# CONTENTS

## PROJECT INFORMATION

## INTRODUCTION (SUMMARY)

## DESCRIPTION OF ACTIONS

- A. Improving educational programmes 6
- B. Improving scientific activities 10
- C. Transformation of the BKC to develop an integrated social model 14
- D. European Higher Education Area: adaptation and implementation 17
- E. Transfer to the business sector of knowledge and technology resulting from academic research 22
- F. Interaction between the campus and its physical environment 26

## PROJECT GOVERNANCE

## PROGRESS INDICATORS

## FUTURE MILESTONES

## USE OF RESOURCES
# PROJECT INFORMATION

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

**Acronym:** BKC

**Coordinating university:** University of Barcelona

**Participating / sponsor universities in the alliance:**

- University of Barcelona
- Universitat Politècnica de Catalunya

**Other sponsor institutions for the CEI:**

- Spanish National Research Council
- Barcelona City Council
- Barcelona Chamber of Commerce


**Period:** 2009-2010

**Names of coordinators for sponsor institutions:**

- Cristina Madrenas (UB)
- Mireia de la Rubia (UPC)

**Tel:** 93 403 5887 / 93 413 7623
**Fax:** 93 403 5404 / 93 413 7631

**E-mail:** cmadrenas@ub.edu / mireia.de.la.rubia@upc.edu

**Project website:** [http://bkc.ub.upc.edu/](http://bkc.ub.upc.edu/)
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 2009 and 2010 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.

For slightly over a year, the institutions participating in the alliance have worked to structure and put into effect a viable campus governance system with sufficient institutional recognition. The structure of the committees involved in running the Campus (Governance, Management and Tracking, Scientific Council, and Citizens’ Council) has been defined, and they have been actively pursuing their tasks with varying levels of impact (see explanation in the document on governance).

Progress has also been made on improving educational programmes through internationalization (based on the introduction of new international double degrees, intensification of talent recruitment, and the international presence of the BKC) and by including competences such as entrepreneurship and innovation in curricula. The scientific potential of the Campus has also been strengthened through a collaborative effort to merge scientific and technical services, upgrade equipment, modernize facilities, and recruit and train researchers and technologists. Work has been done to make the Campus more sustainable by putting in place tools to monitor energy use and improve efficiency, and remodelling spaces to facilitate access for people with reduced mobility. Significant changes have also been made to adapt to the requirements of the European Higher Education Area. The steps taken in this area have focused primarily on remodelling of classrooms, learning and innovation resource centres, and social spaces aimed at facilitating active, participatory education. This work has been carried out in collaboration with as many regional actors as possible. An International Welcome Point has also been launched to welcome visitors from abroad.

In 2011, progress is being made in strengthening relationships with vocational training programmes, an area where there is clear potential for improvement.

As for transferring knowledge and technology generated by academic research to the business sector, the BKC is a leader in Spain in exploiting research results based on transfer agreements, the establishment of new knowledge-based companies, and the
protection of intellectual property (under licences and patents). The success achieved in this area is exemplified by projects like the K2M programme, the activity of Innovation and Technology Centre member organizations, patent funds, and grants provided to develop proofs of concept (an essential step to assess project feasibility before getting closer to the market). Also, numerous events have been held on an ongoing basis to facilitate contact and exchange with the business sector. Taken together, the science and technology parks of the two coordinating institutions are the largest project of this type in Spain.

Despite the progress made, full implementation of the campus model is still a long way off. More work needs to be done on internationalization, and the entire educational community is yet to fully take on board the nature of the BKC alliance in the Avinguda Diagonal area, with the real coordination of all BKC institutions that the project implies. The International Doctoral School project is yet to be realized, pending the deployment of Royal Decree 99/2011 of 10 February. Measures are being taken to strengthen services and tools aimed at enhancing the student employability. It has not been possible to do all the upgrading and remodelling work needed to create the new environment required for studies adapted to the Bologna system. And the CICRIT building — one of the most emblematic campus projects — is being delayed as a result of current financial constraints, which are also making it more difficult to facilitate access to global markets and commercially exploit the technology generated by research.

More progress would have been possible had the funding assigned in the decision to establish the BKC as a Centre of International Excellence actually reached the Campus in the terms approved by the Catalan Government. Despite the financial shortfall, the determination and effort of the two universities involved, together with a firm belief in the importance of establishing a global campus in the Avinguda Diagonal area, have made it possible to carry out a significant set of actions aimed at achieving the project’s main goals. Moreover, some additional funding has been provided by the Ministry of Science and Innovation (under Sub-Programme B in 2009 and Innocampus 2010) and the Ministry of Education (under a programme aimed at strengthening institutions). Combined with resources that the two universities have made a considerable effort to mobilize, this financial support has made it possible to launch or strengthen a number of BKC projects that hold great promise for the future.
DESCRIPTION OF ACTIONS

A. IMPROVING EDUCATIONAL PROGRAMMES

A1. International positioning

Actions in this strand are aimed at establishing the Barcelona Knowledge Campus (BKC) as an international leader that is recognized for the outstanding quality of its educational programmes, particularly master’s and doctoral courses.

Progress towards objectives

Since the BKC was recognized as a Campus of International Excellence, a considerable effort has been made to position the Campus internationally. A higher proportion of master’s programmes are now taught entirely in English – mainly in engineering and technology studies – and the number of English-language activities for all segments of the university population has increased. These actions are reinforced by the creation of the new International Welcome Point (IWP), a highly visible multipurpose space meant to effectively meet the needs of foreign visitors that is centrally located on the North Campus. A second IWP is planned in the CICRIT building to be constructed on the South Campus of the BKC.

Other significant developments include the establishment of contacts for hiring of postdoctoral researchers, assessment of candidates for higher cycles through exchange programmes, a BKC grant scheme aimed at attracting talent, and the establishment of agreements with universities in China and Latin America to introduce double degrees for the coming academic year.

Description of the work done and the role of participants

The International Relations Service has promoted BKC educational programmes at a number of international fairs. In 2010, the BKC was present at events such as the European Higher Education Fair – EHEF (China), Study World (Germany), the Forum International de l’Etudiant (Morocco), the Bio International Convention (USA), Expo Estudiantes (Chile), the NAFSA Annual Conference and Expo (USA), the Biospain International Meeting on Biotechnology (Spain), the China Education Expo (China), the International Fair of Italy, and the International Fair of France.

Other measures to attract students include updating of information documents and their translation into English and Chinese, and the review and adaptation of the content of websites for campus schools and the BKC site. In addition to serving students, the BKC website is now an international access point for researchers, lecturers, and other groups.
Most significant results

In 2010, an agreement was signed to create a common curriculum path that allows students of the Barcelona School of Civil Engineering and Tongji University, one of China’s most prestigious higher education institutions, to earn a double degree recognized by both institutions. When they complete the curriculum path, graduates receive two degrees: a master’s degree in Engineering from the Chinese university and a bachelor’s degree in Civil Engineering.

A second double degree agreement was entered into for the master’s degree in Information Technologies in combination with three degrees offered by Pontificia Universidad Católica del Perú: a master’s degree in Informatics, a master’s degree in Informatics with specialization in Computer Science, and a master’s degree in Informatics with specialization in Software Engineering. In Spain, the agreement with Tongji University is the first of its kind with a Chinese university. It will lead to an increase in the number of Asian students studying at the BKC and facilitate student mobility between Spain and China, while the agreement with the Peruvian university has also strengthened the BKC’s links with Latin America. In the social sciences, the BKC Law School has established a double degree with Nova Southeastern University (Florida, USA) that is recognized by both institutions.

In addition, over 50 language courses have been offered in collaboration with the Official Language School, the School of Modern Languages, and the Linguistic Immersion Programme. Ten editions of the course ‘Basic Skills and Tools to Teach Content Subjects in English’ were also offered between March and July 2010.

A2. International Postgraduate and Doctoral School

The main objective for this strand of action is to set up an International Postgraduate and Doctoral School with a single coordination and management structure for the whole Campus, encompassing specialized programmes in the life sciences, social sciences, and technology fields.

Progress towards objectives

Evaluation and monitoring procedures for doctoral courses have been harmonized in line with EHEA criteria, and a Doctoral Student Council has been set up.

Description of the work done and the role of participants

The UB is engaged in an internal restructuring of its doctoral courses, and BKC staff are participating in the University’s Doctoral Studies Committee, which is responsible for restructuring programmes and setting up the Doctoral School. In 2009, the UPC focused on updating academic and administrative regulations for its doctoral courses and started to design a new structure for doctoral studies, which will lead to the creation of the Doctoral School.

Apart from the system of academic and administrative organization, one of the key aspects of the Doctoral School is a strategic focus on the role of doctoral students. This emphasis has led to the setting up of a UPC Doctoral Student Council that includes all students enrolled in doctoral studies.
Most significant results

In 2009, a pilot plan for the UPC Doctoral School was approved with the mission of developing an organizational model with an academic and administrative focus on doctoral studies. The goal was to create a student- and lecturer-oriented model that would ensure the quality of course offerings, guarantee effective programme management, and foster inter-university cooperation at the national and international level.

For its part, the UB set up a committee to study the doctoral project. The committee produced an exhaustive report on the current situation of doctoral studies at the UB, within the framework of universities that belong to the League of European Research Universities (LERU).

Meetings between the organizational units of each university were held in 2010, and progress has been made in setting up campus governance bodies and drafting the documents that define their functions.

A3. Entrepreneurship and innovation

Actions related to entrepreneurship and innovation are aimed at creating research and educational programmes that focus on these factors in order to attract students, enhance their employability, and increase knowledge transfer.

Progress towards objectives

The period covered by this report saw the launch of I2E2 (the Institute for Innovation and Entrepreneurship), a network that offers an educational programme that encompasses bachelor’s degree and postgraduate studies, specialization courses, and lifelong learning. The I2E2 network grew out of the need for an open, high-quality, international, ‘without distances’, online course programme that focuses on applied training and practical experience to complement theoretical studies, and brings together the best teaching staff, technical resources, and infrastructure.

Through the INNOVA programme, the BKC has also been working to support existing first- and second-cycle courses on how to launch a company and to introduce courses of this type on curricula where they are not yet included. A protocol for teaching this subject has been developed and is being used to guide the creation of new courses and the progressive adoption of best practices in existing ones. Courses offered at the BKC – including one on launching university spin-offs, offered by the International Innovation and Entrepreneurship School – are aimed at developing and spreading an entrepreneurial spirit, fostering a culture of innovation, supporting entrepreneurs, and helping businesses grow.

Description of the work done and the role of participants

Measures have been taken to communicate the educational programmes and resources of I2E2 member universities, and new educational programmes and other products and activities for sharing knowledge on innovation and entrepreneurship have been organized. These activities are aimed at experts on knowledge and technology transfer, innovation, and entrepreneurship; entrepreneurs, students, and professionals working in government and private enterprise.

A course on entrepreneurship and how to set up a company now links learning activity to research projects pursued by lecturers at the school. This contact offers students a valuable learning experience and enhances the value of the course. Students work in groups to develop
a business plan based on a particular business idea – a product or service, preferably based on
the technological opportunities generated in a research group – and assess the prospects for
commercial exploitation based on patents and spin-offs.

Finally, conferences on best practices have been organized. These sessions – aimed at
students, researchers, entrepreneurs, and professionals – seek to highlight the importance of
pursuing innovation and launching companies, as well as providing training on topics related to
entrepreneurship, innovation, and technology transfer.

**Most significant results**

In the 2009-10 academic year, an analysis of the programmes currently offered by the
universities that make up the I2E2 network was completed, the brand was designed, and a
framework for the regulations, organization and activity of the network was put in place.

Over 300 students enrolled in technical programmes have completed courses on
entrepreneurship and how to launch a company. Students learn about and apply basic
principles of economics and human resources management, and develop an understanding of
labour regulations and relationships between planning, industrial and commercial strategy,
quality and profit.

In addition, in 2009 and 2010 some 250 individuals took part in training activities that focused
on issues related to entrepreneurship and innovation. The topics covered included financing
(where to seek it and how to go about it), types of grants and subsidies, private financing,
protection of technology, internationalization, and business plan success factors.
B. IMPROVING SCIENTIFIC ACTIVITIES

B1. Merging and coordination of scientific infrastructure and Scientific and Technical Service units

This action has two broad objectives: to merge infrastructure and the units that provide Scientific and Technical Services (SCT) for life sciences specializations, and to organize SCT for technology specializations and ensure that they are managed in a coordinated manner.

Progress towards objectives

Coordination of SCT for technological disciplines was improved in 2010, and a joint catalogue of BKC Scientific and Technical Services is being developed. The joint publication, created by merging the catalogues of the institutions participating in the alliance (the UB, UPC and CSIC), will be available at the BKC website by the summer of 2011.

Description of the work done and the role of participants

The UPC’s Scientific and Technical Services have reorganized and produced their catalogue of services and equipment, with the participation of the Office of the Scientific and Technological Website. In preparation for the launch of the site, an inventory of the equipment available was taken, and a web platform for performing online searches was designed. These tools were already available at the UB.

The UB, UPC and CSIC have signed agreements (NANO-BKC and COSMOS-SCITECH-BKC) that will enable research groups working on the BKC to use campus facilities and services in their respective areas, regardless of the institution the researchers are attached to. The plan is to extend these initiatives to include the geological and biological sciences between 2011 and 2012.

Most significant results

The first catalogue of the University of Barcelona’s SCT to include the common equipment and services available at the BKC has been produced.

The period covered by this report also saw the launch of the Scientific and Technological Website – PCT-UPC, a web-based tool that brings together all campus services and equipment for technological research and enables users to perform online searches.

The website is the first step in the creation of a network that will allow users to quickly and easily find out what equipment and services are available on the Campus and make any necessary contacts. The network will facilitate coordinated management of the BKC’s Scientific and Technical Services. Currently at the pilot stage, the site now includes 108 services and 637 pieces of equipment linked to research groups in different areas.

The NANO-BKC initiative in nanoscience and nanotechnology, and COSMOS-SCITECH-BKC in cosmos and space sciences facilitate shared use of the scientific and technological Campus-based facilities of the UB, UPC and CSIC.
B2. Upgrading of scientific and technological equipment and modernization of facilities

Actions carried out in this strand focus on the following objectives: to enhance research conducted by scientific groups by modernizing and acquiring instruments for laboratories, services, workshops, and joint research spaces; and to launch new research units and transfer actions aimed at boosting the scientific capacity of the Campus.

Progress towards objectives

The facilities of some BKC schools have been renovated, upgraded, and outfitted with new equipment. The completion of this process will facilitate effective and efficient use of these spaces for research purposes. These actions provide the infrastructure needed for current users of the Campus to conduct high-quality research and participate in cutting-edge international projects. They also make it easier to attract potential users and researchers who would like to use the facilities and get involved in research carried out at the Campus. One piece of equipment that has this kind of ‘magnet effect’ is the wave flume, a leading scientific facility in Europe that is recognized by the European Union as a ‘large-scale facility’ and by the Spanish government as a ‘singular scientific and technical facility’ (ICTS).

Description of the work done and the role of participants

A high-throughput DNA sequencer has been purchased for the SCT and is now operating at full capacity. The data processing centre of the University of Barcelona’s Institute of Theoretical and Computational Chemistry (IQTCUB) has been expanded, and a new high-performance computing system has been made available to researchers. The system has doubled the IQTCUB’s computing power and will allow for more efficient use of the computing services of the Supercomputing Centre of Catalonia (CESCA) and the Barcelona Supercomputing Centre (BSC) of the BKC. There are also plans to install the BKC Data Processing Centre, submitted in response to the INNOCAMPUS 2010 call for proposals, in the basement of the Barcelona Science Park’s Cluster II building.

Other measures include the upgrading of the School of Geology’s thin-film service, remodelling work on laboratories in the School of Physics and Chemistry (upgrading of fume cupboards), and expansion of the space used by the cryogenics service to store liquid nitrogen dewars.

The geotechnics laboratory has been enlarged to accommodate a new hydraulic press, the anechoic chamber has been converted into the audiovisual production laboratory, and the control chamber has been enlarged. Work has also been done on the electrical installations of the new recording studio located on the basement level of one of the campus modules.
The Maritime Research and Experimentation Wave Flume (CIEM), managed by the UPC's Maritime Engineering Laboratory (LIM) has also been upgraded. The facility is one of the world's largest wave flumes for performing testing in coastal and port engineering. The ChemBioBank laboratory was also launched in 2010. The facility, located in the Barcelona Science Park (PCB) on the BKC, will gradually build up its international database of chemical and biological compounds.

Finally, the PCB is proceeding with its stage II construction work. This phase will include the construction of new spaces for the Platform for Applied Research on Laboratory Animals (PRAAL), consisting of 3150 m² for its specific use. In 2010, the PRAAL acquired equipment necessary for its operation (washing and sterilization equipment, and a handling robot), and the budget for work and facilities was approved.

Most significant results

The LIM has played a key role in coordinating the FIELD_AC project (Fluxes, Interactions and Environment at the Land-Ocean Boundary – Downscaling, Assimilation and Coupling), funded under the EU’s Seventh Framework Programme, and is also participating in the fourth and final stage of the European Hydralab IV project. Within the framework of this project, the LIM will continue to offer European researchers access to the state-of-the-art CIEM facility for another four years.

As for the ChemBioBank, in 2010 all the necessary investments were made to develop aspects of the project related to chemical analysis and logistics (apart from consumables) and the ChemBioBank database. These steps have made it possible for the ChemBioBank to carry out procedures for a series of compounds sent by two laboratories. The laboratories and associated data were recorded in the ChemBioBank database.

B3. Recruitment and training of researchers and technologists

Actions in this strand are aimed at facilitating international training of academic staff, promoting international postdoctoral stays, and encouraging the return of outstanding researchers with international training.

Progress towards objectives

In 2010, researchers started to take up positions at BKC schools under postdoctoral grants, thus fulfilling the objective of recruiting talent under contracts that enable researchers to contribute to improving scientific activities on the Campus.

Description of the work done and the role of participants

Predoctoral grants were offered to fund doctoral studies, and postdoctoral grants for researchers interested in pursuing their research in BKC departments, in the experimental, health and social sciences, and humanities. Predoctoral grants have a duration of two years and may be extended for an additional two years, while postdoctoral grants have a duration of one year and may also be extended for two additional years. The call for applications was publicized on the BKC website and by advertising in publications such as *Naturejobs*.
Most significant results

In the experimental, health and social sciences, and humanities, more than 30 predoctoral grants were provided for trainee research staff in 2010 (grants with a duration of two years that may be extended for an additional two years). In the same areas, grants were provided to hire nearly 20 postdoctoral researchers, and a call for applications was issued to fill 41 tenure-track 1 lecturer posts at the BKC.
C. TRANSFORMATION OF THE CAMPUS TO DEVELOP AN INTEGRATED SOCIAL MODEL

C1. Improvements in accessibility

These improvements are aimed at ensuring the universal accessibility of the BKC and all its facilities and services, adapting emergency and evacuation systems to meet the needs of the disabled, and ensuring that technological and management systems guarantee the safety of all individuals.

Progress towards objectives

A process has been initiated to remove architectural barriers, increase the number of parking spaces reserved for people with reduced mobility, and improve accessibility of information. Steps are also being taken to facilitate access to physical spaces and website information for all persons and ensure that accessibility is part of the University’s culture.

Description of the work done and the role of participants

During the period covered by this report, steps were taken to expand and improve spaces used for loading and unloading goods at our BKC centres, and barriers to the free circulation of vehicles and people were eliminated. These steps have also made the centres more accessible to people with reduced mobility. Automatic doors and railings have also been installed.

A plan to improve conditions for the evacuation of buildings was also put into effect based on with the recommendations of the Occupational Health and Safety Service. Measures include the adaptation of the reception area to serve as an emergency alarm station, improvements to emergency exit routes, the installation of signing, and painting of emergency exit doors.

An accessibility audit was also performed for the ATENEA e-learning platform, the intranet used by students of the Barcelona School of Informatics, the system for managing the content of the BKC website, and other sites, such as the TV channel, news clips, and the search engine.

Most significant results

Actions initiated in 2010 have increased the number of parking spaces reserved for people with reduced mobility on streets that run through the BKC, and facilities such as the side access ramp at the School of Fine Arts have made access easier for members of this group.

The UPC is the first Spanish university to receive accessibility certification from Technosite and Euracert based on compliance with W3C guidelines for the accessibility of website content (Technosite-Euracert ‘Double A’ requirements based on W3C-WAI accessibility guidelines for Web 1.0 content, and the requirements that apply to meet standard UNE 139803:2004). The UPC’s contribution in this area will play a crucial role when it comes to obtaining this certification for the entire Campus.
C2. Sustainability

The key objectives for this strand are to reduce the negative environmental impact of the BKC by promoting distributed generation of energy and reducing emissions, power and water consumption, and production of municipal waste; and to transform the BKC into a sustainable campus that serves as an international model.

Progress towards objectives

Measures are being implemented to manage resources effectively by monitoring consumption and applying sustainability criteria in the BKC’s institutional activities. These steps make it possible to monitor and give a regular accounting of performance, while also ensuring that the action taken is consistent and visible, and that it reinforces and puts into practice a new culture of sustainability.

Description of the work done and the role of participants

During the period covered by this report, a system was installed for monitoring the power consumed by air conditioning systems in buildings such as the library, and meter points were installed on the North Campus. In addition, an environmental consultancy provided advice on the development of the UPC’s energy efficiency programme (UPCO2) and verification of data collected by SIRENA (an online tool used to access information on water and power consumption on the Campus and determine the current situation as starting point for improvement).

Steps have also been taken to reduce noise pollution in schools, including the School of Economics and Business Studies, where insulation has been installed to dampen vibrations caused by the cooling plant, and the School of Pharmacy, where measures have been taken to reduce noise produced by generating sets, and roof surfaces have been repaired to prevent energy loss.

With respect to waste management and storage, the existing storage area in the School of Biology has been adapted for storage of any type of waste produced by the school’s laboratories, and appropriate spaces and tools for waste management have been put in place. 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 Separated Collection has been applied in the K2M building).

Most significant results

The SIRENA09 report, presented in May 2010, reports on sustainability performance, the evolution of power and water consumption on the Campus, and associated emissions. One of its conclusions was that gas consumption had declined by 15% in relation to the previous year; while electricity consumption had risen by 2% (consumption per square metre remained constant). Water consumption has continued to follow a downward trend that began in 2008 when Catalonia entered a period of drought. In 2009, water consumption was 26% lower than in 2007 (before the drought hit).
A zero waste project has also been launched to test waste prevention measures being considered for the city. The results, which the universities will report to the Barcelona City Council in the near future, will be taken into account in negotiations to reach an agreement on special treatment for the Campus with respect to waste management (in terms of both the management model and the rates applied). Special treatment is being requested based on the benefit the city will receive as a result of the universities applying their know-how in the development of replicable actions.

Finally, in 2010 the Interdisciplinary Group on Building Science and Technology organized the LOW TECH conference to showcase technologies that have a low environmental impact and are more sustainable than conventional building methods. The focus was on real experiences and buildings constructed based on contemporary parameters and requirements for safety and comfort.
D. EUROPEAN HIGHER EDUCATION AREA: ADAPTATION AND IMPLEMENTATION

D1. Innovation in teaching activity

Actions in this strand are aimed at strengthening activities that focus on innovation in teaching and promote the participation of teaching staff in educational research activities.

Progress towards objectives

The use of new technologies has become a normal part of the learning process, and involvement of teaching staff in the design of new teaching methods has increased.

Description of the work done and the role of participants

In 2010, the ATENEA Saurus platform was introduced. ATENEA Saurus is an environment for managing the historical records service of the ATENEA virtual campus.

ATENEA – developed using the Moodle open software platform – is the UPC’s virtual teaching environment. ATENEA Saurus, a new platform that is independent of ATENEA, stores course-related documents and information on their structure for up to three academic years, without recording any information on student activity.

At the end of last year, the Barcelona School of Telecommunications Engineering (ETSETB) made material for the Technology and Culture course (taught by one of the school’s lecturers) available to students in the form of a podcast. This new platform can be used to communicate a broad range of academic material to anyone with an interest in the subjects covered. For its part, the UB has adapted its virtual campus, which was also developed based on Moodle software. Applications previously in use have been replaced, and content has been enhanced and updated.

Most significant results

In parallel with the introduction of ATENEA Saurus, the ATENEA Labs environment has also been developed. Like ATENEA Saurus, ATENEA Labs is independent of the ATENEA virtual campus. The environment will be used as a working space to carry out testing and pursue innovative projects without interfering with the normal operation of the campus.

The pilot version of the Technology and Culture podcast, now available for download here, covers the entire course, which is taught in English. It includes 11 tracks that can be listened to at the website or downloaded to an iPhone, iPod Touch, or computer.
D2. Adaptation of spaces, classrooms and services to EHEA requirements

Actions in this strand are aimed at adapting campus spaces and services to new requirements associated with the teaching and learning methods of the European Higher Education Area (EHEA).

Progress towards objectives

The BKC has modernized the equipment used in the computer rooms of its schools and increased universal access with high-capacity internet bandwidth. Resource Centres for Learning and Research (CRAIs) have also been upgraded so that they can play an effective role in enhancing the services offered to the university community in general and the Campus in particular.

Description of the work done and the role of participants

Adaptation of spaces to EHEA requirements has involved a number of specific actions: computer equipment, programs and infrastructure have been modernized; there has been an increase in the percentage of classrooms with WiFi, classrooms with video projectors, and videoconferencing rooms; computer rooms have been adapted to comply with new guidelines; a data line has been installed; and emerging technologies are being used. Lecture room buildings have been fully adapted to new requirements: smaller spaces have been created, and classrooms are now equipped with outlets and network connections to facilitate connection of students’ computers with any configuration of routing tables. Small classrooms have been adapted to facilitate teamwork and preparation of presentations, in line with new approaches to education within the European framework.

Other actions in this area include upgrading of the graphic design classroom in the School of Fine Arts on the South Campus. The classroom has been equipped with 19 iMac computers that are specially adapted to operate with graphic design applications, 19 digital recorders, and software packages suitable for graphic design. In the School of Physics, two 160-kVA uninterruptible power supply (UPS) units were acquired. The UPS units ensure a stable power supply in computer rooms, which is essential to avoid problems when carrying out computing and system simulation activities in physics and engineering. Work has also started on upgrading backbone equipment in 40 buildings. When the work is completed, these buildings will be connected to the campus network via gigabit links.
As for adaptation of Resource Centres for Learning and Research (CRAIs), renovation work has been done at the Rector Gabriel Ferraté Library (BRGF) to create a single entrance, upgrade ICT systems, provide new spaces for social contact (mainly for students), and accommodate the International Welcome Point. The new Barcelona Architecture Library has also been converted into a CRAI. The new centre has four individual workrooms on the first floor and a computer area where the free Granola power management software has been installed to reduce energy consumption. One of the computers is adapted for visually impaired users.

To facilitate access for people with reduced mobility, the library has an elevator and a corridor on the basement level connects the building to the Architecture School. On the South Campus, the BKC Fine Arts Library has also been remodelled to adapt it to EHEA requirements. As part of this process, the basement has been renovated for use by the University’s audiovisual service. Finally, work has been done in the library of the School of Economics and Business Studies to adapt small rooms for groups made up of a limited number of students to use as work and study spaces.

Most significant results

All the work done to upgrade and adapt facilities reflects a shift away from the traditional teaching format and towards forms of learning proposed in EHEA guidelines. The changes also reflect a focus on the work-related needs of students and lecturers. Steps have been taken to upgrade some of the scientific equipment used for teaching in BKC spaces, laboratories used for practice sessions and research at experimental centres, and teaching spaces, where new technologies have been introduced (computers, projectors, electronic blackboards, WiFi, etc).

In addition to ensuring adaptation to EHEA requirements, the changes made in these spaces have created a better learning and working environment thanks to improvements to ventilation and heating systems and the installation of appropriate furnishings and audiovisual equipment.

D3. Student employability

Action in this strand is aimed at enhancing graduate employability, facilitating paid work near the Campus, offering work placements that develop professional skills, and providing additional support in the form of a job bank, seminars on entrepreneurial skills, and other similar forms of assistance.

Progress towards objectives

During the period covered by this report, the BKC implemented numerous measures to enhance the employability of students. These include increasing the level of specialization in the academic curriculum, advising students in the initial stages of entering the labour market, and managing job offers, which in the first half of 2010 increased by 15% over the previous period.

Description of the work done and the role of participants

The UB has created the Alumni UB agency to support ex-students and boost their visibility. Alumni UB offers professional career services and advice, networking opportunities, and information and training events in all areas of interest (seminars, lectures and meetings).

BKC schools have also worked with the Student Services Office (SAE) and the Association of Friends of the UPC (AAUPC) to organize a series of lectures and roundtable discussions for the
disciplines taught on the Campus. These events are aimed at providing students with tools to help them in their job search and orientation regarding skills that could complement their academic training and ease their entry into the labour market.

Vocational guidance interviews – a service offered by the Student Services Office on the BKC – have also been conducted. Professional vocational counsellors help students review their job search strategy or work out the best approach to take based on their personal and professional profile. The questions posed by students focus on how to start looking for work, how to change jobs, checking CVs and covering letters, supervising the job search strategy initiated, and requests for specific advice on job interviews.

The Student Services Office also offers courses that complement study plans for campus programmes. These courses are designed to help students develop work skills and find employment, and instructors are specialists in preparing students to enter the world of employment. The courses, which are eligible for academic recognition, were offered in the first semester of the 2010-11 academic year in collaboration with the Barcelona City Council.

Finally, the AAUPC’s Employment Bureau operates the Technical Universities, Disability and Employment website, which offers a way for disabled graduates of technical universities to connect with companies, and with institutions and services whose mission is to help disabled graduates find employment and pursue their careers.

Most significant results

One of the most significant results in this area is the creation of the Job Club, a free service that offers job search information and advice, and helps students define their career goals. Users have access to company addresses, the Porta22-UB ‘Antenna’ (a career guidance and employment service), information on job offers, and other resources.

Contacts with companies to arrange work placements have also been intensified, and a number of reports on the labour market in engineering and technology fields have been produced.

D4. Cooperation programmes with secondary and vocational training schools

These programmes are aimed at strengthening coordination with secondary and vocational training schools to encourage them to make use of campus infrastructure and services. Other objectives are to attract the most talented individuals and help students as they move on to higher education and make other transitions over the course of their careers.

Progress towards objectives

Programmes implemented for this strand of action have involved providing potential students with information on BKC educational programmes and encouraging talented individuals to enrol in undergraduate studies.

Description of the work done and the role of participants

The work done in this strand of action has focused mainly on organizing special days, summer campuses, and seminars aimed at students enrolled in secondary school and higher training cycles, and teachers working at these levels. Projects include, for example, the first ‘Youth
Research’ show, which was held in the nearby district of Sarrià–Sant Gervasi and involved about one hundred upper secondary students.

**Most significant results**

In the summer of 2010, Science Campuses were organized for secondary school students. In the month of July, the BKC and the Universitat Autònoma de Barcelona (UAB) welcomed Year 10 and Year 11 students from all over Spain. Participants in the Summer Science Campuses offered by the Spanish Foundation for Science and Technology (FECYT) and the Ministry of Education were selected on the basis of academic merit.

The 16th edition of the Catalan Summer School on Nature (UCEN) was also held last summer. The programme is organized within the framework of the recently created Exploratori dels Recursos de la Natura (ERN), which offers courses on earth and environmental sciences for students and teachers of these subjects. The courses are part of the Lifelong Learning Plan for Secondary School Teachers.

Actions aimed at the female population were also carried out within this strand. Girls4Bits focuses on the perspective of women and is aimed especially at secondary school students and the informatics engineering profession. Another notable initiative is ‘Amb ulls de dona / con ojos de mujer’ (‘With a Woman’s Eyes’), a programme aimed at encouraging young women to pursue careers in science.
E. TRANSFER TO THE BUSINESS SECTOR OF KNOWLEDGE AND TECHNOLOGY RESULTING FROM ACADEMIC RESEARCH

E1. Definition, launching and implementation of the CIT

The purpose of these actions is to create an Innovation and Technology Centre (CIT) in order to consolidate international leadership in R&D in the scientific and technological disciplines being developed at the BKC.

Progress towards objectives

The Innovation and Technology Centre (CIT-UPC) was created in November 2009 by virtue of Government Agreement 196/2009 for the purpose of consolidating international R&D leadership in the disciplines currently being developed at the UPC and the UB. But it was not until mid-2010 that the CIT was in fact launched and started taking initial steps to unite the research groups and centres of the two universities.

Description of the work done and the role of participants

An action plan was drawn up that sets out plans for activities to be carried out in the CIT’s first year, for the CIT’s relations with other institutions and with the market, and for the formalization of the CIT’s structure. Internal actions that have been carried out on an ongoing basis include coordination meetings involving the directors of the various centres and operational meetings involving the centres’ sponsors. External actions have included institutional meetings involving representatives of various government ministries and agencies and registration of the CIT as an applicant for projects. Actions taken in 2010 to improve the CIT’s market position have included direct collaboration with companies in the form of 14 institutional meetings held at the university with major Spanish and international companies, in addition to more than 40 on-site visits to companies.

The University of Barcelona’s CITA (CITA-UB) has started up six innovation and advanced-technology programmes in the following areas: food safety and quality, sustainable development, industrial process improvement, information and knowledge society, health and quality of life, and social and economic sciences. CITA-UB is managed by the Bosch i Gimpera Foundation and the UPC Park.

Most significant results

The CIT has held meetings with ACC1Ó and applied for grants to help launch the CIT’s technology dissemination efforts. In the last quarter, the CIT appointed a new director and support specialist to spearhead major tasks, and space for the CIT’s main offices was provided on the ground floor of the K2M building.

In addition, a catalogue of profiles has been put together to showcase the technological capacities of each innovation programme and the various work units involved. In the framework of joint CITA-UB/company projects, efforts have been made to strengthen the shared dynamics of the various CITA-UB work units, to orient the centre towards the companies’ needs, and to internationalize the CITA-UB.
E2. Programmes to stimulate innovation

These programmes aim to increase the transfer of knowledge from universities to society, to professionalize innovation management within research groups, to create new incubation facilities for collaborative projects, and to achieve a greater intensity of service provision.

Progress towards objectives

In October 2009, the K2M building – which hosts participants in the K2M programme, an initiative that aims to achieve the full and effective transfer of technologies to the productive sector – reached maximum occupancy. The building currently hosts eight research groups, four research centres and affiliated entities, and nine companies. A total of 200 people – representing all parts of the university community, from professors to interns – work in the K2M building.

In 2010, steps were taken towards starting up the International Centre for Business Accommodation. Spaces are being remodelled to accommodate international companies capable of stimulating university-to-society transfer.

The university-business programme has worked to open up the business world to university faculty by demonstrating how companies operate and are organized, and by encouraging dialogue between the worlds of education and business. Interaction between the universities and the rest of society has also been promoted, thereby strengthening ties with the socioeconomic environment. The process of stimulating technological innovation in small and medium enterprises has been supported by incorporating the BKC’s human capital into the fabric of industry.

Description of the work done and the role of participants

In 2010, due to the ongoing recession and the need to create jobs, steps were taken to expand the K2M programme. By the end of the year, the K2M building had reached 100% occupancy and a waiting list had been formed. KF K2M sessions were held periodically to highlight topics of general interest to the community and to provide speakers and audience members with an opportunity to network and share ideas and experiences.

The facilities of the Barcelona Science Park are being remodelled to accommodate some of the international companies currently located on the BKC. Specifically, a 200 m² module is currently being converted into two 100 m² laboratories, one for biology and the other for chemistry, which will be available to the international companies temporarily in residence at the PCB.
**Most significant results**

During this period, K2M firmly established itself as a programme capable of helping resident companies and research groups to increase their success level and reduce their risk of failure. K2M forms part of a strategic enclave dedicated to achieving regional economic development by transforming knowledge into innovative business practice and promoting organizations that develop high-added-value products and create jobs, which in the long term translates into sustainable development.

As part of a programme to stimulate innovation, ten graduates of an innovation-management course joined ten small and medium enterprises. The Catalan Government awarded two InnoEmpresa grants to participating companies, and four of the companies offered permanent positions to innovation specialists.

At the proposal of the FemCAT employers’ association, the 1st University and Business Conference was held to highlight the operation and organization of companies and encourage dialogue between the worlds of education and business. The third edition of a course on innovation-management stimulation was also held.

**E3. Consolidating and internationalizing the exploitation of research results**

The main objectives of this area of action are to consolidate and internationalize the exploitation of research results, to stimulate the transfer of technology, to professionalize knowledge transfer and the exploitation of research results, to incorporate assessment mechanisms and to implement a spin-off model.

**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.

The programme to promote transfer in the humanities and social sciences is making it possible to showcase and transfer the knowledge generated by research groups in those disciplines that had not previously carried out any transfer activities, or had done so only to a limited extent, and also to create a culture of innovation and enterprise among researchers and students in these disciplines.

**Description of the work done and the role of participants**

Actions have been taken to identify lines of work being pursued by researchers that could be transformed into marketable services of interest to companies or institutions. Catalogues have been put together that classify research groups and centres by the main business sectors in which they could provide services. A unit dedicated to the exploitation of research results was created to consolidate the model of university participation in spin-offs and monitor universities’ involvement.

In 2010, efforts were made to raise the profile of the Patents and Licenses Office among the research community by improving the office’s website and providing, upon request, direct access to a digital tool that researchers can use to monitor the status of patented inventions. One of the first tasks carried out in this regard was the creation of a system for prioritizing
patent portfolios using parameters based on indicators of patent quality, of technology quality, and of appropriateness to real market needs.

With the objective of increasing the number of projects protected by patent, trade secret or intellectual-property registration, steps have been taken to increase the detection of new technologies and provide research groups with incentives to communicate their research results. Other steps have also been taken to analyse and protect these research results: interviews to identify services that could be offered through transfer to society and the productive sector, the organization of informational sessions on the peculiarities of doing university-based work for companies and institutions, and talks on how humanities and social-sciences researchers can encourage the professionalization of transfer services and create their own companies.

In response to specific training needs detected in some research groups and departments, custom sessions have been organized. Designed to improve the detection process, these sessions have led to more research results being detected and more inventions being appraised.

In yet another area, work was done to support the Bioincubator. The Barcelona Science Park’s Scientific Area has continually provided companies with advice on a number of issues related specifically to their residence at the park. During this period, assistance was provided to several companies in redefining their business plans and seeking financing. Contact was made with potential venture-capital investors, industrial investors and business angels, and grants were requested for the companies to carry out collaboration projects.

Most significant results

During this period, an increase has been seen in the number of protected projects, international patents requested and granted, and technology-based enterprises created. A new 42.25 m² laboratory was built in the Hélix building to expand the programme to foster the creation of technology-based enterprises.

The programme for promoting knowledge transfer in the humanities and social sciences received a boost with the hiring of a specialist in knowledge transfer in this sector.

Participation has been active in international fairs and brokerage events, as well as in international networks such as ProTon Europe and Red Emprendia, with the Bosch i Gimpera Foundation acting as technical secretariat.
F. INTERACTION BETWEEN THE CAMPUS AND ITS PHYSICAL ENVIRONMENT

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

These actions are intended to reshape the existing urban space of the BKC into a new concept of campus that is more accessible and capable of attracting talent and economic activity by integrating and strengthening participation mechanisms and by offering campus services that make the BKC an ideal place to live, study and work.

Progress towards objectives

The BKC has been made more accessible in urbanistic and social terms, and interaction between the university and society has been strengthened through policies to promote social activities and sporting events held on the Campus in conjunction with the city’s neighbourhood associations and organizations. Progress has also been made from a city-planning perspective; a campus once isolated from its environment is now better connected and integrated with the surrounding neighbourhoods and even serves as a north-south thoroughfare for both vehicles and pedestrians.

Description of the work done and the role of participants

In 2009 and 2010, urban renewal work was carried out on the BKC’s university facilities and some of its public spaces. One example of this is the reorganization of the Biology and Geology parking lots in order to transform the “Gaudí Gate” located in the centre of this area into a social learning space accessible to students.

In October 2010, the UB and the Barcelona City Council signed an agreement intended to promote sports and the use of the BKC’s facilities, as well as to awaken the surrounding community to the possibilities that the Campus offers to society. Under this four-year agreement, people who live or work in the district of Les Corts, where the BKC is located, will be able to use the Campus’s sports complex at special rates, obtain discounts, participate in exercise classes, and use the complex’s services and free parking lot. Located on Avinguda Diagonal, the BKC’s sports complex includes a swimming pool, two football fields, several tennis courts, various rooms for exercise classes, a running track, a children’s play area, and other facilities.

Most significant results

Thanks to the renewal of several South Campus streets adjacent to the Nanoengineering Research Centre (the first building inaugurated as part of the BKC) and the new Barcelona Architecture Library, this area has emerged as a true city space, not only for students and neighbours but also for visitors to two nearby venues that host international events: the Conference Centre of Catalonia and the Pedralbes Royal Palace.

Adjacent to the School of Biology, the space previously occupied by a “memorial to the fallen” has been converted into a cozy landscaped corner – a perfect gathering place for members of the university community and society at large.

Under an agreement with the Barcelona City Council, anyone who lives or works in the district of Les Corts is entitled to special deals on access to the BKC’s sports complex. Promotional
membership rates have been offered to residents of the neighbourhood, and approximately 100 have joined so far.

**F2. Mobility**

The mobility objectives are to promote bicycle use as much as possible, to transform the BKC into a walkable campus with good links between buildings, and to encourage the use of collective public transport.

**Progress towards objectives**

Progress has been made towards transforming the BKC into a pedestrian-friendly campus, with a sustainable, low-pollution transport system that discourages the use of private vehicles, in particular through the consolidation of Bicicampus. This project encourages members of the university community to use a healthy, non-polluting mode of transportation: bicycles.

Work has also been done to transform the BKC’s streets to make the presence of pedestrians more prominent than that of motor vehicles in on-campus life.

**Description of the work done and the role of participants**

Informational signage for pedestrians has been introduced and sidewalks and pedestrian crossings have been expanded. This has substantially improved the BKC’s walkability, and thus its tranquillity and integration with the surrounding neighbourhood. Illuminated signage has been put up to direct traffic and increase pedestrian safety. The pavement has been repaired on some stretches of the North Campus streets, and tree replacement has been carried out using species and planting techniques that guarantee safe, controlled vegetation growth. These measures have visibly improved the areas between buildings, making it more comfortable to get around the Campus.

In October 2010, most of the bicycles used in the Bicicampus project were loaned to the BKC under an agreement between the Bicycle Club of Catalonia (BACC), the Barcelona City Council, the Department of the Environment of the Catalan Government, and “la Caixa”.

**Most significant results**

The Bicicampus project has become consolidated among members of the university community, who understand that the healthy, non-polluting bicycle is the mode of transport of the future. (The university community rated this project as an 8 on a scale of 1 to 10.)
In collaboration with the Barcelona City Council, vertical signs have been erected with maps showing the main BKC schools and public transport routes, and construction work has been carried out on several streets of the Campus to improve pedestrian comfort and safety. By reducing the number of parking spaces, this work has served to discourage the use of private vehicles.

**F3. Planned architectural infrastructure**

These activities are intended to introduce an infrastructure capable of strengthening academic activity, stimulating and managing knowledge flow and technology transfer between the alliance and the surrounding community, and providing added-value services.

**Progress towards objectives**

Significant progress has not yet been seen in this area, for two reasons. First, given the nature of the planned actions, the project is still in its infancy. Second, the recession has made it impossible to secure the financing required to move forward as desired. Nevertheless, the L2 service building has been inaugurated.

**Description of the work done and the role of participants**

In December, an application was filed with the Barcelona City Council to obtain an environmental and building license so that work could begin. In preparation for the start of construction, the urban-services tax, installation and construction taxes, and part of the architects’ project fees were paid, and fences were placed around the perimeter of the plot. The project is expected to get a major boost in 2011. Nevertheless, to mitigate any negative effects on the BKC’s development resulting from the delay, officials are considering the possibility of adapting available space in the Baldiri building (located near the Barcelona Science Park).

Renovation work is currently being done on part of the School of Industrial Engineering of Barcelona to create computer rooms on one floor of the building and a rooftop plaza conceived as an open social space.
Most significant results

Work has been completed on the L2 building, which houses institutional external-relations services and organizations (Friends of the UPC, Employment Bureau, International Relations Service, etc.). With six floors and a surface area of more than 3,500 m², this luminous structure will be known as the Til·lers building. Institutional services and organizations have already occupied the three top floors and are fully operational. After future work, the building will also feature a 200-seat auditorium occupying part of the ground floor and first basement level, as well as an archive facility on the second basement level.
The agreement approving the creation of the BKC’s governance instruments was signed on 18 April 2011. The official establishment of these instruments was then delayed, as it could not take place in the months immediately before or after the regional elections held in late November 2010.

The BKC is governed by the following committees:

The Governance Committee is essential to ensuring the participation of all entities and their involvement in modifying the basis of the productive sector, stimulating the region’s economy and participating actively in changing the economic and productive model – a common challenge that must be addressed collectively in the coming years. The following institutions are involved in the Governance Committee:

- Barcelona City Council
- Spanish National Research Council (CSIC)
- Barcelona Chamber of Commerce
- Universitat Politècnica de Catalunya
- University of Barcelona

Specifically, the members of the BKC Governance Committee are:
- The mayor of Barcelona (or appointed representative)
- The president of the CSIC (or appointed representative)
- The president of the Barcelona Chamber of Commerce (or appointed representative)
- The president of the UPC (or appointed representative)
- The president of the UB (or appointed representative)

The Governance Committee is jointly chaired by the presidents of the two sponsor universities in alternating two-year terms, with each term coinciding with the respective university’s leadership of the Supervisory Committee.

The Governance Committee’s function is to spearhead the development of the BKC’s Strategic Viability and Conversion Plan for the Campus of International Excellence in accordance with the project presented by the sponsor universities in 2009. It meets at least once a year, following the rules set out in Article 26 of Law 30/1992 on establishing a quorum and reaching agreements. At meetings of the Governance Committee, the members of the Supervisory Committee (described below) are invited to attend as guests. The director or administrator acting as secretary of the Supervisory Committee also acts as secretary of the Governance Committee.

The Governance Committee was officially created on 6 May 2011, the date on which its first work meeting was held.

**Supervisory Committee**

The Supervisory Committee was created for the ordinary management and supervision of the BKC. Its members are:

- The UPC president’s delegate for the BKC
- The UB president’s delegate for the BKC
- The CSIC delegate in Catalonia
- The directors or administrators of the BKC management units at each of the universities, one of whom acts as secretary

The Supervisory Committee is chaired in alternating two-year terms by the delegate of the university president concurrently serving as chair of the Governance Committee. The Supervisory Committee’s function is to apply the BKC’s Strategic Viability and Conversion Plan for the Campus of International Excellence in accordance with the decisions of the Governance Committee. The Supervisory Committee meets at least once per quarter.

**BKC Coordination and Management Unit**

The offices of the BKC Coordination and Management Unit are located on the ground floor of the Nexus II building (C/ Jordi Girona 29).

Coordination and Management Unit personnel are specialists assigned to the project by both universities and based at various different BKC locations. The Unit reports to the Governance Committee through the Supervisory Committee. It is responsible for managing BKC-related projects derived from the Strategic Viability and Conversion Plan, as well as various other programmes and competitions. It also prepares, manages, monitors and justifies projects derived from Campus of International Excellence programmes and sub-programmes.

Two subcommittees report to the Coordination and Management Unit, one for project development and one for web-content design and publishing.
The Coordination and Management Unit meets at least once per month. When it is involved in preparing projects, the Unit may meet more frequently if necessary. By way of example, the Unit met more than 30 times over the past year.

The delegates of the two university presidents also meet periodically. The frequency of these meetings is set by the milestones reached in the development of the Campus.

**Advisory councils**

In order to coordinate the various wishes and sensibilities surrounding the strategy for alliance-building and development under the Strategic Viability and Conversion Plan, the Governance Committee may, through the Supervisory Committee, be assisted by the following advisory bodies: the Scientific Council, the Citizens’ Council and the Business Council.

1. The **Scientific Council** comprises:
   - The UPC president’s delegate for the BKC
   - The UB president’s delegate for the BKC
   - The CSIC delegate in Catalonia
   - All of the deans and directors of the BKC centres (UB and UPC schools)
   - The directors of the Barcelona Science Park (UB) and the UPC Park
   - The directors of two CISC institutes located on the Campus (chosen by the CSIC)
   - The directors or administrators of the BKC management units at the UB and the UPC, one of whom acts as secretary

The Scientific Council is chaired by the delegate of the university president concurrently serving as chair of the Governance Committee. The Scientific Council provides advice on the implementation of educational and R&D&i activities at the BKC, as well as on the internal and external promotion of those activities. It also participates in proposing new ideas and initiatives related to educational and R&D&i activities, as well as in promoting the BKC. The Scientific Council meets at least once a year.

2. The **Citizens’ Council** comprises:
   - The UPC president’s delegate for the BKC
   - The UB president’s delegate for the BKC
   - The CSIC delegate in Catalonia
   - One representative of the Barcelona City Council with links to the area surrounding the BKC
   - One representative of the local neighbourhood coordinating committee
   - One UPC student and one UPC alumnus
   - One UB student and one UB alumnus
   - The UB president’s delegate for the Knowledge Portal
   - The UPC president’s delegate for the Knowledge Portal

The Citizens’ Council is chaired by the delegate of the university president concurrently serving as chair of the Governance Committee. The delegate for the Knowledge Portal appointed by the university president concurrently serving as chair of the Governance Committee acts as secretary of the Citizens’ Council. The Citizens’ Council provides advice on the implementation of activities described in the BKC’s Strategic Viability and Conversion Plan for the development of a comprehensive social model that is integrated with the surrounding neighbourhoods, as well as on the internal and external promotion of those activities. It also participates in proposing new ideas and initiatives in these areas, and meets at least once a year.
To date, the Citizens’ Council has met approximately once per quarter to discuss issues such as the urban-planning situation, safety, and selective waste collection in the area.

3. The Business Council comprises:

- The UPC president’s delegate for the BKC
- The UB president’s delegate for the BKC
- One representative of the Barcelona Chamber of Commerce
- One representative of the Barcelona City Council’s Agency for Economic Promotion
- One representative of the UPC’s Board of Trustees
- One representative of the UB’s Board of Trustees
- The director or head of the transfer area at the UPC
- The director or head of the transfer unit at the UB
- Two representatives of companies involved in, or linked to, UPC projects
- Two representatives of companies involved in, or linked to, UB projects
- The directors or administrators of the BKC management units at the UB and the UPC, one of whom acts as secretary

The Business Council is chaired by the delegate of the university president concurrently serving as chair of the Governance Committee. Its purpose is to share the vision, culture and real needs of the productive sector with regard to education, research and innovation, knowledge transfer, and the development of services at the BKC. The Business Council meets at least once a year.

The various committees have so far operated very well. The work carried out within the BKC’s governance system is oriented towards achieving the objectives set out in the Strategic Viability and Conversion Plan for the Campus of International Excellence. Improvement is needed in the coordination of some of the councils, in particular the Scientific Council and the Business Council. One of the challenges for the project in the coming year will be to transform the system under which the various groups participate in the alliance to ensure a more fluid, dynamic and enriching impact.
## PROGRESS INDICATORS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Improving educational programmes</td>
<td>Foreign students enrolled in master’s or doctoral programmes</td>
<td>1,966</td>
<td>2,770</td>
<td>41%</td>
</tr>
<tr>
<td></td>
<td>Undergraduate students</td>
<td>0</td>
<td>7,509</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Students in 1st cycle, 1st and 2nd cycle, and 2nd cycle</td>
<td>44,747</td>
<td>35,933</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Master’s students</td>
<td>2,037</td>
<td>5,040</td>
<td>147%</td>
</tr>
<tr>
<td></td>
<td>Doctoral students</td>
<td>3,830</td>
<td>5,001</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>Doctoral students from abroad</td>
<td>539</td>
<td>1,178</td>
<td>119%</td>
</tr>
<tr>
<td></td>
<td>Continuing education students</td>
<td>2,442</td>
<td>6,633</td>
<td>172%</td>
</tr>
<tr>
<td></td>
<td>Postgraduate and doctoral students from abroad</td>
<td>3163 (47%)</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Erasmus Mundus master’s programmes</td>
<td>9</td>
<td>11</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Master’s programmes taught entirely in English</td>
<td>16%</td>
<td>21.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td></td>
<td>International offer of postgraduate and doctoral courses coordinated by School</td>
<td>0%</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Programmes in which teaching is shared by the UB and the UPC</td>
<td>10%</td>
<td>11%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Participants in educational programmes on entrepreneurship and innovation</td>
<td>2,083</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s (or similar) degree programs which include the competency of entrepreneurship</td>
<td>16%</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>
### B. Improving scientific activities

<table>
<thead>
<tr>
<th>Category</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Difference</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific articles published in indexed journals in the top quartile</td>
<td>3,412</td>
<td>3,166</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Projects in international R&amp;D programmes</td>
<td>55</td>
<td>49</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Teaching and research staff</td>
<td>3,853</td>
<td>3,977</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Scientific publications produced by the Campus</td>
<td>3,896</td>
<td>2,744</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Volume of income from competitions (nat. and internat.) obtained by scientific projects</td>
<td>47,201,469</td>
<td>93,589,527</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>Research projects developed by more than one stakeholder in the alliance</td>
<td>40</td>
<td>45</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Services provided to clients (internal and external) by the SCT</td>
<td>12,173</td>
<td>ND</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Income generated by SCT services provided to the private sector</td>
<td>€3.2 million</td>
<td>ND</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pre/postdoctoral scholarships to bring international personnel to the Campus</td>
<td>-</td>
<td>ND</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### C. Transformation of the Campus to develop an integrated social model

<table>
<thead>
<tr>
<th>Category</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Difference</th>
<th>Percentage</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of actions planned for the SIRENA consumption-monitoring network</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Water: 30%; gas: 20%; electricity: 83%</td>
<td></td>
</tr>
<tr>
<td>Reduction in CO2 emissions</td>
<td>-</td>
<td>0.40%</td>
<td>-</td>
<td>0.40%</td>
<td></td>
</tr>
<tr>
<td>Reduction in water consumption</td>
<td>-</td>
<td>26%</td>
<td>-</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Reduction in energy consumption</td>
<td>-</td>
<td>2%</td>
<td>-</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Buildings built or adapted to sustainability criteria</td>
<td>-</td>
<td>11%</td>
<td>-</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Reduction in the production of urban solid waste and other waste</td>
<td>-</td>
<td>ND</td>
<td>-</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Specific spaces adapted for waste storage</td>
<td>-</td>
<td>ND</td>
<td>-</td>
<td>ND</td>
<td></td>
</tr>
</tbody>
</table>

### D. Adaptation to and implementation of the European Higher Education Area

<table>
<thead>
<tr>
<th>Category</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Difference</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching innovation projects</td>
<td>76</td>
<td>85</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Percentage of classrooms with Internet connections and WiFi coverage</td>
<td>80%</td>
<td>90%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Laboratories with adequate computer equipment</td>
<td>40%</td>
<td>60%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Video conference rooms</td>
<td>5</td>
<td>6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fully adapted classrooms</td>
<td>30%</td>
<td>70%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>Intercampus scholarships for student employability</td>
<td>2,097</td>
<td>ND</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Secondary-school students participating in Campus initiatives</td>
<td>10,333</td>
<td>10,480</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>
### E. Transfer to the business sector of knowledge and technology resulting from academic research

<table>
<thead>
<tr>
<th>Category</th>
<th>2022</th>
<th>2023</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of research contracts signed with companies</td>
<td>€4,779,780</td>
<td>€8,459,118</td>
<td>77%</td>
</tr>
<tr>
<td>Income generated by transfer activity</td>
<td>€35,428,096</td>
<td>€43,380,345</td>
<td>22%</td>
</tr>
<tr>
<td>National and international patents generated in the past three years</td>
<td>192</td>
<td>274</td>
<td>43%</td>
</tr>
<tr>
<td>Licensing contracts signed with external entities</td>
<td>15</td>
<td>23</td>
<td>53%</td>
</tr>
<tr>
<td>Researchers recruited through competitive hiring processes</td>
<td>149</td>
<td>ND</td>
<td>-</td>
</tr>
<tr>
<td>International and European projects</td>
<td>46</td>
<td>54</td>
<td>17%</td>
</tr>
<tr>
<td>Spin-offs created over the past five years</td>
<td>47</td>
<td>63</td>
<td>34%</td>
</tr>
<tr>
<td>Affiliated spin-offs</td>
<td>9</td>
<td>19</td>
<td>111%</td>
</tr>
<tr>
<td>M² available for spin-offs and knowledge enterprises</td>
<td>60,000</td>
<td>64,273</td>
<td>7%</td>
</tr>
<tr>
<td>People trained in project management and innovation management each year</td>
<td>136</td>
<td>168</td>
<td>24%</td>
</tr>
</tbody>
</table>

### F. Interaction between the Campus and its physical environment

<table>
<thead>
<tr>
<th>Category</th>
<th>2022</th>
<th>2023</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of companies in residence at the alliance’s science and technology parks</td>
<td>62</td>
<td>93</td>
<td>50%</td>
</tr>
<tr>
<td>Projects to adapt multi-purpose spaces</td>
<td>-</td>
<td>ND</td>
<td>-</td>
</tr>
<tr>
<td>Urban renewal projects to create new social spaces</td>
<td>-</td>
<td>ND</td>
<td>-</td>
</tr>
<tr>
<td>Percentage of Bicampus project actions implemented</td>
<td>20%</td>
<td>75%</td>
<td>55%</td>
</tr>
<tr>
<td>Preparation of the BKC Walkability Plan</td>
<td>100%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Construction of the CICRIT building</td>
<td>-</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Construction of the AUEB building</td>
<td>-</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Construction of the L2 building</td>
<td>-</td>
<td>100%</td>
<td>-</td>
</tr>
<tr>
<td>Construction of the student hall of residence</td>
<td>-</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Construction of the building for tech-based doctoral programmes</td>
<td>-</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Structures and facilities for the future configuration of the Campus</td>
<td>-</td>
<td>ND</td>
<td>-</td>
</tr>
</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>Improving educational programmes</td>
<td>Expansion of the range of master’s courses taught entirely in English</td>
<td>4th quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>2</td>
<td>Improving educational programmes</td>
<td>Expansion of the range of undergraduate double-degree programmes</td>
<td>4th quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>3</td>
<td>Improving educational programmes</td>
<td>Opening of the BKC International Postgraduate and Doctoral School</td>
<td>4th quarter 2011</td>
<td>BKC website</td>
</tr>
<tr>
<td>4</td>
<td>Improving educational programmes</td>
<td>Mobility programmes for learning and knowledge</td>
<td>2nd quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>5</td>
<td>Improving educational programmes</td>
<td>Establishment of important CEI centres in other countries</td>
<td>2nd quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>6</td>
<td>Improving educational programmes</td>
<td>Programme of postgraduate/postdoctoral grants</td>
<td>4th quarter 2011</td>
<td>BKC website</td>
</tr>
<tr>
<td>7</td>
<td>Improving scientific activities</td>
<td>Development of a portfolio of shared SCT services</td>
<td>2nd quarter 2011</td>
<td>BKC website</td>
</tr>
<tr>
<td>8</td>
<td>Improving scientific activities</td>
<td>Extension of the ChemBioBank laboratory</td>
<td>4th quarter 2011</td>
<td>BKC website, Barcelona Science Park website</td>
</tr>
<tr>
<td>9</td>
<td>Improving scientific activities</td>
<td>Development of the Laboratory Animal Applied Research Platform</td>
<td>2nd quarter 2012</td>
<td>BKC website, Barcelona Science Park website</td>
</tr>
<tr>
<td></td>
<td>Topic</td>
<td>Description</td>
<td>Quarter</td>
<td>Website</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------</td>
<td>-----------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>Improving scientific activities</td>
<td>Programme of pre/postdoctoral grants</td>
<td>4th quarter 2011</td>
<td>BKC website</td>
</tr>
<tr>
<td>11</td>
<td>EHEA adaptation</td>
<td>Internship programme for vocational-training students at the BKC’s unique facilities</td>
<td>4th quarter 2011</td>
<td>BKC website, Catalan Government website, vocational schools’ websites</td>
</tr>
<tr>
<td>12</td>
<td>EHEA adaptation</td>
<td>Adaptation of the BKC’s virtual classrooms</td>
<td>4th quarter 2011</td>
<td>BKC website</td>
</tr>
<tr>
<td>13</td>
<td>EHEA adaptation</td>
<td>Regional promotion of BKC activities</td>
<td>1st quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>14</td>
<td>Campus transformation</td>
<td>Adaptation of the sustainable chemistry laboratory</td>
<td>1st quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>15</td>
<td>Campus transformation</td>
<td>Courses on sustainability in chemistry</td>
<td>1st quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>16</td>
<td>Campus transformation</td>
<td>Adaptation of the BKC to remove all barriers</td>
<td>2nd quarter 2011</td>
<td>BKC website</td>
</tr>
<tr>
<td>17</td>
<td>Transfer</td>
<td>Development of a collaborative innovation ecosystem</td>
<td>3rd quarter 2011</td>
<td>BKC website, Barcelona Science Park website, UPC Park website</td>
</tr>
<tr>
<td>18</td>
<td>Interaction with surrounding area</td>
<td>Renovation and improvement of the BKC’s sports complex</td>
<td>1st quarter 2012</td>
<td>BKC website</td>
</tr>
<tr>
<td>19</td>
<td>Interaction with surrounding area</td>
<td>Beginning of construction on the CICRIT building</td>
<td>2nd quarter 2011</td>
<td>BKC website</td>
</tr>
<tr>
<td>20</td>
<td>Interaction with surrounding area</td>
<td>Construction of the AUEB building</td>
<td>1st quarter 2013</td>
<td>BKC website, completed building</td>
</tr>
<tr>
<td>21</td>
<td>Interaction with surrounding area</td>
<td>Construction of the building for tech-based doctoral programmes</td>
<td>1st quarter 2013</td>
<td>BKC website, completed building</td>
</tr>
</tbody>
</table>
## USE OF RESOURCES

<table>
<thead>
<tr>
<th>AREA</th>
<th>PERSONNEL</th>
<th>CURRENT EXPENDITURES</th>
<th>INVESTMENT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Improving educational programmes</td>
<td>€657,138.63</td>
<td>€359,614.78</td>
<td>-</td>
<td>€1,016,753.41</td>
</tr>
<tr>
<td>B. Improving scientific activities</td>
<td>-</td>
<td>€626,922.44</td>
<td>€1,427,996.00</td>
<td>€2,054,918.44</td>
</tr>
<tr>
<td>C. Transformation of the Campus to develop an integrated social model</td>
<td>-</td>
<td>€20,294.62</td>
<td>€1,736,636.88</td>
<td>€1,756,658.50</td>
</tr>
<tr>
<td>D. Adaptation and implementation of the European Higher Education Area</td>
<td>-</td>
<td>-</td>
<td>€6,466,299.82</td>
<td>€6,466,299.82</td>
</tr>
<tr>
<td>E. Transfer to the business sector of knowledge and technology resulting from academic research</td>
<td>€502,247.12</td>
<td>€287,371.34</td>
<td>€254,195.00</td>
<td>€1,043,813.45</td>
</tr>
<tr>
<td>F. Interaction between the Campus and its physical environment</td>
<td>-</td>
<td>-</td>
<td>€3,774,388.04</td>
<td>€3,774,388.04</td>
</tr>
<tr>
<td>TOTAL</td>
<td>€1,159,385.74</td>
<td>€1,294,203.18</td>
<td>€13,658,242.74</td>
<td>€16,112,831.66</td>
</tr>
</tbody>
</table>

This table reflects both the budget received from the Spanish Ministry of Education through the autonomous community and financing received through the R&D&i and Transfer Sub-programme of the Spanish Ministry of Science and Innovation.