-wide culture of sustainability.

Work carried out and significant results:

- A new BKC Campus Mobility Committee has been created. This Committee holds regular meetings (around 2-3 a year) to address topics such as urban development, the regulation of traffic, parking and the car share system.
- Partly as a result of a new agreement signed with the Catalan Energy Institute (the regional government body responsible for energy policy), the BKC has continued to install monitoring equipment for electricity, gas and water consumption in campus buildings, to increase the coverage of the overall monitoring system. Most of the data come from the Information System of Energy and Water Resources (SIRENA) and are taken from various monitoring devices that installed in the UPC buildings since 2003. The monitoring system has been extended and now covers 99% of electricity consumption, 66% of gas consumption and 33% of water consumption. The robustness and reliability of the network has also been improved considerably.
- For example, at the UPC:
  - In 2010, electricity consumption stood at 46,735 MWh. By 2011, it had dropped to 45,073 MWh, which represents a reduction of 1,662 MWh.
  - In 2010, the gas consumption was 18,948 MWh. In 2011, it amounted to 12,417 MWh, which represents a reduction of 6,531 MWh.
  - CO₂ emissions attributable to energy consumption (estimated at 40% of the total university emissions) were 10% lower than in 2005, which is the last year for which equivalent data are available.
- The monitoring system does not yet cover the UB in its entirety. In 2011, a series of water audits were carried out in the faculties of Geology, Economics and Business, Physics and Chemistry to identify measures that can be implemented to significantly reduce consumption. Some of these actions are general and can be implemented in all schools and faculties. However, in other faculties, such as Physics and Chemistry,
specific savings measures have been devised according to the activity and the facilities. Electricity consumption has also been reduced by factors such as the introduction of responsible consumption criteria in schools and faculties and raising the awareness of the university community.

- For example, at the UB:
  - Water consumption at the Faculty of Geology in 2011 was 44.7% lower than in 2010, whilst at the Faculty of Economics and Business it dropped by 43.8%. Water consumption at the Faculty of Biology fell by 20%.
  - At the Faculty of Biology, electricity consumption dropped by almost 10% in 2011, whilst at the Faculty of Economics and Business it fell by 11.6%. Consistent reductions were only achieved at the UB from July 2011 onwards.

- With respect to waste management and storage, areas are being adapted for the collection of any kind of waste generated by laboratories, as in the Faculty of Biology. Resources have also been allocated to manage this waste. In general, the volume of waste generated by day-to-day activity on the Campus is being reduced, while separated collection of waste is increasing (e.g., the Comprehensive Plan for Selective Waste Collection in the K2M building).

- In 2012, an agreement was reached with the FUNSEAM Foundation to create the UB Sustainable Energy Chair, which will be housed in the PCB as part of the Barcelona Economics Institute. The Chair will create a permanent research group, promote a symposium on energy and environmental sustainability and fund visiting lecturer and postdoctoral programs, as well as research projects.

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**D. EHEA ADAPTATION AND IMPLEMENTATION**

**D1. Teaching innovation**

**Progress towards objectives**

Efforts are continuing to integrate new technologies into the learning process and to involve teaching staff in the design of new teaching methods.

**Work carried out and significant results:**

- In 2011, servers and teaching innovation tools were purchased for lecture rooms in BKC faculties, to increase the virtualization of the teaching environment. In addition, material has been acquired to increase interactivity and student participation using new technology, such as clickers.
In the second half of 2012, work began on the introduction of a desktop virtualization system by which students will have remote access to programs and units via the wireless network in campus faculties or from their homes. The final load tests will be carried out so that the system can start operation in November 2012. It can then be used in the 2012-2013 academic year.

Collaboration in Teaching Technology Symposiums to facilitate the development and use of teaching tools among university groups. The sessions were broadcast via video streaming in webinar format, which enabled remote participation through an online chat, in which it was possible to interact with speakers and participants in the sessions.

D2. Adapting classrooms, laboratories and services to EHEA requirements

Progress towards objectives

Adaptation of spaces to EHEA requirements by both universities has involved the modernization of computer equipment, programs and infrastructure; the introduction of WiFi and video projectors into all classrooms; and the increase in the number of videoconferencing rooms. In addition, computer rooms have been adapted to comply with new guidelines; a data line has been installed; and emerging technologies are being used. Furthermore, multi-purpose furnishings have been purchased that are made from recycled and recyclable materials.

Work carried out and significant results:

- The teaching laboratories in the Faculty of Physics were improved over the course of 2012 through the replacement of mid- and high-range equipment in several laboratories (mechanics, thermodynamics, optics, electromagnetism, modern physics and electronics). The wiring has also been renewed to improve network connectivity in the Faculties of Physics and Chemistry. 50% of the cost of this work (a
total of €350,000) was defrayed by the awarding of an infrastructure subsidy from the Spanish Ministry of Economy and Competitiveness.

- As mentioned in section B2, construction was completed on the Faculty of Chemistry’s **multi-use, multi-purpose laboratory**. In addition to financing the lab, the BKC has been involved in the design of its marketing plan.

- The most substantial project undertaken between 2011 and 2012 on the BKC’s South Campus was the start of the expansion of the Faculty of Fine Arts. The Stone and Metals Workshop was completed, the Foundry Workshop was refurbished and the Drawing and Painting areas were adapted. The BKC was also involved in the remodelling of two classrooms of the Faculty of Law and in the improvement and adaptation of the electrical, air conditioning, and smoke extraction and ventilation systems in the classrooms, laboratories and workshops of the Faculties of Fine Arts, Physics and Chemistry. Additionally, areas in the Faculty of Economics and Business were prepared for the coordination and temporary use (while at the faculty) of students doing internships at companies and spaces were set up for monitoring bachelor’s and master’s degree final project focused on entrepreneurship.

**D3. Student employability**

**Progress towards objectives**

The BKC continued its efforts to improve student employability during this time through specialized academic curricula, counselling for graduates as they transitioned into the labour market and improved management of job opportunities. Through their student services offices, campus institutions also continued their efforts to organize events designed to offer information and support to students to improve their knowledge about entrepreneurship.
Work carried out and significant results:

- As indicated in section A3, several Entrepreneurship Seminars were held for vocational training teachers to help them transmit the notion of entrepreneurship to their students.
- The UPC Alumni network was created in order to foster a sense of belonging among UPC graduates and to allow them to develop new professional and personal relationships. The UB has had a similar structure in place, UB Alumni, since November 2010.
- Contacts with companies to arrange work placements have also been intensified, and a number of reports on the labour market in the fields of engineering and technology have been produced. At the same time, new field-specific fairs have been organized at the different BKC faculties, including the Faculties of Physics and Chemistry and the Career and Employment Office of the Faculty of Economics and Business.
- In 2011 and 2012 The Bosch i Gimpera Foundation organized seminars to promote business creation among researchers and lecturers in the fields of humanities and the social sciences. These seminars were held within the framework of the University Entrepreneurship Network (XEU) with the support of the Entrepreneurship Chair and UB Alumni.

D4. Cooperation with secondary education and vocational training centres

Progress towards objectives

The programmes developed within this strand of action are intended to consolidate the relationships between the campus and secondary schools and vocational training centres, familiarizing students with the infrastructure and services of the campus and working to attract the best talent, while helping students to negotiate the different stages of their professional lives.

As usual, secondary school and vocational training students were offered the chance to visit the faculties and schools of the campus accompanied by teachers and counsellors.

Work carried out and significant results:

- The BKC and the Berga City Council have continued to work together on the Exploratori dels Recursos de la Natura (ERN) project to promote the study of science and technologies, improve secondary school and higher education learning, and contribute to the development of a territory rich in natural resources. The project’s programme of activities was implemented at the same time and consisted of the Knowledge Fair, which publicizes some of the BKC’s leading research projects related to science and technology, and Explore Nature, courses organized within the framework of the Universitat Catalana d’Estiu de la Natura, in which BKC teaching staff and others offer courses combining classroom lessons with fieldwork in the natural areas of the county of Berguedà.
In July 2011, the BKC welcomed upper secondary students from all over Spain, who took part in the Summer Science Campuses organized by the Spanish Foundation for Science and Technology (FECYT) and the Spanish Ministry of Education.

In February 2012, the first internship programme for vocational training students was carried out at the BKC’s unique science facilities. On this occasion, 26 students joined first-level groups of the campus’s Science and Technology Centres. On 15 October, the second group of students will begin their internships. This is intended as a permanent and continuous initiative, regardless of its connection to the Campus of International Excellence. This initiative and the training of vocational training teaching staff are carried out in close cooperation with the educational administration through the Barcelona Education Consortium.

The BKC jointly organized a Supercomputing Training Day in 2012. The activity was designed by the Institute for Education Sciences and the Barcelona Supercomputing Center, a Severo Ochoa centre of excellence recently awarded the National Research Prize for collaboration between the public and private sectors and designated an Advanced Training Centre in supercomputing by the Partnership for Advanced Computing in Europe. As mentioned earlier, training courses for vocational training staff have also been implemented in cooperation with the Institute for Education Sciences in the areas of entrepreneurship and health.
E. KNOWLEDGE AND TECHNOLOGY TRANSFER TO THE BUSINESS SECTOR

E1. Definition, implementation and consolidation of the CIT - CITA

The goal of these actions, once the Centre for Innovation and Advanced Technologies (CITA) has been created, is to ensure the coordination between the UPC’s Centre for Technological Innovation (CIT) and the CITA to consolidate the international leadership of the BKC in R&D in the science and technology disciplines in which it is involved.

Progress towards objectives

The Governance Committee of the UB’s Centre for Innovation and Advanced Technologies was established in November 2011. The project is the result of the joint effort of the Bosch i Gimpera Foundation and the UB and aims to become a meeting point for research groups and companies interested in developing R&D&i projects. CITA coordinates the UB’s most active groups in the transfer of technology and knowledge and fosters collaboration and synergies to allow their activities to continue growing. Eleven groups belonging to the TECNIO technology transfer group sponsored by ACCió (the support agency for competitiveness in Catalan companies) participate in the centre’s activities.

A Scientific Advisory Council external to the CITA, formed by representatives of DANONE, SIRUSA, FAE, FICOSA and ESTEVE, was established in March 2012. The 11 research groups belonging to the CITA carry out activities in the areas of food and nutrition: technology, safety and quality; sustainable development: the environment, energy and water; industrial processes; information, communication and knowledge technologies; and health and quality of life.

The CITA gathers together over 80 principal investigators, has carried out some 550 research and services projects in the last five years, has developed 83 competitive projects with public funding (33 international and 50 national) in the same period and has generated more than 200 patents.

The Business Council of the CIT was constituted in June 2012 and comprises representatives of Abertis, Alstom, Aqualogy Conocimiento (Grupo Agbar), Comsa Emte, Endesa, Fundación CEQUIP, Indra, JG Ingenieros, Ros Roca, Seat, Siemens, Soadco-Klockner and Telstar. The CIT is the overarching organizational structure for the work of the UPC’s 19 research centres and 400 researchers, and had a turnover of 18 million euros for technology transfer and innovation activities with private companies in 2011. The CIT has registered 91 patents and overseen the creation of 12 spin-offs in the past few years. These are the key figures in relation to the transfer of technology to companies. When the Business Council was set up, the executive
director of the university-business programme at Massachusetts Institute of Technology (MIT), Karl Koster, was invited to give a detailed presentation of the innovation management model in place at that internationally leading technology institute.

Through this new marketing tool, the campus does not only transfer its technological capacities as a driver for innovation, but it also completes its management model for the transfer of technology and university-business relationships – the first university to do so in Spain – based on permanent contact with companies in order to understand their needs and detect opportunities for collaboration. The ecosystem of innovation is inspired by success models in other countries, like MIT in the US, with which the CIT has entered into a strategic alliance.

Work carried out and significant results:

- Progress has been made towards identifying macro-areas in which the synergy between the two universities can lead to the design of a collaborative strategy on knowledge transfer; the heads of the CIT and CITA are in the process of drafting a joint action strategy. The areas in which the universities have agreed to establish collaborative transfer initiatives are: a) health and quality of life, b) industrial processes, and c) information, communication and knowledge technologies. To do this, common areas of experience between CIT and CITA research groups will be identified and analysed to determine the extent to which the work overlaps and could be integrated into a collaborative structure. The concept for the joint project will be proposed to the heads of the research groups involved, and thematic meetings will be held with companies interested in the technology and the resulting know-how in order to actively promote the knowledge transfer and valorization process.

- In 2011, some of the key figures of the groups that joined CITA include, overall turnover: €12.5m; average turnover per group: €1.1m; origin of funding: 56% public - 44% private. 44% of public revenue comes from the participation in competitive projects and 20% are international projects. Research and development projects and innovation services projects have been carried out for 469 companies in 15 different sectors, primarily related to the fields of biotechnologies and materials. Together, the 11 CITA groups have applied for 15 European or PCT patents. The total amount awarded by ACCIÓ in 2011 to CITA groups through competitive subsidies for TECNIO groups was €205,046.

- The 19 member centres of the CIT, located in different areas but with their central offices at the BKC, have agreements with nearly a thousand companies from different sectors in over 60 countries. These centres are very active in R&D&i and have expert knowledge and technological skills in areas as varied as production and materials, energy and the environment, medical technologies, ICT and chemistry and nutrition. The creation of the CIT is framed within the goal of stimulating the use of the technology generated by research groups with significant commercial potential and to help get that technology to market in order to contribute to the development of the country. They bring together extensive experience in implementing joint projects with companies.

- There are numerous success stories involving technological developments transferred to industry, such as the portable, online system for the predictive maintenance and monitoring of the main hydroelectricity plants in Spain; the first titanium and calcium phosphate based bioactive dental implant; the simulation of the thermal behaviour of the glass façade of the Torre Agbar skyscraper in Barcelona, and the programmable
virtual environment for the treatment of memory defects due to acquired brain damage.

- The CIT’s technology portfolio includes innovations such as the redesign of the internal electrical systems of aircrafts to make them lighter, safer and more environmentally friendly; a motorized industrial wench that automatically lifts and moves loads; a modular industrial laundry tunnel with an industrial patent, and cutting-edge technology in graph databases to detect possible fraud in estate transactions.
- The UPC currently holds more patents than any other Spanish university (212 registered between 2002 and 2012) and is second in the creation of spin-offs (57 during the same period), as well as in participation in European projects.

E2. Innovation programmes

Progress towards objectives

Progress has been made in this period towards the development of the International Centre for Business Accommodation, located in the Barcelona Science Park, through the remodelling of spaces reserved for international companies that contribute to increasing the transfer of knowledge and technology to society. Several meetings have also been held among the companies located in the K2M building of the Parc UPC which have contributed to narrowing the gap between the research groups and the productive sector and have helped to establish synergies between them. The process of stimulating technological innovation in small and medium enterprises has been supported by the active involvement of the BKC’s human capital in industry.

Work carried out and significant results:

- Adaptation of the facilities in which international companies will set up temporarily at the BKC has been completed. A 200 m² module has been fitted out as one 100 m² laboratory for biology and another for chemistry.
- In 2011 and 2012 new sessions of the programme to stimulate business innovation were held to train professionals that can help small and medium-sized enterprises find new business opportunities and to be more competitive through technological innovation and mobility. These events were attended by graduates from other Catalan universities as well as graduates with experience in the labour market.
- Eleven companies, employing a total of 80 people, joined the bioincubator of the Barcelona Science Park. The company Intelligent Pharma successfully graduated to make a total of eight post-incubation companies at the moment. The companies Eytoo Bioscience and Aleria Biodevices left the incubator when they went out of business. At the end of 2011, the PCB Bioincubator was home to a total of 19 companies.
- The new companies that set themselves up in the K2M building during the period are: Addtelepro, Arquimea, Ca technologies, Dama, Dinube mobile payments, Pi2 ubiquitous network and Sparsity technologies.
Both universities contributed to the annual organization of the University-Business Seminars at the suggestion of the FemCat business owners’ association to demonstrate the operation and organization of companies and to promote dialogue between the academic and business worlds. Representatives visited the head offices of a range of companies to gain first-hand experience of their general characteristics and operations, leading to extensive discussions and sharing of ideas. The companies visited to date include Grupo Esteve, Abertis, Vichy Catalán and Moventis. During the third edition (July 2011) company representatives visited the BKC.

E3. Consolidation and internationalization of research valorization

Progress towards objectives

Progress has been made towards increasing the value of projects with high transfer potential, thereby improving possibilities for the protection and commercialization of university research projects.

Work carried out and significant results:

- The Technology Offers catalogue was launched through the website of the Patent and Licensing Office. This is an online catalogue showing the technology available, acting as a virtual shop window for the R&D&i activity undertaken on campus in the most active areas of information and communication technologies; automation and aeronautics; architecture, urban planning and construction; energy and the environment; agriculture, industrial engineering, health and transport, and logistics.
- A catalogue has been created to promote the technology available from the campus at international and national fairs and events, such as Biz Barcelona and the Bio International Convention in Boston. This display of the results of the campus’s R&D&i activities, in short, makes up an important part of the valorization measures undertaken on campus with the goal of taking the technology to market and encouraging the industrial community to seek out new business opportunities.

June 2012 – Attendance of the BIO Int. Conv. in Boston
In 2011 the BKC obtained funding for one-year substitute teacher contracts which allowed several members of teaching staff – a total of fifteen in the country – to devote their time to the creation of technology-based companies. At the same time, these academics received support and business advice from the RedEmprendia, financed by Banco de Santander. This action resulted in the creation of a new spin-off called Smalle Technologies.

F. INTERACTION BETWEEN THE CAMPUS AND ITS LOCAL ENVIRONMENT

F1. Creation of educational, cultural, social and sports environments

Progress towards objectives

The milestone that marks these two years is the signing, in March 2012, by both universities of an agreement to undertake the most urgent refurbishment works of the Güell Pavilions, which will subsequently be used for institutional purposes. The agreement establishes a coordination committee made up of technicians and academic administrators (vice rectors) from both universities to supervise the restoration process and manage the pavilions.

Work carried out and significant results:

- The basic adaptation work is already under way inside the Güell Pavilions. The project also encompasses the remodelling of the roof, one of the most damaged parts, in keeping with the requirements of the Heritage office of the Barcelona City Council and the Generalitat de Catalunya (Catalan Government), which have to give their final approval to the project. In addition to maintaining the original concept of the building, the project must describe the more structural work that will be done, as well as work to ensure water-tightness, carpentry work and any flooring necessary. The project will be accompanied by a phase-by-phase development plan and stipulates the municipal licenses required to start the works.
- The School of Industrial Engineering of Barcelona opened new, 800 m², open-air facilities in the area called the Plaça de l’Enginy. The space was remodelled with the construction of new elevated pavement, the creation of garden areas, the installation of a canopy, tables and benches and the planting of trees. Several rooms were also recently finished that are configured as social learning spaces, a cross-disciplinary project orientated towards meeting the requirements of the EHEA.

- UB Sports has acquired new cardio and weights equipment with BKC funding. It is part of the Sports and Health programme, designed to foster habits of physical exercise, ergonomics and a healthy diet. The facilities are open to users from both universities in the BKC alliance.
The BKC promoted the creation of the CIECat network for Catalan CIEs to exchange ideas and share initiatives. So far, three meetings have been held, which were organized by the BKC, CIECS and the HUBc Campuses of International Excellence. The BKC also organized a seminar about Campuses of International Excellence in May 2012, which was attended by representatives of the Karlsruhe Institute of Technology (KIT) and the University of Toulouse, both of which were selected by the excellence initiatives of their governments, as well as representatives of Catalan and Spanish CIEs.

In November 2011, the BKC hosted the International Conference “Social Learning Spaces”, organized by the Ministry of Education and the consulting firm DEGW in collaboration with the Barcelona Science Park. Some of the best examples of innovative spaces in education and technology were analyzed at the conference and the transformation of learning spaces was discussed.

F2. Mobility
Progress towards objectives

The BKC is making progress in its goal of becoming more walker-friendly with a sustainable, less polluting transport system through the consolidation and expansion of the Bicicampus project, which aims to promote the use of bicycles among the university community as a healthy, pollution-free means of transport.

In cooperation with the Barcelona City Council, works have continued in the project to eliminate parking spaces for cars, thereby discouraging the use of private vehicles.

Work carried out and significant results:

- The car park located in the Barcelona Science Park was opened in March 2011. The car park, equipped with the latest technologies including mobile telephone and WiFi coverage, has over 500 parking spaces for cars, 14 of which are adapted for disabled use and 11 of which have charging hook-ups for electric models; 54 motorcycle spaces, 2 of which are for electric models, and 21 bicycle spaces.
- In cooperation with the city council, a charging station has been installed on campus with six hook-ups for electric motorcycles.
- As in every academic year, bicycles have once again been delivered (on loan) to the Bicicampus project, which is the result of an agreement between the Bicycle Club of Catalonia (BACC), the Barcelona City Council, the Catalan Ministry of the Environment and the savings bank La Caixa.

F3. Built infrastructure
Progress towards objectives

The Til·lers building was opened during the period, to be used for BKC services including the main offices of the coordination unit in its North Campus. As described in the Deviations from
the Project section, the economic situation has led to a lack of funding that has prevented all of the components of the project from advancing as planned. Specifically, the implementation of the actions planned for the B0 building for the Doctoral Studies Building in the area of technology has been rescheduled, as have the plans for the Doctoral Studies Building for architecture, urban development and construction and the CICRIT building.

**Work carried out and significant results:**

- Completion of works on the Til·lers building which houses the institutional services and bodies linked to the external relations of the UPC (UPC Alumni, the Employment Bureau, International Relations Services, etc.). Covering an area of over 3,500 m², the building is comprised of six floors and stands out for its excellent use of natural light. The institutional services and bodies occupy the three top floors, and are fully operational. The plan is to eventually complete an auditorium with a capacity for about 200 people which will be located on part of the ground floor and the first basement floor. Archive facilities are also planned on the lower basement level.
DEVIATIONS FROM PLANNED ACTIONS

In general, the campus is being developed in keeping with the initial strategic plan. We do not consider changes in certain proposed actions due to a lack of funding to be deviations from the project, as they are not attributable to the wishes of the allied universities. The start-up of the campus’s International Doctoral School deserves special mention. Its implementation is somewhat behind schedule because the allied universities are in the process of adapting their doctoral development and management structures to the new legal framework and requirements of the Catalan Government, which is the competent authority in these matters.

The current economic situation has led to the UPC to sacrifice the development of two projects for the expansion of spaces for the housing of doctoral students, the **Doctoral Studies Building** in the area of technology and the **Doctoral Studies Building for architecture, urban development and construction**, and to return the funding lent to the University for these projects.

Construction of the **Doctoral Studies Building in the area of technology** is expected to resume. New partnerships are being evaluated within the sphere of this action. Because of its geographic proximity and the overlap of research interests, a possible partnership is being explored with the International Center for Numerical Methods in Engineering and, specifically, with the FLUMEN Institute, which was created from a multidisciplinary research group and has over 10 years of R&D experience in the area of fluid dynamics and hydraulic engineering and which is made up of engineers and biologists from the UB and the UPC.

Similarly, the UB has suspended *plans* for the construction of the **CICRIT Building**, a scientific infrastructure centre for research and technological innovation. In this case, funding received as a loan will be used to adapt part of the Cluster II building of the Barcelona Science Park to house the essential Scientific Services to support campus activities that were meant to be located in the CICRIT building. Other spaces belonging to the UB will also be adapted for the same purpose.

The Spanish Ministry of Economy and Competitiveness has been informed of these suggested changes in plan, most recently by means of a notice sent on 18 September 2012 which detailed all of the proposed alternative actions.
PROGRESS IN PROJECT GOVERNANCE

Governance Committee

The BKC’s Governance Committee was officially constituted on 10 June 2011, in an event in which the Rector of the UB, Dr Didac Ramírez and the Rector of the UPC, Dr Antoni Giró, both participated and during which the 2009-2010 progress and evaluation report of the BKC was presented. In addition to the rectors of the UB and the UPC, the event was also attended by Dr Xavier Testar, director at the time of the Barcelona Research and Innovation Programme of the Barcelona City Council, Lluís Calvo, institutional coordinator of the CSIC in Catalonia, and the chair of the Barcelona Chamber of Commerce, Industry and Shipping, Miquel Valls. The representatives of the rectors of the UB and the UPC, Dr Manuel Barranco Gómez and Dr Francesc Solé Parellada, explained different aspects of the BKC progress report during the meeting and described the governance structure, among the other topics addressed. It was agreed at the meeting that the rector of the UPC would chair the Governance Committee until the beginning of 2013.

BKC Coordination and Management Unit

At the moment there are two sub-units under the Coordination Unit: the project development unit and the communication unit. Since the constitution of the Governance Committee, two positive events have taken place with regard to its operation: The central offices of the BKC’s Coordination and Management Unit on the North Campus was moved to the first floor of the Til·lers Building, c/ Jordi Girona 31, and on 20 September 2012 the Coordination Unit offices opened their doors on the South Campus, located on the second floor of the Baldiri Building, c/ Baldiri Reixac 2. To facilitate the work of these two offices, the Coordination and Management Unit has designed specific software with which the projects and actions they are involved in can be monitored.

September 2012 – Opening of South Campus offices
Between October 2011 and March 2012, a technician from the BKC’s Coordination and Management Unit took part in the Management Development Programme for International Centres of Excellence training course offered by the School of Industrial Organization (EOI). The partial grant provided to this technician for the course came from the 2011 Reinforcement Sub-programme, within the framework of the measures to stimulate public-private collaboration. The BKC co-financed this training activity as part of the campus’s strategy to consolidate and strengthen its governance. The course was attended by 23 participants from 20 Spanish CIEs, and as an added benefit, a de facto “CIE technicians’ network” was set up to allow for fluid communication and the exchange of ideas and information within the framework of the Spanish Campus of International Excellence programme. This training action for BKC management staff fits in perfectly with the goals of stimulating employability through training and promoting the international visibility of the campus, both of which have formed part of the BKC’s master plan since its inception.

**Scientific Advisory Committee**

After the governance design stipulated in the BKC’s initial strategic plan was put into place, attention was focused on strengthening the scientific structure of the campus through the designation and subsequent appointment of members of the Scientific Advisory Committee. The criteria for designating the members of the Committee were excellence in their areas of expertise, obviously linked to the campus’s key areas of activity, and their membership in the BKC in order to be able to assume the cost of their work meetings.

The current members are the UB lecturers María Casado (Department of Sociological Theory, Philosophy of Law and Methodology of the Social Sciences), Javier Tejada (Department of Fundamental Physics), Jaume Valls (Department of Economics and Business Organization) and Francesc Villarroya (Department of Biochemistry and Molecular Biology), the UPC lecturers Mateo Valero (Department of Computer Architecture), Alicia Casals (Department of Automatic Control), Josep Bosch (Department of Architectural Representation and Visual Analysis I) and Elisa Sayrol (Department of Signal Theory and Communications), and the CSIC research professor Andrés Pérez Estaún, from the Jaume Almera Institute of Earth Sciences.

At the last meeting of the Coordination and Management Unit it was decided that the first work meeting with the Scientific Advisory Committee would take place in November 2012. The current structure and development status of the campus will be described in detail at the meeting. At the beginning of 2013, once the position of chair of the Governance Committee has been transferred to the rector of the UB, another meeting is planned to reflect on how to approach the final stage of implementation of the campus.
### PROGRESS INDICATORS

<table>
<thead>
<tr>
<th>AREA</th>
<th>INDICATOR</th>
<th>2008 (launch)</th>
<th>2010 Report</th>
<th>2012 Report</th>
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<tbody>
<tr>
<td>A. Educational improvement</td>
<td>International master’s degree and doctoral students</td>
<td>1,966</td>
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<td>Bachelor’s degree students</td>
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<td>Students in 1st, 1st and 2nd cycle, and 2nd cycle degrees</td>
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<td>Master’s degree students</td>
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<td>Doctoral students</td>
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<td>International doctoral students</td>
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<td>Lifelong learning students</td>
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<td>International postgraduate and doctoral students</td>
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<td>Erasmus Mundus master’s programmes</td>
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<td></td>
<td>Master’s programmes taught entirely in English</td>
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<td>21.80%</td>
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<td>International offer of postgraduate and doctoral courses coordinated by the School</td>
<td>0%</td>
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<td>Programmes in which teaching is shared by the UB and the UPC</td>
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<td>11%</td>
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<td></td>
<td>Participants in educational programmes on entrepreneurship and innovation</td>
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<td>Bachelor’s (or similar) degree programmes which include the competency of entrepreneurship</td>
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<tr>
<td>AREA</td>
<td>INDICATOR</td>
<td>2008 (launch)</td>
<td>2010 Report</td>
<td>2012 Report</td>
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<td></td>
<td>Scientific articles published in indexed journals in the top quartile</td>
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<td><strong>3,166</strong></td>
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<td>B. Scientific improvement</td>
<td>Projects in international R&amp;D programmes</td>
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<td>Teaching and research staff</td>
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<td>Volume of income from competitive scientific projects (national and</td>
<td><strong>47,201,469</strong></td>
<td><strong>93,589,527</strong></td>
<td><strong>44,194,967</strong></td>
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<td>international)</td>
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<td>Research projects developed by more than one stakeholder in the alliance</td>
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<td>Services provided to clients (internal and external) by the SCT</td>
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<td>Income generated by SCT services provided to the private sector</td>
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<td>Pre/postdoctoral scholarships to bring international personnel to the</td>
<td>no data</td>
<td>no data</td>
<td><strong>22</strong></td>
</tr>
<tr>
<td></td>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Transformation of the Campus towards a socially integrated</td>
<td>Coverage of the SIRENA consumption-monitoring network: Electricity</td>
<td>no data</td>
<td><strong>83%</strong></td>
<td><strong>99%</strong></td>
</tr>
<tr>
<td>model</td>
<td>Coverage of the SIRENA consumption-monitoring network: Water</td>
<td>no data</td>
<td><strong>30%</strong></td>
<td><strong>32%</strong></td>
</tr>
<tr>
<td></td>
<td>Coverage of the SIRENA consumption-monitoring network: Gas</td>
<td>no data</td>
<td><strong>20%</strong></td>
<td><strong>65%</strong></td>
</tr>
<tr>
<td></td>
<td>Reduction in CO2 emissions: Gas</td>
<td>no data</td>
<td><strong>40%</strong></td>
<td><strong>36%</strong></td>
</tr>
<tr>
<td></td>
<td>Reduction in CO2 emissions: Electricity</td>
<td>no data</td>
<td>no data</td>
<td><strong>25%</strong></td>
</tr>
<tr>
<td></td>
<td>Reduction in gas consumption</td>
<td>-</td>
<td>no data</td>
<td><strong>34%</strong></td>
</tr>
<tr>
<td></td>
<td>Reduction in water consumption</td>
<td>-</td>
<td><strong>26%</strong></td>
<td><strong>12%</strong></td>
</tr>
<tr>
<td></td>
<td>Reduction in electricity consumption</td>
<td>-</td>
<td><strong>2%</strong></td>
<td><strong>4%</strong></td>
</tr>
<tr>
<td></td>
<td>Buildings built or adapted to sustainability criteria (UPC Campus)</td>
<td>-</td>
<td><strong>11%</strong></td>
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<tr>
<td></td>
<td>Reduction in the production of urban solid waste and other waste</td>
<td>-</td>
<td>no data</td>
<td><strong>22%</strong></td>
</tr>
<tr>
<td></td>
<td>Specific spaces adapted for waste storage</td>
<td>-</td>
<td>no data</td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

*Barcelona Knowledge Campus*
<table>
<thead>
<tr>
<th>AREA</th>
<th>INDICATOR</th>
<th>2008 (launch)</th>
<th>2010 Report</th>
<th>2012 Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. EHEA adaptation and implementation</td>
<td>Teaching innovation projects</td>
<td>76</td>
<td>85</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Percentage of classrooms with Internet connections and WiFi coverage</td>
<td>80%</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Percentage of laboratories with adequate computer equipment</td>
<td>40%</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Video conference rooms</td>
<td>5</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Percentage of fully adapted classrooms</td>
<td>30%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Intercampus scholarships for student employability</td>
<td>2,097</td>
<td>no data</td>
<td>no data</td>
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<tr>
<td></td>
<td>Secondary-school students participating in Campus initiatives</td>
<td>10,333</td>
<td>10,480</td>
<td>8,633</td>
</tr>
<tr>
<td>E. Knowledge and technology transfer to the business sector</td>
<td>Value of research contracts signed with companies</td>
<td>4,779,780</td>
<td>8,459,118</td>
<td>14,113,031</td>
</tr>
<tr>
<td></td>
<td>Income generated by transfer activity</td>
<td>35,428,096</td>
<td>43,380,345</td>
<td>28,156,132</td>
</tr>
<tr>
<td></td>
<td>National and international patents generated in the past three years</td>
<td>192</td>
<td>274</td>
<td>302</td>
</tr>
<tr>
<td></td>
<td>Licensing contracts signed with external organizations</td>
<td>15</td>
<td>23</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Researchers recruited through competitive hiring processes</td>
<td>149</td>
<td>no data</td>
<td>138</td>
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<tr>
<td></td>
<td>International and European projects</td>
<td>46</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spin-offs created over the past five years</td>
<td>47</td>
<td>63</td>
<td>36</td>
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<tr>
<td></td>
<td>Affiliated spin-offs</td>
<td>9</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>M2 available for spin-offs and knowledge enterprises</td>
<td>60,000</td>
<td>64,273</td>
<td>64,273</td>
</tr>
<tr>
<td></td>
<td>People trained in project management and innovation management each year</td>
<td>136</td>
<td>168</td>
<td>110</td>
</tr>
<tr>
<td>AREA</td>
<td>INDICATOR</td>
<td>2008 (launch)</td>
<td>2010 Report</td>
<td>2012 Report</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
<td>---------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>F. Interaction between the Campus and its surrounding environment</td>
<td>Number of companies in residence at the alliance's science and technology parks</td>
<td>62</td>
<td>93</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Projects to adapt multi-purpose spaces</td>
<td>-</td>
<td>no data</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Urban renewal projects to create new social spaces</td>
<td>-</td>
<td>no data</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Percentage of Bicampus project actions implemented</td>
<td>20%</td>
<td>75%</td>
<td>85%</td>
</tr>
<tr>
<td></td>
<td>Preparation of the BKC Walkability Plan</td>
<td>-</td>
<td>100%</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Construction of the CICRIT building</td>
<td>-</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Construction of the AUEB building</td>
<td>-</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Construction of the L2 building</td>
<td>-</td>
<td>100%</td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Construction of the student hall of residence</td>
<td>-</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Construction of the building for tech-based doctoral programmes</td>
<td>-</td>
<td>0%</td>
<td>In progress</td>
</tr>
<tr>
<td></td>
<td>Structures and facilities for the future configuration of the Campus</td>
<td>-</td>
<td>no data</td>
<td>no data</td>
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</tbody>
</table>
## FUTURE MILESTONES

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Area</th>
<th>Description</th>
<th>Estimated date of completion</th>
<th>Means of verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Educational improvement</td>
<td>Consolidation of broad postgraduate course offering in English</td>
<td>Academic year 2013-2014</td>
<td>BKC website</td>
</tr>
<tr>
<td>2</td>
<td>Educational improvement</td>
<td>Increased representation of the BKC in international networks</td>
<td>During 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>3</td>
<td>Educational improvement</td>
<td>Completion of BKCnet deployment</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>4</td>
<td>Educational improvement</td>
<td>Promotion of competences for entrepreneurship</td>
<td>During 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>5</td>
<td>Educational improvement</td>
<td>Consolidation of collaborative initiatives with vocational training (placements and trainer training)</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>6</td>
<td>Scientific improvement</td>
<td>Continuing promotion and/or completion of BKC Initiatives in biology, geology and chemistry</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>7</td>
<td>Scientific improvement</td>
<td>Fine-tuning of CCIT equipment and start-up of Data Processing Centre</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>8</td>
<td>Scientific improvement</td>
<td>Creation of a BKC Excellence visitors’ programme</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>9</td>
<td>Scientific improvement</td>
<td>Talent attraction through existing initiatives in cosmos and space sciences, nanosciences and entrepreneurship</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>10</td>
<td>Scientific improvement</td>
<td>Installation of CCIT in the Cluster II building</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>11</td>
<td>Campus transformation</td>
<td>Extend the coverage of the monitoring network for resource use and energy consumption</td>
<td>During 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>12</td>
<td>EHEA adaptation</td>
<td>Boost employability through alumni networks (Alumni UB, Alumni UPC, etc.)</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>Milestone</td>
<td>Area</td>
<td>Description</td>
<td>Estimated date of completion</td>
<td>Means of verification</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>13</td>
<td>EHEA adaptation</td>
<td>Establish a specific collaboration agreement with the ERN of Berga that will consolidate the educational programmes it offers</td>
<td>4th quarter 2013</td>
<td>ERN website</td>
</tr>
<tr>
<td>14</td>
<td>EHEA adaptation</td>
<td>Implement virtual desktops</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>15</td>
<td>Transfer activities</td>
<td>Consolidate the CIT-CITA collaborative ecosystem in the transfer of knowledge and technology</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>16</td>
<td>Transfer activities</td>
<td>Launch of the entrepreneurship initiative</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>17</td>
<td>Transfer activities</td>
<td>Increase the range of technology solutions listed in the Technology Offers catalogue</td>
<td>During 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>18</td>
<td>Transfer activities</td>
<td>Increase representation at technology fairs and similar events</td>
<td>During 2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>19</td>
<td>Interaction with surrounding area</td>
<td>Renovation and improvement of the BKC’s sports facilities</td>
<td>Academic year 2012-2013</td>
<td>BKC website</td>
</tr>
<tr>
<td>20</td>
<td>Interaction with surrounding area</td>
<td>Completion of Doctoral School tech-based programmes</td>
<td>Academic year 2013-2014</td>
<td>BKC website</td>
</tr>
<tr>
<td>21</td>
<td>Interaction with surrounding area</td>
<td>Launch of institutional activities in Güell Pavilions</td>
<td>4th quarter 2013</td>
<td>BKC website</td>
</tr>
</tbody>
</table>
# USE OF RESOURCES

<table>
<thead>
<tr>
<th>AREA A: Educational improvement</th>
<th>STAFF</th>
<th>CURRENT EXPENDITURES</th>
<th>INVESTMENT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>International positioning</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
</tr>
<tr>
<td>International Postgraduate and Doctoral School</td>
<td>€0</td>
<td>€6,145</td>
<td>€0</td>
<td>€6,145</td>
</tr>
<tr>
<td>Entrepreneurship and innovation</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AREA B: Scientific improvement</th>
<th>€145,000</th>
<th>€37,000</th>
<th>€5,243,783</th>
<th>€5,425,783</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordination of scientific infrastructure and Scientific-Technical units</td>
<td>€0</td>
<td>€0</td>
<td>€3,443,783</td>
<td>€0</td>
</tr>
<tr>
<td>Upgrading of scientific-technological equipment and modernization of facilities</td>
<td>€0</td>
<td>€0</td>
<td>€1,800,000</td>
<td>€0</td>
</tr>
<tr>
<td>Recruitment and training of researchers and technologists</td>
<td>€145,000</td>
<td>€37,000</td>
<td>€0</td>
<td>€5,425,783</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AREA C: Transformation of the Campus towards a socially integrated model</th>
<th>€16,299</th>
<th>€16,631</th>
<th>€0</th>
<th>€32,930</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility improvements</td>
<td>€16,299</td>
<td>€16,631</td>
<td>€0</td>
<td>€0</td>
</tr>
<tr>
<td>Sustainability</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
<td>€32,930</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>AREA D: EHEA adaptation and implementation</th>
<th>€25,926</th>
<th>€91,498</th>
<th>€3,805,08</th>
<th>€3,925,932</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation in teaching activity</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
</tr>
<tr>
<td>Adaptation of classrooms, laboratories and services to EHEA requirements</td>
<td>€0</td>
<td>€0</td>
<td>€3,805,08</td>
<td>€0</td>
</tr>
<tr>
<td>Student employability</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
</tr>
<tr>
<td>Cooperation with secondary education and vocational training centres</td>
<td>€25,926</td>
<td>€91,498</td>
<td>€0</td>
<td>€3,925,932</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AREA E: Knowledge and technology transfer to the business sector</th>
<th>€19,945</th>
<th>€0</th>
<th>€0</th>
<th>€19,945</th>
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</thead>
<tbody>
<tr>
<td>Definition, implementation and consolidation of the CIT &amp; CITA</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
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<tr>
<td>Innovation programmes</td>
<td>€19,945</td>
<td>€0</td>
<td>€0</td>
<td>€19,945</td>
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<tr>
<td>Consolidation and internationalization of research valorization</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
<td>€19,945</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AREA F: Interaction between the campus and its surrounding environment</th>
<th>€1,870,763</th>
<th>€1,870,763</th>
<th>€1,870,763</th>
<th>€1,870,763</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation of educational, cultural, social and sports environments</td>
<td>€0</td>
<td>€0</td>
<td>€125,000</td>
<td>€0</td>
</tr>
<tr>
<td>Mobility</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
<td>€0</td>
</tr>
<tr>
<td>Built infrastructure</td>
<td>€0</td>
<td>€0</td>
<td>€1,745,763</td>
<td>€1,870,763</td>
</tr>
</tbody>
</table>

**Total** | €207,170 | €151,274 | €10,923,054 | €11,281,498 |

* This table reflects both the budget received from the Spanish Ministry of Education, Culture and Sport through the autonomous community and financing received through the R&D&i and Transfer Sub-programme of the Spanish Ministry of Economy and Competitiveness for the period January 2011–September 2012.

**Barcelona Knowledge Campus**