REPORT ON
ADDITIONAL FUNDING VIA
AN AGREEMENT WITH THE
AUTONOMOUS COMMUNITY

BKC: Barcelona Knowledge Campus
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1. INTRODUCTION

For the 2009 call for proposals for qualification as a Campus of International Excellence, the Universitat de Barcelona (UB) and the Universitat Politècnica de Catalunya (UPC) produced a joint proposal, which was subsequently approved, under the name BKC: Barcelona Knowledge Campus.

The proposal contained a series of measures for which, due to their significance within the overall project, additional funding is sought in this 2010 call by means of an agreement with Autonomous Community. This funding would finance the construction of the buildings that make up the physical structure of the International Postgraduate and Doctoral School of the BKC, along with facilities that will accommodate essential support services for the scientific activities carried out on campus.

One of these is the Doctoral Building in the area of technologies, which will be the infrastructure from which support will be provided to the shared management structure, and which will house some of the teaching areas for some of the doctoral programmes within the area of technologies, such as ICT.

Another is the AUEB Building (Architecture, Urban Planning, and Construction in Barcelona), which will be used for teaching doctoral students in the areas of architecture, urban planning and construction.

And, thirdly, the CICRIT Building (Centre of Scientific Infrastructures for Research and Technological Innovation) will be devoted to providing support to science and knowledge transfer activities and will house the headquarters and administrative unit of the International Postgraduate and Doctoral School in the areas of life and social sciences.

The construction of these buildings, in addition to meeting core objectives of the BKC project presented in 2009, must adhere to the transversal guidelines for all the architectural infrastructure planned within the project which aim to transform the campus into a visual landmark on the metropolitan landscape of Barcelona, creating an urban structure based on the provision of services to the knowledge society.

Furthermore, these buildings will serve to make the BKC an international benchmark in the areas of architecture, urban planning and construction. As such, the following objectives have been set:

• To implement infrastructures designed to strengthen academic activity and direct this activity towards the creation of a European area of knowledge.
• To plan measures aimed at stimulating and managing the flow of knowledge and the transfer of technology among universities, research groups, businesses and local, professional and social organizations.
• To provide value-added services, particularly those oriented towards the business community.
2. MEASURES

2.1 Construction of the doctoral buildings in the areas of technologies and architecture

2.1.a Doctoral building for technology studies

Because the BKC Postgraduate and Doctoral School specializes in the areas of life sciences, social sciences and technologies, and because its goal is to strengthen postgraduate and doctoral training through the use of existing synergies between the UB and UPC in order to improve quality and international promotion, specific infrastructures are needed for these different areas.

Therefore, plans have been drawn up for the construction of a building devoted completely to doctoral programmes activities in the area of technologies, which will make specific services and spaces available for doctoral candidates. The building will overcome the challenges posed by the physical and functional dispersion of the teaching and research work spaces on campus and will improve social relationships, resulting in improved productivity and the creation of synergies among students.

The building will include 2,250 square metres of floor space on five floors and will be located in the northern area of the BKC, which is where most facilities for technology-related fields are concentrated. The basement will house specific laboratories that require electromagnetic screening, as well as workshops for experiments and work experience and two meeting rooms. Building reception, an access control station, a common area and doctoral candidate offices will be located on the ground floor. The first floor will accommodate more offices for doctoral candidates and seminar halls.

General work rooms and laboratories will be located on the second and third floors. The addition of these facilities will lighten the load on the laboratories that are currently in highest demand. Finally, on the fourth and fifth floor there will be spaces for offices, lecture halls, meeting rooms, project and presentation rooms and multipurpose spaces.
2.1.b Doctoral building for architectural studies

In addition to contributing to establishing the BKC as a national and European benchmark in the areas of architecture, urban planning and construction, the construction of the AUEB Building aims to strengthen academic activity and direct it towards the creation of a European area of knowledge through actions designed to stimulate and manage the flow of knowledge and the transfer of technology among universities, research groups, businesses, and local, professional and social organizations, as well as to provide value-added services and, in particular, a business incubator.

The mission of the building within the wider context of the BKC is to promote teaching excellence, research, innovation, and the transfer of results and technological progress to society, and to become a revitalizing socio-economic agent among the university, public administrations and businesses.

This will be achieved through four strategic areas of action:

- Access to new science and technology infrastructures and services
- Promotion and creation of exceptional new research opportunities
- Creation or interconnection of new research and technology transfer structures: the creation of a business incubator
- Promotion of current research groups in the area of architecture, city planning and construction
2.2 The CICRT Building (Centre of Scientific Infrastructures for Research and Technological Innovation)

The new CICRT Building will accommodate essential support services for scientific, knowledge transfer and general activities. It is designed as a compact module consisting of four floors for scientific infrastructure, laboratories and scientific and technical services units (SCT) and a tower to which the information and communication technology units (ICT) will be moved and which will accommodate other programmes such as the UB Centre for Technological Innovation (CIT-UB). The building will also house the campus coordination units, the future International Welcome Point for international visitors and the head offices of the International Postgraduate and Doctoral School in the areas of life and social sciences, as well as other services related to the study of languages (the Institute of Hispanic Studies and the School of Modern Languages).

The building will consist of 19,000 square metres of floor space made up of a modular building and an eight-storey tower on a lot on the northern side of Bederrida square.

The architectural design consists of a solid volume occupying the entire lot, from which a tall tower emerges on the eastern end that, due to its location on one of the main axes of the campus, acts as a visual landmark within the BKC. The part of the functional programme with the most specific requirements (the experimental laboratories) will be located in the lower part of the building, while the less demanding programmes, which do not require special wet lab facilities, will be located in the tower. This arrangement places the wet labs in close proximity to certain technical installations related to their use (air conditioning, gas mains, extractors, etc.). The placement of transversal patios will provide natural light and ventilation to the entire building.
Of the experimental laboratory areas, the Scientific and Technical Services department will occupy the basement, first and second floors. The basement will house large scientific equipment (electronic microscopes, mass spectrometers) and it has been designed in accordance with the restrictions involved in their installation (dimensions, weight, access, and so on). The first and second floors will house the remaining SCT labs, organized by units that respond to the specific experimental techniques required.

CIT-UB research laboratories will be located on the ground floor of this part of the building and will have their own entrance. These labs will be modular so that they can be adapted to the changing needs of the various projects underway at any given time.

The tower will house the technically less demanding part of the functional programme. The upper floors, from the fourth to the eighth, will consist of spaces for the Department of Information and Communication Technologies, with the Data Processing Centre on the seventh floor. The second and third floors will be reserved for the auxiliary needs of these areas and will include a dining room, meeting rooms and spaces for other services. These spaces will also be home to the BKC Coordination and Management offices.

The ground and first floor, which will be the most public parts of the building and which are slated for use as teaching spaces, will have their own entrances. This will keep the more restricted areas used for scientific and computer services separate from the common, public areas used for teaching. In addition to administrative offices and classrooms, it is important to note that the ground floor will also house two of the most important projects for the internationalization of the campus: the headquarters and management unit of the International Postgraduate and Doctoral School in the areas of life and social sciences, and the International Welcome Point.

Services such as a dining room, archives, storage, logistics, security, maintenance will be distributed throughout all the areas of the building.
3. RELEVANCE AND RELATION TO THE PROJECT AS A WHOLE

In addition to the obvious arguments for building the International Postgraduate and Doctoral School buildings and the CICRIT Building, their construction plays a fundamental role in the overall BKC project, for the reasons laid out below.

One of the main objectives presented within the set of proposals for transforming the campus into a Campus of International Excellence is its adaptation to the requirements of the European Higher Education Area. Several different aspects related to this objective have a key bearing on the measures for which we are requesting additional funding by means of an Agreement with the Autonomous Community.

These buildings will be designed and built in strict keeping with the requirements established for classrooms and laboratories for adaptation to the new EHEA. Therefore, building design will address the need for small group work as well as for the use of new technologies in classroom learning. The laboratories will be completely equipped for the new forms of learning and practice, thereby allowing students to experience their first incursion into research in the best possible conditions.

Within the framework of the new EHEA special emphasis has been placed on doctoral studies, the third cycle of higher education. Providing infrastructure to make these programmes a tangible, physical presence on campus is an essential part of their success. Moreover, doctoral studies represent the first stage in the research careers of future knowledge generators. It is therefore essential to make suitable facilities available to the doctoral programmes offered on campus to better build a solid pool of scientists and researchers who can feed the new sustainable productive model that both Spain and the rest of Europe is striving for.

The idea of a Europe of Knowledge stresses the importance of knowledge as the European Union’s most valuable asset in relation to the rest of the world. In the unstoppable process of globalization, education, as a basic element of coexistence and socio-political advancement, plays a key role in building a Europe that is truly prepared to face the new political, cultural, social, and scientific and technological challenges that are sure to come our way.

All the measures being undertaken in the EU and in Europe as a whole are aimed towards creating a Europe of Knowledge that, while maintaining plurality as its most valuable asset, can promote the mobility of professionals within the EU, making it attractive to students from other continents.

Within this context, the importance of providing certain infrastructures (buildings) is clear. They will serve as a tool for attracting international talent and promote the mobility of doctors and doctoral candidates. Therefore, these buildings must be representative of the process of modernization and internationalization that the university is implementing along with the adaptation to the EHEA, with signs posted in English and buildings open to Europe and the rest of the world. Predoctoral and postdoctoral financial aid provided by the UB and UPC are also a tool that will help to attract international talent.
It is also important to point out the strategic value of the location of these buildings on the BKC, which stretches from north to south along Barcelona’s Avinguda Diagonal. The location of the campus at one of Barcelona’s main points of entry provides the campus with the opportunity to visually highlight its landmark buildings and provide a showcase for the abilities of the BKC in the fields of construction and urban planning.

Finally, these measures of crucial importance to the BKC, both in terms of advancements in science and improvements to teaching at the postgraduate and doctoral level, will result in improved provision of services to the entire university community and society in general.

The following figures underscore the relevance of the measures for which additional funding is being sought within the BKC project:

Of the 48,420 students at the two universities that make up the BKC, 6,700 or 13.5% are postgraduate and doctoral students. A total of 70 doctoral programmes are offered between the two universities with 3,896 students enrolled (biennial edition 2009-2010), resulting in 381 new doctors (the academic year 2008-2009) and 3,779 scientific publications in 2009.