EBRO VALLEY INTERNATIONAL CAMPUS OF EXCELLENCE

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1. *Iberus*, Ebro Valley International Campus of Excellence

1.1 Mission and vision
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1.3 Strategic alliances and general objectives
1. **Iberus**, ICE of the Ebro Valley

**Iberus** is the project through which the state universities of the Autonomous Communities of Aragón, Navarra and La Rioja, as well as from the province of Lleida in Catalonia, established as a strategic alliance, aspire to become the Campus of International Excellence (ICE) of the Ebro Valley. This project is organised around three fundamental areas to be executed in the ICE initiative within the 2010-2014 period. The intention is also to form part of a large strategic project of the four universities with a time horizon of 2025, built in line both with the 2015 University Strategy, the objective of which is the modernisation, specialisation, and internationalisation of the Spanish university system, and the 2020 Bologna Process, which defines the new decade for the European Higher Education Area (EHEA), and the creation of the European Research Area (ERA), cornerstones of the European Modernisation Agenda for Universities.

The alliance of these four universities is natural, due to their geographical proximity, the existence of several common elements, the existence of a history of close collaboration and the existence of a common link, the river Ebro, which provides shared cultural, social and economic elements.

Specialisation offers an opportunity for the four universities to improve their positioning as knowledge centres in strategic areas by carrying out projects linked to socioeconomic activity of the Ebro Valley.

Therefore, the alliance, through cooperation, wishes to contribute to the sustainability of the state university model by making the objectives of the European Agenda their own.

### 1.1. Mission and vision

**Iberus**, the ICE of the Ebro Valley, is the project through which the four universities hope to achieve a standard of quality and visibility that is comparable to the best European universities by

- bringing together the skills of all the members that make up its strategic alliance,
- defining those knowledge areas where they can and wish to be strong,
- placing people and their full development at the centre of the aspirations of organisations,
- acting as an engine for socioeconomic development.

**Iberus** has been created with an international vision, but is firmly rooted in its society and committed to its development. It has been constructed as a focal point for culture, a promoter of thinking and an engine for economic progress and is organised as a permanent area for change and exchange where science, culture and technology are encouraged.
1.2. Campus model

The concept “Campus Iberus” and its pictograph embody a challenge accepted by the four universities consisting of the preparation of a shared university model, founded on knowledge (represented by the flame) as a source of vitality and its flow to society as a whole (represented by the blue line). This is a flow that is not just limited to the scope of its geographic location, sharing the effort of the search for an outstanding competitive position in the society of knowledge, but also includes its international standing. Like its name Iberus, which starting from the name of a specific geographic location (Hiberus Flumen), is outgrown in its country (Iberia) and its knowledge in the continent where it is located as well as in the world (Latin America).

This is a campus model that:

- will overcome the accepted fragmentation of higher education and regional limitations, by joining together four universities and exceeding the geographic and administrative limits of four autonomous communities.
- has chosen the areas of specialisation that, in keeping with its capabilities and unique geographic location, allow it to claim an international position, with defined goals and actions that are on the cutting edge of knowledge, including some of the main challenges to mankind:
  - sustainable energy
  - technology applied to public health
  - food and nutrition
  - preservation of cultural heritage
- close links with the productive sector, involving companies, organizations and cities in the process, sharing objectives and planning and together building the scientific, educational, and public innovation and integration design that constitute the three-pronged mission of a modern university.
- placing people at the centre of the learning process and, consequently, designing an educational programme that offers full training to people, ready to meet their different needs throughout life, concerned about employment and public training.
- preparing the alliance in order to make a qualitative leap forward, leading to the construction of a cross-border campus with the universities of Toulouse and Pau in what will be a new large-scale project that we can call EBRoS (European Biregion of Science) Western Pyrenees.

* Road map for the modernisation of European universities. Communication from the Commission to the Council and to the European Parliament. Modernisation agenda for universities: education, research and innovation.
In order to achieve this campus model, the four universities that make up the alliance, aware of the challenges of a collaboration between four universities located in four different autonomous communities, have defined their main challenge as the construction of this alliance, giving it a shared project and a governance model that will make it possible.

The *Iberus* Campus project is the start of a journey based on values like:

- cooperation
- efficiency
- sharing of resources
- excellence

The initial approach has been based on the analysis of the strengths and weaknesses of the campus itself, determining:

### Strong points

- Strong regional roots
- Accessibility and good connections between the universities
- Strong support from regional governments
- Full involvement of technology centres and organisations of the four communities
- Previous collaboration initiatives between the Campus universities
- Recognised excellence in the areas of specialisation of the Campus
- International agreements with leading universities and centres: TOULOUSE, PAU, MIT
- Universities that are integrated in cities
- High penetration of ICTs in the Campus
- Existence of environmental management and energy efficiency policies
- Services developed for the transfer of knowledge

### Weak points

- Lack of mobility of students, research and teaching staff
- Absence of bilingual educational programme
- Market penetration lower than desired
- Lack of a common map of qualifications and research
- Similarity in the accessibility conditions and the layout of the campuses
- Lack of accommodation
- Low economic return from generated patents

### Opportunities

- Adaptation to the EHEA and the creation of the European Research Area (ERA)
- Participation in high-impact, groundbreaking projects implemented in the area
- Consolidation of the relationship with the productive sector of the region
- Strengthening of the links with secondary education and vocational training
- Co-founding of a cross-border campus with the universities of Toulouse and Pau
- Management of communal services in the universities generating cash savings
- Sharing of infrastructures, equipment and knowledge between universities
- Strengthening of the commercial strategy through communal networks in the areas of specialisation
- Improvement in the recruitment and attraction of national and international talent

### Threats

- High competitiveness between universities: If the Campus does not specialise or become international it will be at a severe disadvantage
- Suspension of projects and actions due to lack of financing
- Internal reluctance to apply communal policies or to organise communal educational and research maps
The Iberus Campus bases its construction on the fundamental areas that are listed below under three major headings: centres, services and programmes and infrastructures.

Centres
- International Postgraduate Centre (IPC)
- Entrepreneurship and Innovation Centre (EIC)
- Joint Research Centres with companies
- International Meeting Point

Services and programmes
- Appraisal and transfer service of the research
- Educational and research mobility programme
- University employment service
- Links to business
- Links to teacher training and vocational training institutions

Initiatives used for the achievement of “integrated campuses”
- Creation of the knowledge management platform "Iberus Global Knowledge Exchange”.
- Use of ICTs that have an infrastructure that enables:
  • Broadband connections both between different campuses as well as with the Iris Plus high-capacity network
  • An interactive web site, both for local use (intranet) as well as national and international
  • Accessibility to sources of information and knowledge
  • Contributions to classroom-based training and a proposal for non-classroom based training
  • Scheduling of joint events
  • Scaling of university communication to the outside paying special attention to the international aspect
- Improvements to classrooms and areas related to adaptation to the EHEA
- Improvements related to health and safety at work and ergonomics
- Improvements related to sustainability, renewable energies and the efficient use of energy (recyclability, roofs with photovoltaic panels and buildings with efficient energy management)
- Improvements related to accessibility (disabled people, public participation and signposting for Spanish and foreign visitors)
- Halls of residence, housing and facilities for students and teaching staff

Specifically, within the context of the University of Zaragoza, the following groupings of areas have been established in order to achieve one of the objectives of the ICE Iberus: the organisation into thematic campuses, developing groupings of areas that generate efficiency:

- Scientific and technological area: River Ebro Campus.
- Agricultural and biotechnology, water and environmental technologies area: Verde Campus
- Social and humanistic area, sharing space with health: San Francisco Campus
1.3. Strategic alliances and general objectives

Campus *Iberus* is a joint project by four state universities located in four different autonomous communities in the Ebro Valley: the University of Zaragoza in Aragón, the Public University of Navarra in Navarra, the University of La Rioja in La Rioja and the University of Lleida in Catalonia. This alliance of universities makes up a joint Campus with the following main characteristics:

<table>
<thead>
<tr>
<th>Basic information about Campus Iberus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>Undergraduate, Diploma and Bachelor</td>
</tr>
<tr>
<td>Doctorate students</td>
</tr>
<tr>
<td>No. of teaching and research staff</td>
</tr>
<tr>
<td>No. of administrative and service staff</td>
</tr>
<tr>
<td>No. of researchers</td>
</tr>
<tr>
<td>Research groups</td>
</tr>
<tr>
<td>European projects</td>
</tr>
<tr>
<td>Spin-offs created</td>
</tr>
<tr>
<td>Patents generated</td>
</tr>
<tr>
<td>Main centres linked to the Campus</td>
</tr>
<tr>
<td>Masters taught in English</td>
</tr>
<tr>
<td>Masters taught jointly</td>
</tr>
<tr>
<td>Students with some kind of mobility agreement</td>
</tr>
</tbody>
</table>
This alliance of universities is strengthened by a group of businesses and organisations that carry out R+D+I activities with the four universities that make up the alliance. There is a detailed description in section 2.5 of this report. However, at the moment we wish to concentrate on those partners that form the core of the project, such as the R+D+I systems of the governments from each autonomous community of the alliance and the cities where the four universities have their headquarters, without which urban integration would be impossible.

We also wish to draw attention to a group of businesses and organisations involved in the development of the ICE *iberus* that are a part of the large-scale projects that deal with scientific and technological challenges in section 2.4, which defines the thematic areas of specialisation. The group of universities that make up the *iberus* Campus, together with the strategic partners of the alliance, can lay claim to areas of application that are in line with their scientific skills and the areas that are strategically important for the scientific and technological policies of the four autonomous communities where they carry out their initiative.

In this sense, it is understood that the areas of knowledge of excellence of the whole alliance as a group can be shown adequately in the following specific areas of specialisation:

The strategic partners that work with the strategic alliance, ordered by areas of specialisation, are as follows:

<table>
<thead>
<tr>
<th>Strategic partners</th>
<th>With participation in several areas of specialisation</th>
</tr>
</thead>
</table>
| **Materials and Technology for Quality of Life** | - Technology for health  
- Energy and the Environment |
| **Agrifood and Nutrition** | |
| **Records, Heritage and Identities** | |
| **Area of Energy and the Environment of the Iberus Campus** | 
- The Spanish National Research Council (CSIC), which is established as a partner of the alliance through the addition of centres located in the region of the alliance. |
| | - The National Renewable Energy Centre (CENER), A technology centre specialising in applied research and the development and promotion of renewable energies. |
| | - ACCIONA is one of the largest Spanish business corporations and is a leader in the promotion and management of infrastructures, renewable energies, water and services. With over 100 years experience, it is present in over 30 countries all over the world. |
Ebro River Basin Authority. The management, regulatory and water and irrigation maintenance authority for the Ebro river basin.

ENDESA is the largest electricity company in Spain and the largest private electrical company in Latin America. It is a major electrical operator in Europe and has made great progress in the field of renewable energies.

A company that buys, sells, imports, exports, distributes, manufactures, assembles, designs and engineers automobiles and their parts and components.

A company that engineers, manufactures, and offers after-sales service in the four areas of its business: maintenance, cranes, waste treatment and renewable energies.

The ACS group, through its environmental company Urbaser, is a leader in waste management and treatment. It carries out various cleaning work, waste collection and transport, treatment and recycling of urban waste, comprehensive management of the water cycle and urban gardening.

The Cervantes Institute is the state organisation created by Spain in 1991 for the promotion and teaching of the Spanish language and for the dissemination of Spanish and Hispanic American culture.

Once the strategic alliance and the areas of specialisation are established, it is necessary to define the strategic objectives of the Iberus Campus project:

- **Achieve global quality training** by placing students at the centre of practical training, providing opportunities for the overall development of people and enabling employability by promoting compatibility between courses and work.
• **Achieve scientific excellence** through a commitment to internationally competitive basic and applied research, by means of the creation of knowledge and its dissemination via publications in the international media with the greatest impact.

• **Be committed to internationalisation** as a general objective of the ICE, based on mobility, attraction of students and researchers, promotion of an international curriculum, international strategic agreements and increased visibility.

• **Become a focal point that attracts talent** through the incentive mechanisms that are needed for the attraction of the best students, recruitment and loyalty of quality researchers and lecturers with recognised international standing.

• **Promote interdisciplinarity and collaboration.** Heterogeneity generates opportunities for innovation and teamwork makes the difference in the achievement of excellence.

• **Improve the quality of management.** The challenges of excellence demand high quality in university services aimed at an increase in user satisfaction.

• **Improve social responsibility** by promoting socially responsible values, equal opportunities and healthy lifestyles

• **Promote public integration** by facilitating the involvement of employers, directors and society as a whole that will guarantee lifelong training that is adapted to users’ needs, that will give incentives for collaboration and the transfer of knowledge and innovation to the productive sector, that will help to forge a shared social model and that will promote a comprehensive vision in social, cultural, sporting and leisure areas.

• **Provide the alliance with the necessary infrastructures and develop a thematic organisation on campus** by planning clusters that will generate efficiency, be open to the civic and public surroundings and be a sustainability model.
2. Action areas of the project

2.1. Educational improvement and adaptation to the EHEA (Area A)
2.2. Scientific improvement and the transfer of knowledge (Area B)
2.3. Transformation of the campus for the implementation of a socially integrated model and its interaction with its local community (Area C)
2.4. Thematic areas of specialisation based on the strong points of the alliance (Area D)
2.5. Planned alliances in the project (Area E)
2.6. Internationalisation policies and actions of the campus (Area F)
2.7. Participation in the sustainable economic model (Area G)
2.8. National and international knowledge and innovation alliances and networks (Area H)
2. Action areas of the project

Below are listed all the actions that make up the ICE Iberus project, taking into account the points and aspects set forth in Order EDU/903/2010, dated 8th April, which establishes the regulatory criteria for the granting of aid from the Campus of International Excellence programme. The actions are generally transversal, as is to be expected given the fact that these are four state universities in four different autonomous communities, and what they are specifically looking for is to create, organise and connect the collaboration structures and mechanisms. In any case, it is fully understood that their main activity will be in the thematic areas of specialisation defined in point 1.3 and which are developed in more detail in section 2.4.
2.1. Educational improvement and adaptation to the EHEA (Area A)
2.1 Educational improvement and adaptation to the EHEA

The education of the public and of qualified professionals is the main **raison d’etre** of a university, and the universities that make up the **ICE Iberus**, which are committed to their communities, propose the development of a quality educational programme that is adapted to the present day, that promotes the employability of its graduates and that adapts to the different needs that are inherent to the lifelong learning process.

**Starting point**

Education, as the first mission of a university, is in a period of change after the construction of the European Higher Education Area and fluctuations in a labour market that is linked to social and economic needs and to the new society of knowledge.

The Bologna Declaration is the starting point for a substantial change in the European university system, both in the structure of its courses and, above all, in their **raison d’etre**. This is a historic moment for university education, an opportunity that must be grasped in order to improve academic curriculums and teaching methodologies.

The **Iberus Campus** offers 164 degree qualifications, 90 official Masters degrees, 1 Erasmus Mundus Masters degree and 19 doctorate courses that mention quality. The intention is to adapt this educational programme by following the criteria of both efficiency and of the generation of synergies as adaptation to the European Higher Education Area.

Regarding the **efficiency criteria**, the universities that make up the **Iberus Campus** have been working in this way, teaching 30 inter-university Masters degrees. The universities of the affiliation participate jointly in some of these Masters degrees:

- Masters degree in “Health in Pork Production”, carried out between the University of Lleida, the University of Zaragoza, the Autonomous University of Barcelona and Complutense University of Madrid;
- Masters degree in “Introduction to Research”, coordinated by the University of La Rioja together with the University of Oviedo, the University of the Basque Country, the University of Zaragoza, and the Public University of Navarre;
- Masters degree in “Mathematical Modelling, Statistics and Computing” with the University of La Rioja, the University of Oviedo, the University of Zaragoza, the University of Cantabria and the Public University of Navarre;
- Masters degree in “Food and Human Health” by the University of La Rioja and the Public University of Navarre;
- Masters degree in “ICT and Virtual Training Environments” with the participation of the University of La Rioja, the University of Zaragoza and the Public University of Navarre;

The intention of the establishment of the **Iberus Campus** is to extend the overall educational programme by especially strengthening the shared work carried out in the areas of
specialisation. The aim is also to apply efficiency criteria not only in the area of education but also in the shared use of the transversal services in the universities.

Regarding the adaptation to the European Higher Education Area, major efforts are being made to adapt the qualifications system and there are currently 90 Masters degrees that have already been adapted. Part of the adaptation process involves internationalising the academic programme, although the current number of Masters degrees and degrees taught in English is not high. At the moment, there is a total of 6 Masters degrees and one doctorate programme, together with the Zaragoza Logistic Centre.

In the same vein, the mobility programmes for teaching staff will be promoted, with the objective of increasing the number of foreign lecturers on the Iberus Campus, which currently stands at 128. The infrastructures and equipment are also being adapted to the new requirements of the EHEA. In this respect, the universities of the alliance are at different starting points, especially in the adaptation of infrastructure, as the age of the universities themselves is a determining factor. However, ICT adaptation is well underway by all the universities, the number of classrooms with an internet connection and WiFi cover being 100% and the number of classrooms with video projectors being 85% of the total.

All of the universities of the alliance have also developed online communication systems between students and teaching staff, like the SAKAI platform at the University of Lleida, MiAulario at the Public University of Navarre, the WebCt platform at the University of La Rioja and the Anillo Digital Docente (Digital Educational Ring) ADD at the University of Zaragoza.

Finally, there are a large number of subjects that are taught online and have virtual support, especially in Masters degrees, own degrees and subjects from the shared virtual campus of the G) groups of universities. The University of La Rioja also teaches two degrees from the second cycle alone online. This university was the first classroom-based university in Spain that began to teach official courses online.

This new framework defined by convergence towards the European Higher Education Area will include the challenges of a new era, which demands a constant focus on quality. The search for excellence in education will mean that new initiatives will have to be adopted related to the recruitment of national and international talent, as is currently taking place at the University of Lleida related to the Serra Hunter programmes (16 additions since its set-up in 2005) and ICREA – the Catalan Institute for Higher Education- (2 additions).

Regarding innovation in educational improvement, all of the universities include a specific call for the presentation of projects, achieving high participation and involvement percentages from the teaching staff.
In this quality improvement process, thought has been given to the progress of assessment systems of the teaching staff already installed in the universities of the Campus, such as IAP (institutional assessment programme), DOCENTIA (support in the assessment of teaching activity) and TRAINING (support in the assessment of the training plans for teaching staff) verifying the need to define optimum standards of quality and homogenous measurement methodologies so that their application on Iberus Campus can obtain comparable information.

<table>
<thead>
<tr>
<th>Position</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University de Lleida</td>
</tr>
<tr>
<td>2</td>
<td>University Pompeu Fabra</td>
</tr>
<tr>
<td>3</td>
<td>University of Cantabria</td>
</tr>
<tr>
<td>4</td>
<td>University of Zaragoza</td>
</tr>
<tr>
<td>5</td>
<td>University of Salamanca</td>
</tr>
<tr>
<td>6</td>
<td>Public University Navarra</td>
</tr>
<tr>
<td>7</td>
<td>University of Girona</td>
</tr>
<tr>
<td>8</td>
<td>University Carlos III of Madrid</td>
</tr>
<tr>
<td>9</td>
<td>University of Córdoba</td>
</tr>
<tr>
<td>10</td>
<td>University of Burgos</td>
</tr>
</tbody>
</table>

**National Ranking of Teaching Quality (06-07)**


University education also has to be adapted to the current demands of the labour market. Nowadays, the market demands qualified workers that are more versatile and adaptable to changing circumstances, with personal skills and abilities that complement specific knowledge, including international education and experience and foreign language skills.

The lines of work that are currently being carried out are the promotion of the enterprise either through training or by providing students with the tools that they need in order to set up a business and a stronger focus on support of processes when entering the labour market.

Regarding the recording and assessment of data, both the University of La Rioja and the University of Zaragoza and the Public University of Navarre have university employment observatories. The preparation of a common methodology that enables results to be comparatively assessed will be one of the points of the work within the context of the Iberus Campus.

It will also be necessary to strengthen the links of university education with other educational stages (secondary education, vocational training). Until now, universities have concentrated their efforts on carrying out informative and orientation sessions for both secondary school teaching staff and advisors and students. Some universities of the alliance, like the University of Lleida have made advances in this relationship by establishing mechanisms that promote interrelationships between secondary education teaching staff and university teaching staff, such as the Research Award.

“The synthetic indicator that estimates teaching quality in the National Ranking of state classroom-based universities includes three of the four universities of the alliance in the top 10 universities”
The structure of the Iberus Campus favours the following step in this relationship through the sharing of infrastructures and equipment and the execution of joint projects, with a special emphasis on lines of work connected to the areas of specialisation.

<table>
<thead>
<tr>
<th>Indicators of educational improvement</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of undergraduate students</td>
<td>54,157</td>
</tr>
<tr>
<td>No. of students studying Masters degrees</td>
<td>2,431</td>
</tr>
<tr>
<td>No. of students studying doctorates</td>
<td>3,292</td>
</tr>
<tr>
<td>% of foreign students studying Masters degrees</td>
<td>11%</td>
</tr>
<tr>
<td>% of foreign students studying doctorates</td>
<td>20%</td>
</tr>
<tr>
<td>No. of accredited degree courses</td>
<td>20</td>
</tr>
<tr>
<td>No. of accredited Masters degree courses</td>
<td>90</td>
</tr>
<tr>
<td>No. of foreign lecturers</td>
<td>128</td>
</tr>
<tr>
<td>No. of Masters degree courses taught in English</td>
<td>6</td>
</tr>
<tr>
<td>Average No. of doctoral theses in the last 3 years</td>
<td>162</td>
</tr>
<tr>
<td>No. of work experience offers from bodies linked to the university</td>
<td>2,882</td>
</tr>
<tr>
<td>% of adapted classrooms</td>
<td>65%</td>
</tr>
<tr>
<td>% of classrooms with an Internet connection</td>
<td>100%</td>
</tr>
<tr>
<td>% of classrooms with a video projector</td>
<td>85%</td>
</tr>
<tr>
<td>% of areas with WiFi cover</td>
<td>100%</td>
</tr>
<tr>
<td>% of subjects with virtual learning*</td>
<td>8,50%</td>
</tr>
<tr>
<td>No. of small classrooms for smaller groups</td>
<td>115</td>
</tr>
<tr>
<td>% of the campus signposted in English</td>
<td>5%</td>
</tr>
</tbody>
</table>

(*) A large number of subjects offer a virtual classroom as support, despite this not having been entered in this indicator.

**OBJECTIVE**

A.1. Raise standards of educational excellence by founding a quality and innovation process

**ACTIONS**

A.1.1. Quality assurance and improvement of courses on the Iberus Campus

Courses will be structured as intelligent organisations and coordinated by using effective government and mechanisms that enable students to learn from their own experience through continuous processes of assessment and improvement.

In this way, the transparency of the course is checked, both internally in order to make the common project of the course explicit and shared and to enable its coordination, and externally in order to assure students of the commitment of the university to each course and to report their results.

In this process, the learning results obtained by students and the suitability of them to future vocational needs and societal demand are checked externally.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of students that have a job connected to their qualification within 2 years of finishing their course</td>
<td>*</td>
<td>70%</td>
</tr>
<tr>
<td>% courses with teaching results published on the web site</td>
<td>5%</td>
<td>80%</td>
</tr>
</tbody>
</table>

(*) Current information not available
A.1.2. Promotion of professionalism of the teaching staff by means of continuous training and educational innovation

By establishing ambitious training programmes for teaching staff, dealing with communication abilities and teaching skills:

- Promoting knowledge and command of foreign languages with the necessary level to teach, incorporating language training permanently into training plans for teaching staff and giving institutional support and recognition to teaching in English.
- Developing creativity and the capacity for innovation in teaching.
- Studying improvements in technological knowledge and the incorporation of new teaching methods.
- Assessing and recognising the quality of the teaching activity of the teaching staff through a specific programme that will be a true engine for improvement and the basis for professional development and recognition of the teaching staff's teaching activity.
- Promoting the use of mobility, exchange and language support programmes, thereby facilitating residencies related to research and teaching innovation, leading to the establishment of trans-national cooperative networks in these fields.

A.1.3. Creation of Interuniversity Teaching Groups (ITG) to work jointly on projects or studies in the areas of specialisation of the Campus

These groups will be made up of research and teaching staff from the four universities and will be organised by lines of specialisation. The main objective of these ITGs is to work together on specific projects or studies, always searching for teaching excellence and innovation in the learning process as an essential element for the development of a quality educational programme that is attractive both nationally and internationally. This will begin with the study of the teaching map of the universities of the strategic alliance, using existing synergies for the improvement of the areas of specialisation defined for the Iberus Campus. Active participation will take place on the inter-university networks for educational innovation that serve as points of reference and sources of improvement and innovation initiatives.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of teaching and research staff that participate in a training programme</td>
<td>50%</td>
<td>65%</td>
</tr>
<tr>
<td>No. of good teaching practices published either on the web site or on a shared database of the Campus</td>
<td>-</td>
<td>15</td>
</tr>
</tbody>
</table>
A.1.4. Definition of a shared services platform for the universities of the
Iberus Campus represents a great opportunity for the universities. This is not only because of what the pooling of their resources means but also due to the optimisation of existing ones.

This approach proposes the creation of a shared services platform. The services will be integrated gradually and in an organised way onto the platform, in accordance with the progress of the project itself.

The integration of the following services is proposed as an initial step:

- Library
- University employment
- Purchasing of main goods and services, like: office supplies, security, cleaning, maintenance etc.

### OBJECTIVE

A.2. To improve the international visibility of the Iberus Campus

### ACTIONS

A.2.1. Preparation of a national and international marketing plan to raise awareness of the Iberus Campus

The marketing and communication unit will prepare a national and international marketing plan including annual monitoring and review, that will enable the Campus to be positioned in the international university field and be recognised by society as a whole.

This plan will include the following actions that are detailed in depth throughout this report: an international doctorate and postgraduate school, an improvement and increase of relationships and alliances with universities and joint research centres with businesses and an international meeting point. The plan will include the improvement of the management units of the four offices for international relations.

The plan will also have a multi-language web site that is fully accessible and that will act as the main external access to and image of the Campus.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of shared services</td>
<td></td>
<td>Library and employment service</td>
</tr>
<tr>
<td>% if reduction in expenses as a consequence of sharing services</td>
<td>-</td>
<td>15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of unique visitors to the promotional web site of the Campus</td>
<td>-</td>
<td>90 million</td>
</tr>
</tbody>
</table>
A.2.2. Creation of an internationalisation and communication unit linked to the management and coordination structure of the alliance

The need to create an internationalisation unit of the Campus has been detected, which will enable the functioning of all the existing units in the framework of the Campus Iberus to be harmonised and coordinated in order to implement its policies of internationalisation. This unit will enable the existing synergies between the various international relations offices of each university to be shared, as well as determining a communal international strategic line for the future.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of host events per year: international weeks</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>No. of visits to foreign universities/international meetings per year</td>
<td>173</td>
<td>250</td>
</tr>
<tr>
<td>No. of fairs attended per year</td>
<td>32</td>
<td>40</td>
</tr>
</tbody>
</table>

**OBJECTIVE**

A.3. The development of a strategic alliances policy with recognised national and international universities

**ACTIONS**

A.3.1. Creation of a cross-border campus with the universities of Toulouse and Pau - EBRoS (European Bioregion of Science) Western Pyrenees

Based on already existing connections, relationships and agreements, some basic lines of collaboration will be established with the universities of Toulouse and Pau for the creation of a cross-border campus with high potential. In this respect, the commitment has already been made by all parties and work is currently being carried out on its definition, design and financing. The basic lines of collaboration with the universities of Toulouse and Pau will be based around the strategic areas of specialisation of the campus, which to a large extent will match the strong points of the universities of Toulouse and Pau. This direct cross-border collaboration will represent a strong boost to the regional and economic development of the zones that make up the Iberus Campus and will be focused on the improvement of mobility among students, teaching staff and researchers, the joint preparation and teaching of postgraduate, Masters and doctorate programmes and collaboration on joint research projects within the framework of the areas of specialisation, with the objective of becoming an international benchmark in southern Europe.

EBRoS will enable the Iberus Campus to have:

- **A diverse academic programme**: between the universities of Toulouse and Pau, over 680 degrees, Masters and doctorate programmes are offered.
- **High international visibility**: the University of Toulouse has a very good reputation in the sectors of agronomy and health.
- **Dynamic and innovative scientific research**: research centres like biomedical cancer centres or the Agripim centre in Auzeville will add to the capabilities of the Iberus Campus.
### A.3.2. Strengthening of the strategic alliance with the MIT (Massachusetts Institute of Technology)

The University of Zaragoza collaborates with the MIT in the development of educational activity at the Zaragoza Logistics Centre (ZLC). The Zaragoza Logistics Centre is a research institute that is attached to the University of Zaragoza, where the government of Aragón, PLAZA S.A., the University of Zaragoza, Ibercaja, CAI and the Transport and Logistics Centre of the MIT all participate.

This starting point enables the development of collaboration in other areas of specialisation of the Iberus Campus, specifically in energy and the environment and technologies for health. The participation of the MIT will also be extended to the area of the creation of the centre for innovation and enterprise.

### A.3.3. Identification and programming of strategic alliances with other universities in the areas of specialisation

Currently, the four universities that make up the Campus already have alliances with national and international universities. The objective of this action is that once the academic curriculums and the research groups have been organised and configured around the lines of specialisation, mobility between these and other universities will be improved with the aim of creating an attractive academic/research programme that can be used to attract the best students, teaching staff and researchers.

In this way they would gain access to the most important organisations and related businesses and consequently would increase the future potential of the Campus.

This strategy requires planning work, ordered by the chosen areas of specialisation that will determine the organisations with which to establish permanent agreements for:

- The definition of joint educational programmes
- Collaboration at the International Postgraduate and Doctorate Centre
- The exchange of teaching staff and researchers
- The promotion of student mobility

---

**Table A.1: Indicators of Project Development**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current Sit.</th>
<th>2015 Object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of projects defined in the cross-border campus</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>No. of Interuniversity Masters programmes of the cross-border campus</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

**Table A.2: Indicators of Business Collaboration**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current Sit.</th>
<th>2015 Object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of businesses that collaborate in teaching projects</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>% of doctoral theses in businesses or organisations</td>
<td>-</td>
<td>30%</td>
</tr>
</tbody>
</table>
A.3.4. Incentive programme for university staff for the consolidation of permanent agreements

International agreements are based on collaboration and exchange work usually carried out within the framework of work by teaching staff or researchers from the universities. This is the starting point that can be used in order to initiate strategic agreements for the whole of the Iberus Campus.

The objective of this action is:

- To identify the existing collaboration scope and the degree of complementarity of these collaborations with the objectives of the Iberus Campus
- To define the strategic collaboration model in the teaching, research and knowledge transfer fields
- To identify possible clusters for initiatives regarding the areas of specialisation of the Campus
- To establish leaders for strategic collaboration projects and their incentives for their involvement in the initiative, providing incentives for their participation and contribution to the Campus models.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in the number of agreements with international universities</td>
<td>-</td>
<td>25%</td>
</tr>
<tr>
<td>Establishment of the joint plan</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Map of collaborations</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Definition of the parameters for the collaboration model</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Project leaders for strategic collaboration</td>
<td>-</td>
<td>5</td>
</tr>
</tbody>
</table>
OBJECTIVE

A.4. To create an International Postgraduate and Doctorate Centre (IPDC)

ACTIONS

A.4.1. Creation of the *Iberus* International Postgraduate and Doctorate Centre (IPDC)

The creation of the *Iberus* International Postgraduate and Doctorate Centre is based on the need to make a commitment to excellence, internationalisation and educational improvement. This centre will include the academic programme of excellence for international Masters and doctorate programmes from the four universities as a whole. It will be organised in accordance with the lines of specialisation of the Campus. This will enable it to become an international leader in the postgraduate and doctorate programmes defined by the lines of specialisation of the *Iberus* Campus. It will also be based on the following aspects of academic improvement: innovation, internationalisation and continuous training.

The International Postgraduate and Doctorate Centre will be organised into two related areas of excellence, which are research and businesses, connected by centres of excellence so that a set of activities can be carried out as described in the following graphic:

The creation of this IPDC requires the preparation of a shared organisation made up of the four universities of the strategic alliance.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in international Masters offered by area of specialisation</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>No. of first registrations at the IPDC</td>
<td>-</td>
<td>300</td>
</tr>
<tr>
<td>% of international doctorates in the areas of specialisation</td>
<td>-</td>
<td>20%</td>
</tr>
</tbody>
</table>

- One international postgraduate programme per area of excellence with a connection to the institutes and groups of excellence
- International postgraduate programmes linked businesses via centres of excellence
- An international doctorate programme with a research career at a university or business
A.4.2 Collaboration with the productive sector for the development and teaching of Masters and doctorate programmes

Collaboration with socioeconomic agents is becoming essential for the development of an education that is adapted to the needs of an economy that is immersed in the society of knowledge. This collaboration requires close work both in its design and in the preparation of the teaching activity.

The aim is to develop a truly collaborative educational plan that not only includes work experience in businesses or organisations, but also joint developments of the educational project, the sharing of educational responsibility, the development of doctoral theses in businesses or organisations and research projects.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of businesses that participate jointly in educational projects</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>% of doctoral theses in businesses or organisations</td>
<td>-</td>
<td>30%</td>
</tr>
</tbody>
</table>

A.5. Attraction of international talent through a prestigious academic programme

**OBJECTIVE**

A.5.1. Progressive internationalisation plan for the academic programme of the alliance

The preparation of an internationalisation plan for the academic programme of the alliance is one of the priority actions of the Campus. This represents a strong commitment to the international reputation of the degree and postgraduate qualifications on offer.

Therefore, an annual plan including objectives and actions regarding the number of subjects and courses to be internationally adapted will be defined, starting with the lines of specialisation of the Campus, depending on:

- The available budget
- Level of international demand for the subject or qualification
- Bilingualism of the teaching staff
- Number and location of the universities involved
- Etc.

The implementation of a programme for visiting professors is also becoming necessary, in order to strengthen the international dimension of teaching and which will in turn enable the development of other facets regarding international cooperation.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Masters programmes taught in English</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>% subjects taught in a language other than Spanish</td>
<td>5%</td>
<td>20%</td>
</tr>
</tbody>
</table>
A.5.2. Creation of joint courses between the Campus and other international universities

As in the action above, there is a need to organise and strengthen the set of international alliances of the four universities to enable them to develop joint courses with other international universities in the strategic areas of specialisation of the Campus.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase of jointly taught courses between the Campus and other international universities</td>
<td>-</td>
<td>8</td>
</tr>
</tbody>
</table>

A.5.3. International visiting lecturer programme

This programme will mainly consist of having annual financing for residencies of between 3 and 6 months for leading lecturers that will enable them to teach at the same time as consolidating relationships for the development of joint research projects and links for joint theses within the framework of the strategic alliances.

The objective of this programme is also to raise the internationalisation level of the Campus and promote the use of English in the various degree, Masters and postgraduate programmes.

This programme will be closely connected to the international meeting point in order to facilitate the recruitment, training and practical use of these teaching staff and researchers.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Curr. sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of lecturers in residence recruited to the programme</td>
<td>-</td>
<td>15 each year</td>
</tr>
</tbody>
</table>
A.5.4. Creation of an International Meeting Point

The creation of an international meeting point called the "Iberus International Meeting Point" represents fulfilment of the commitment to prepare a multi-purpose area that is central and visible on the Campus, that can offer the very best attention to foreign visitors.

This point will have offices at the different universities that make up the strategic alliance, in order to provide any suitable information requested by foreign visitors.

The collaboration of the internationalisation areas and vice-chancellor’s offices with the marketing and communication unit of the Campus will enable the definition of guidelines that will turn it into an efficient tool for its purpose.

The objective of these residencies is to improve the development of training skills in areas of specialisation and in the command of foreign languages, especially English, for their use in education and research on the Iberus Campus itself, in order to achieve internationalisation and international excellence and as a mechanism to forge relationships through future international alliances.

Therefore, said residencies will be assessed based on the following criteria:

- Duration
- Quality of the programme
- Quality of the recipient organisation

| Indicators | Curr. sit. | 2015 object.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% of the Campus signposted in English</td>
<td>5%</td>
<td>80%</td>
</tr>
<tr>
<td>% of foreign visitors that have used the services of the meeting point</td>
<td>-</td>
<td>50%</td>
</tr>
</tbody>
</table>

A.5.5. Promotion of pre and post-doctorate residencies

One of the major objectives of Spanish universities is specialisation, internationalisation and excellence.

At Campus Iberus we believe that one way to achieve these three objectives is the promotion of pre and post-doctorate residencies for teaching staff.
OBJECTIVE

A.6. Development of a joint educational programme for the Iberus Campus

ACTIONS

A.6.1. Establish a harmonised system of courses on the Iberus Campus

Closely related to action “A.1.1. Quality assurance and improvement of courses on the Iberus Campus” a harmonised system of courses will be established, together with a shared services plan between the universities that make up the Campus with the main objective of promoting the inter-campus mobility of students, teaching staff, researchers and, in general, all professionals connected to the university community of the Iberus Campus (recognition of credits, use of services, good mobility etc.)

The growing demand for personalised education, adapted to the different timetables or needs of students has encouraged the members of the campus to propose teaching a course exclusively online as a pilot scheme, with plans to extend the scheme to a larger number of both degree and postgraduate students.

b) The social dimension of classroom-based and non-classroom-based education

The objective is that both students from the four universities and all the most highly qualified lecturers will take part in this course, along with several major businesses in the alliance.

The educational programme will be developed gradually and is designed to be a programme that meets international demand.

c) International dimension

An online education centre, “Iberus U” will be prepared for this initiative, which will be one of the main lines to be promoted by the Marketing and Communication Area of the Campus in order to achieve sufficient international participation. This centre will focus on the teaching of Masters programmes and the universities’ own degrees. In this regard, the “ICT and Virtual Educational Environments” Masters will be improved, which currently offers 200 subjects.

A.6.2. Promoting the development of contents for virtual teaching

This action is organised around three dimensions:

a) The inter-campus dimension and its advantages for students of the universities that make up the campus.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of harmonised courses</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>No. of shared services</td>
<td>-</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of subjects in virtual teaching*</td>
<td>8.5%*</td>
<td>15%</td>
</tr>
</tbody>
</table>

(*) A large number of subjects are not taught virtually but do have a virtual support classroom.
A.6.3. Research and teaching mobility programme between the universities of the Campus and other universities

A shared research and teaching mobility programme will be designed that enable the universities to share experiences, acquire new knowledge, exchange educational methodologies and/or learn about other national and international educational systems. This will mean an increase in the number and quality of the range of educational and research possibilities of the Campus. In order to implement the above it will be necessary to take some actions, like:

- Mobility aid (grants etc.)
- Short stays
- Others

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of mobility programmes</td>
<td>35</td>
<td>45</td>
</tr>
</tbody>
</table>

OBJECTIVE

A.7. Improve the teaching innovation activities and increase the participation of teaching staff in educational research

ACTIONS

A.7.1. Support and improvement programme for the educational innovation projects on the Iberus Campus

The progress of the development of educational innovation projects at the various universities that make up the strategic alliance must be improved and consolidated, through the assessment of the various initiatives and their implementation on the Campus as a whole.

The new methodologies will promote and will be used as methodological support, thereby spreading successful innovations.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current situation</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation projects proposed for implementation on the Campus</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Students’ evaluation of the improvements introduced</td>
<td>-</td>
<td>8 out of 10</td>
</tr>
</tbody>
</table>
A.7.2. Increase participation of teaching staff in educational innovation activities

The collective involvement of teaching staff in educational innovation activities represents the foundation of innovative education that is adapted to the educational needs of students and able to provide them with necessary skills. The shared responsibility of teaching staff is essential in order to achieve the objective of putting students at the centre of the teaching-learning process, meaning that the development of measures that help to promote their participation and to share the objective of the organisation is crucial to the success of the process of adapting courses to the EHEA.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prizes given for the promotion of educational innovation</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**OBJECTIVE**

A.8. Improve educational areas and equipment in order to adapt them to the requirements of the teaching methodologies of the EHEA

**ACTIONS**

A.8.1. Total adaptation of classrooms, areas and services to the requirements of the EHEA

The European Higher Education Area represents deep conceptual changes related to learning to face changing situations. This requires new ways of transmitting knowledge and has major repercussions on the media and material resources that need to be provided for the educational process.

The following actions are planned in order to achieve total adaptation of the services and areas of the Campus to the new teaching methodologies of the EHEA:

- Renovation of classrooms and equipment: preparation of small classrooms for discussion and preparation of working in groups, updating of equipment and improvements to the accessibility of the Campus
- Installation of broadband and communication networks on the Campus (*Iberus* WiFi network)
- Renovation and change of layout of areas: preparing areas as educational areas, including informative panels and displays
- Promotion of the use of new technologies and the Internet in the classroom
- Use of video-conferencing and other resources that will enable collaboration with foreign universities (internationalisation at home)

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of adapted classrooms</td>
<td>65%</td>
<td>100%</td>
</tr>
<tr>
<td>% of classrooms with Internet connection</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>% of classrooms with video projector</td>
<td>85%</td>
<td>100%</td>
</tr>
<tr>
<td>% of areas with WiFi cover</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>No. of small classrooms for small groups</td>
<td>115</td>
<td>200</td>
</tr>
</tbody>
</table>
A.8.2. From traditional libraries to learning and research resource centres (LRRC)

The new context of university activity defined by the eruption of new information and communication technologies, as well as the internationalisation and organisation of work into networks, represents a need for transformation of resource management and access systems for learning and research. The objective of this defined line is the extension of the concept and features of university libraries, turning them into efficient Learning and Research Resource Centres (LRRC). This new model of a university library, now changed into a centre for innovation and change of university activity entails:

- the design of different ways to project and manage resources for learning and research.
- the conversion of management and operating systems of the libraries.
- the modification of their physical areas and the services that they offer.
- the updating of the skills and responsibilities of their staff.

OBJECTIVE

A.9. Establish mechanisms of cooperation with teacher training and vocational training centres

ACTIONS

A.9.1. Development of vocational training centres on the Campus

The creation of vocational training centres on the Campus will strengthen overall specialisation by covering everything from research up to specific application in the work environment, in such a way that potential workers will be able to be trained in these strategic areas.

In this regard, the creation of a vocational training centre in Almunia - the University of Zaragoza – is being studied in the area of renewable energies. The signing of collaboration agreements will also be promoted with teacher training and vocational training centres from the four autonomous communities for the sharing of premises and equipment.

Collaboration in specific projects between universities and vocational training centres will be especially promoted in these agreements, so that specialists can be trained in the areas of specialisation of the Campus.

### Indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of hours a day the library is open to the public</td>
<td>56%</td>
<td>75%</td>
</tr>
<tr>
<td>% of libraries included in the global network of the Campus</td>
<td>-</td>
<td>100%</td>
</tr>
</tbody>
</table>
A.9.2. Training plan for teacher training and vocational training staff in order to improve teaching and learning

A training plan for teacher training and vocational training staff will be established for specific areas connected to the areas of specialisation of the Campus.

This plan will establish a permanent network of collaboration with the other members of the educational systems of each region through three lines of work:

• Establishment of agreements with educational authorities for the implementation of training work experience for students of early childhood and primary education and Masters in teacher training.
• Participation of the teaching staff from other public education institutions in degree and Masters programmes in the field of educational sciences.
• Collaboration with Teacher Training Centres (TTCs) regarding continuous training for teaching staff.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of teacher training and vocational training teachers participating in the training plan</td>
<td>-</td>
<td>70/year</td>
</tr>
</tbody>
</table>
Summary of area A:
Actions regarding educational improvement and adaptation to the European Higher Education Area

A.1. Raise standards of educational excellence by creating a process of quality and innovation

• A.1.1. Quality assurance and improvement of courses on the Iberus Campus
• A.1.2. Promotion of the educational professionalization of teaching staff
• A.1.3. Creation of Inter-University Educational Groups (IEG)
• A.1.4. Definition of a shared services platform for the universities of the Campus

A.2. Improve the international visibility of the Iberus Campus

• A.2.1. Preparation of a national and international marketing plan to raise awareness of the Iberus Campus
• A.2.2. Creation of an internationalization and communication unit linked to the management and coordination structure of the alliance

A.3. Development of a strategic alliances policy with prestigious national and international universities

• A.3.1. Creation of a cross-border campus with the universities of Toulouse and Pau - EBRoS (European Bioregion of Science) Western Pyrenees
• A.3.2. Strengthening of the strategic alliance with the MIT
• A.3.3. Identification and programming of strategic alliances with other universities in the areas of specialisation
• A.3.4. Programme of incentives for university staff for the establishment of permanent agreements

A.4. Create an International Postgraduate and Doctorate Centre (IPDC)

• A.4.1. Creation of the International Postgraduate and Doctorate Centre (IPDC) Iberus
• A.4.2. Collaboration with the productive sector for the preparation and teaching of Masters and doctorate programmes
Summary of areas A (continued):
Actions regarding educational improvement and adaptation to the European Higher Education Area

A.5. Attraction of international talent through a prestigious academic programme

- A.5.1. Progressive internationalisation plan for the academic programme of the alliance
- A.5.2. Creation of joint courses between the Campus and other international universities
- A.5.3. Programme for visiting international lecturers
- A.5.4. Creation of an international meeting point
- A.5.5. Promotion of pre and post-doctorate residencies

A.6. Development of a joint educational programme for the Iberus Campus

- A.6.1. Establish a system of harmonised courses on the Iberus Campus
- A.6.2. Promote the development of contents for virtual teaching
- A.6.3. Educational and research mobility programme between the universities of the Campus and other universities

A.7. Promote educational innovation activities and increase the participation of teaching staff in educational research

- A.7.1. Support and improvement programme for the educational innovation projects implemented on the Iberus Campus
- A.7.2. Increase the participation of teaching staff in educational innovation activities

A.8. Improve educational areas and equipment in order to adapt them to the requirements of the teaching methodologies of the EHEA

- A.8.1. Total adaptation of classrooms, areas and services to the requirements of the EHEA
- A.8.2. From traditional libraries to learning and research resource centres (LRRC)

A.9. Establish cooperation mechanisms with teacher training and vocational training centres

- A.9.1. Development of vocational training centres on the Campus
- A.9.2. Training plan for teacher training and vocational training staff in order to improve teaching and learning
2. 2. Scientific improvement and the transfer of knowledge (Area B)
2.2 Scientific improvement and the transfer of knowledge

The *Iberus* Campus will attempt to position itself as a prestigious, leading organisation in the scientific and technology field, in the areas of specialisation for which it is organised into three basic elements:

- Design of appropriate strategies to achieve quality and excellence in research in the strategic lines of the Campus by promoting channels of communication among the members of the alliance and the internationalisation of research.
- Creation of the necessary structures and improvement of existing ones in order to generate an efficient transfer model for research results, promoting the evaluation of research results, strengthening collaboration between businesses and establishing enterprise as a trademark of the Campus.
- Channelling of promotional and dissemination initiatives activities in order to raise public recognition of the research work and the joint image of the *Iberus* Campus.

**Starting point**

With its scientific and technological alliance, the *Iberus Campus* aims to become a R+D agent that supports the socioeconomic development of the Ebro Valley, based on knowledge.

The Campus already has a wide range of scientific and technological infrastructures which allows it to offer services of the very highest standard to the university community and the productive sector of the four autonomous communities that make up the alliance, although the synergies that could be generated between them are not currently being exploited.

The main scientific and technological infrastructures are listed below, according to the strategic areas of specialisation of the Campus:
Health Technology

- Nanotechnology Research and Development Foundation in Navarre (FideNa)
- Principia TechNavarre (PTN)
- Navarre Technological Medical Welfare Complex
- ICTS Medical Imaging Facilities of Navarre
- La Rioja Biomedicine Research Centre (CIBIR)

Energy and the Environment

- Pyrenean Institute of Ecology (IPE)
- National Centre for Renewable Energies (CENER)
- ICTS Biofuel Facilities of Navarre
- Energy Resources and Consumption Research Centre (CIRCE) Foundation and University Research Institute
- Carbochemistry Institute (ICB)
- Vehicle Repair Research Institute (Zaragoza Centre)
- IUI in Environmental Sciences Aragon (IUCAl)
- Combustion Technology Research Laboratory (LITEC)
- Zaragoza Logistics Centre attached to the University of Zaragoza
- Pyrenean Ecology Institute (IPE)

- Lleida Biomedical Research Institute (IRBLLEIDA)
- Aragon Material Science Institute (ICMA)
- IUI Homogeneous Catalysts (IUCH)
- IUI in Nanoscience (INA)
- ICTS Advanced Electronic Microscopy Facilities
- IUI Engineering of Aragón (I3A)
- Biomedical Research Networking Center in Biomaterials, and Nanomedicine (CIBER-BBN)
- Biomedical Research Centre of Aragón (CIBA)
- Aragon Institute of Heat Sciences (I+CS)
- IUI Biocomputation and Physics of Complex Systems (BIFI)
- IUI Mathematics and Applications (UMA)

- Foundation for Development of New Hydrogen Technologies in Aragón
- Sustainability Technology Research Centre (CRETESOS)
- Motor Technology Park of Aragon
Regarding the attraction of talent, the universities of the alliance now have programmes used for this purpose such as the annual grants programme for the addition of technologists to businesses and technology centres of the University of La Rioja, the programme from the Catalan Institute for Higher Education at the University of Lleida and promoted by the Catalan government, the “Ramón y Cajal” programme where the University of Zaragoza is establishing stabilisation policies for its researchers, the programme that the Aragón R+D Foundation (ARAID) has set up with the Government of Aragón for the recruitment of prestigious researchers (currently the University of Zaragoza has 12 researchers recruited this way) or the programme for the addition of research technical support, both to groups of excellence and to university research institutes connected to the University of Zaragoza.

The key for the alliance will be designing shared strategies in order to attract the best people in research connected to the quality projects set up on the Campus (see main goals and projects in areas D and E).

The universities of the Campus have carried out a set of positive experiments regarding the transfer of knowledge function that generates economic value. The universities have been developing innovative areas about the relationship between businesses and knowledge for many years.

One example of this is the Office for the Management of Innovation, Knowledge Transfer and Assessment of Patents, UNIVALUE, which the universities of the G9 group have set up. The objective is to achieve greater identification of research results with potential economic value through professional management.

In some of its duties (especially in assessment), this management is shared by universities that are located nearby and of a similar size, so that a balance between the interests of all of them can be reached.
The alliance of the abilities of the existing units for the transfer of knowledge in the universities with the purpose of stimulating the whole of the Campus will be a key point in the strategy. In the short-term, the links between the Research Results Transfer Offices will be improved, creating a network that is capable of sharing information and opportunities.

Some of the main actions that are being carried out at each of the universities in this area are listed below, which enable a more complete examination of the starting point of the Campus:

**University of Zaragoza:**
- "Office of European Projects" (OEP), assessing and facilitating presence in international programmes and improving the competitive position in existing lines of research
- Programme of Spin-Off companies
- Programme of assessment and presentation of the scientific production of the research groups (SIDERAL)
- Programme of incentives associated with research activity (IRDI)
- Programme of professionalization of research managers

**Public University of Navarre:**
- "Incubator for University Companies" for the creation of companies based on university technology
- ULCC: University Laboratory for the Creation of Companies
- Research Groups Promotion Plan (Basal financing)
- Group Competitiveness Plan (for groups of excellence)

**University of Lleida:**
- "Technological Trampoline" unit specialising in assessment and transfer activities

**University of La Rioja**
- Institutional programme for the creation of technology based companies (CEBICUR)
- European Project Management Unit
- Informative seminars about research carried out
- Programme of commercial visits to companies in order to raise awareness of the technological programme
The objective of the creation of the Iberus Campus is to strengthen research and knowledge transfer policies through a communal, shared strategy by the alliance based around the areas of specialisation.

### OBJECTIVE

B1. Consolidate an improved research of excellence based on the areas of specialisation of the Iberus Campus

### ACTIONS

B.1.1. Establishment of ambitious R+D+I projects within the framework of the strategic alliances

Regarding objective “A.3. Development of a policy of strategic alliances with prestigious national and international universities”, this action is proposed as a way of achieving national, international and European recognition for aspects of each of the areas of specialisation in the field of science and technology.

In this regard, the R+D+I strategic plan of the Iberus Campus will be implemented with the aim of having a clear strategy that is aligned with the various strategies that the Campus proposes, which are listed in Area E.

The plan will include the following aspects:

- It will make use of personal and institutional experience in R+D+I strategic decision making
- It will have a multi-annual, stable framework where priorities can be identified
- It will have instruments to force the university community to follow it:
  - Teaching and research staff vacancies
  - Own R+D programme
- It will have sufficient human and material resources

### Table: Iberus Campus Key Performance Indicators

<table>
<thead>
<tr>
<th>Item</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of indexed publications</td>
<td>2,013</td>
</tr>
<tr>
<td>No. of indexed publications in the first quartile</td>
<td>790</td>
</tr>
<tr>
<td>No. of research lines</td>
<td>3,586</td>
</tr>
<tr>
<td>No. of awarded European projects</td>
<td>47</td>
</tr>
<tr>
<td>No. of coordinated European projects</td>
<td>10</td>
</tr>
<tr>
<td>No. of researchers taking up residencies abroad</td>
<td>216</td>
</tr>
<tr>
<td>No. of researchers from other institutions</td>
<td>58</td>
</tr>
<tr>
<td>No. of spin-off companies</td>
<td>25</td>
</tr>
<tr>
<td>No. of contracts with companies</td>
<td>815</td>
</tr>
<tr>
<td>No. of users of the scientific and technological services</td>
<td>4,633</td>
</tr>
<tr>
<td>No. of technological bids made</td>
<td>1,417</td>
</tr>
<tr>
<td>No. of transfer agreements</td>
<td>236</td>
</tr>
<tr>
<td>No. of licences</td>
<td>19</td>
</tr>
<tr>
<td>Revenue from licences</td>
<td>81,500</td>
</tr>
<tr>
<td>No. of registered patents</td>
<td>43</td>
</tr>
<tr>
<td>No. of requests for services</td>
<td>8,688</td>
</tr>
<tr>
<td>No. of companies located on the Campus</td>
<td>2</td>
</tr>
<tr>
<td>No. of “external” companies located on the Campus</td>
<td>5</td>
</tr>
</tbody>
</table>
• It will promote strategic alliances
• It will establish interaction with the private sector and with other public research centres
• It will improve internal structures
• It will contribute to the generation of a new business community

B.1.2. Establishment of agreements with driving companies/organisations for the development of impact projects in the areas of specialisation

The objective of this action is to organise the identification, definition and setting up of agreements with partners of the Iberus Campus, as in the case of the SOLVENTYA project, where ENDESA and ACCIONA both participate. In this way, the potential of the alliance’s partners (see Area E) will enable major projects to be carried out in the various areas of specialisation of the Campus, thereby promoting excellence in research, the transfer of knowledge and the regional development of the Iberus Campus surroundings.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of implementation of the R+D+I Plan of the Campus</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>No. of R+D+I programmes</td>
<td>-</td>
<td>15</td>
</tr>
</tbody>
</table>

B.1.3. Recruitment programme for internationally recognised researchers, for their addition to the most high profile groups

This programme will have the support of regional programmes (ARAI and ICREA), as well as of the EURAXESS programme (researchers in motion) from the European Union, in order to establish suitable shared recruitment and hiring policies that are based on one single overall policy for the recruitment of international talent.

The programme will be supported by the resources needed for its introduction and implementation in short and medium-term planning that will guarantee the achievement of the specifically proposed objectives:

• Increase the number of top quality international researchers in the areas of specialisation of the campus by 32%
• Improve the dissemination mechanisms for the calls for national and international grants. In this regard, the promotion will be carried out by the
Marketing and Communication Unit and will be one of the basic objectives of the International Marketing Plan of the Campus (see Area A)

• Select the most suitable people for the open lines of research for each of the areas of specialisation in order to have their collaboration on certain projects.

• Provide greater funding for grants for pre and post-doctorate researchers

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of researchers from other institutions</td>
<td>58</td>
<td>80</td>
</tr>
<tr>
<td>No. of researchers who take up residencies abroad</td>
<td>216</td>
<td>300</td>
</tr>
</tbody>
</table>

B.1.4. Programme for the recruitment of young researchers to recognised research groups, thereby promoting the necessary generational cover for the maintenance and consolidation of existing recognised positions

This action is related to the previous one, which attempts to promote generational cover in the internationally recognised research groups through a specific programme that will guarantee the availability of places by area of specialisation and year.
OBJECTIVE

B2. Establishment of a scientific coordination strategy for the Iberus Campus based on excellence as an area of growth and innovation

ACTIONS

B.2.1. Supply of a research map that will enable people to be aware of and to see the research lines and their strategic position, as well as their prestige and quality.
The preparation of a research map for the Campus is based on the need to define quality profile in research, producing the “identifying prestige profile” in the international community and the need to develop specific related scientific campuses that encourage territorial inter-connection.
This map will enable the following:

- Identification of specific lines of research associated with the demands of the region and possible synergies between the universities
- Development of an inter-campus scientific policy
- Consolidation of research of quality on the various campuses of each university
- Provision of infrastructure to current campuses that facilitates cohesion
- Assessment and valuation of human, material and area resources of each of the existing campuses
- Improvement of the characteristics and specific aspects of each campus in order to encourage development of the socioeconomic environment

• Offering of incentives for inter-campus collaboration, coordinated by the “campus leader(s)” in certain thematically defined areas

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of the Research Map</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

B.2.2. Creation of the Scientific Coordination Office (SCO-Iberus)
The Scientific Coordination Office will be responsible for identifying, planning and organising the research work of the specialisation lines of the Campus. In this way, it will be able to coordinate the existing equipment and infrastructures in the different units of the universities of the Campus by proposing actions that will improve efficiency in the use of facilities.
This unit will also be responsible for carrying out the monitoring and control of the results obtained, analysing any possible deviations from forecasts, proposing improvements and relevant recommendations that will be passed to the Executive Committee, thereby establishing itself as a monitor of the shared research lines and making scientific possibilities visible.
The objective of this action is to achieve alignment between the lines of research opened by each of the universities of the Campus around the strategic areas of specialisation, thereby defining a common working framework.
### B.2.3. Implementation of a strategy for shared use of the scientific and technological infrastructures of the campus, promoting a common framework for their use and detecting needs for updating and acquisition of new equipment

The four universities that make up the Campus undertake to prepare a plan for the optimisation of infrastructures, equipment and services with the objective of identifying synergies that will improve the sustainability of the Campus itself and reduce fixed costs. This plan will provide a common framework for their use, detecting any needs for updating or the need to acquire new equipment. A common visibility plan for the infrastructures will also be necessary, together with a shared programme both for the researchers of the Campus and for companies and Public Research Bodies outside of the Campus.

### B.2.4. Investment plan for the acquisition of scientific and technological infrastructures that will enable the Iberus Campus to position itself as part of the international elite in the areas of specialisation

The Iberus Campus intends to be an internationally respected centre regarding excellence in research, improving this respect through the improvement of the scientific and technological infrastructures that the alliance has and which are described in section 2.5 of this report in an annex, including a list of its infrastructures.

As a whole, the alliance has several singular scientific and technological infrastructures. In order to improve the research work of the scientific groups it is proposed to prepare an investment plan regarding scientific and technological infrastructures for the entities that make up the strategic alliance of the Campus.

The objective is the modernisation of facilities so as to improve the use, savings and quality of the research work on the Campus.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Execution of the optimisation plan</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>% of shared infrastructures</td>
<td>-</td>
<td>80%</td>
</tr>
<tr>
<td>% of fixed cost savings</td>
<td>-</td>
<td>25%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Curr. sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Execution of the investment plan</td>
<td>No</td>
<td>YES</td>
</tr>
</tbody>
</table>
OBJECTIVE

B3. Promote lines of research with future potential by using the synergies between the various groups/teams of the Iberus Campus

ACTIONS

B.3.1. Development of a consolidation programme of multidisciplinary lines between the universities and the research centres of the Campus

It will be necessary to detect the lines of research with the greatest future potential, based on the research map of the Iberus Campus, prepared by the Scientific Coordination Office. It will therefore be essential to have the advice of the scientific advisory committee of the Campus in order to establish the most appropriate fields of research.

B.3.2. Creation of a programme of leaders responsible for identifying the possibility of being awarded high-level national and international projects

This action will enable the establishment of a new management and support structure for research, by bringing together a group of professionals that will collaborate with the researchers of the Campus in the generation of bids for high impact projects, simplifying identification and management work in their applications. It will be necessary to collaborate with the present management services of the entities that make up the Campus and establish specific training programmes that will enable there to be highly-skilled leaders with knowledge of the generation of bids in highly competitive tenders both nationally and in Europe

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation of the plan</td>
<td>No</td>
<td>YES</td>
</tr>
<tr>
<td>% of shared multidisciplinary lines</td>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of projects identified by the leaders</td>
<td>-</td>
<td>15/year</td>
</tr>
<tr>
<td>Specific programmes for the training of leaders</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

B.3.3. Creation of a mobility programme for post-doctorate researchers through residencies at internationally respected universities

A common mobility programme will be prepared in order to raise the quality and internationalisation of teaching and research staff. Therefore, a system of incentives will be organised, enabling the taking up of grant-supported residencies at major international universities for which the following aspects will be
considered:
• Alignment of the research activity with the established lines of research of the Campus
• Possibility of the integration of teaching and research
• Research results

The attendance of scientific seminars and conferences will also be promoted, through support for the presentation of speeches and communications in an increasing number of publications.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of researchers that take up residencies abroad</td>
<td>216</td>
<td>285</td>
</tr>
<tr>
<td>No. of researchers from other institutions</td>
<td>58</td>
<td>100</td>
</tr>
<tr>
<td>No. of indexed publications</td>
<td>2,013</td>
<td>2,500</td>
</tr>
</tbody>
</table>

**OBJECTIVE**

**B4. Improve the company-campus model by promoting the transfer and evaluation of research results**

Universities should contribute to the economic, social and technological development of society. Therefore, one of the objectives of research is to promote closer ties with the business community, taking the following actions:

**ACTIONS**

**B4.1. Creation of a shared commercial network for the Iberus Campus**

This commercial network will be based on a shared model of Open Innovation and its mission will consist of identifying the sectors for placement in the market, promoting and marketing knowledge and results that can be viably transferred from university research and, in short, efficiently exploiting research results, acting in agreement with the Scientific Coordination Office of the Campus.

There are numerous cases in which researchers themselves are unaware of the techniques or possibilities that the marketing of a development, product or service offers. Therefore, the connection of a group of specialised professionals to a common marketing plan is proposed, thereby promoting the positioning of the university as a centre for the development of innovative products and with a high capability for generating income.

This network will promote programmes for the addition of assessment managers, professionals in innovation, transfer and assessment of patents.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income per licence</td>
<td>81,500</td>
<td>500,000</td>
</tr>
<tr>
<td>No. of licences</td>
<td>19</td>
<td>45</td>
</tr>
<tr>
<td>No. of contracts with companies</td>
<td>815</td>
<td>1,200</td>
</tr>
<tr>
<td>No. of requests for services</td>
<td>8,688</td>
<td>11,500</td>
</tr>
<tr>
<td>No. of patents</td>
<td>43</td>
<td>75</td>
</tr>
</tbody>
</table>
B.4.2. Creation of a programme for innovation managers

The main duties of these managers will be the detection of research results that can be valued, the creation of the technological product from the common research groups and structures and the commercial tracking of said product. The objective of this programme is to raise the standard of competitiveness of the Campus and improve its innovative character.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 object.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of innovation managers</td>
<td>-</td>
<td>25</td>
</tr>
</tbody>
</table>

B.4.3. Creation of an Innovation and Enterprise Centre (IEC)

This centre will be the hub for the promotion of university enterprise, by promoting criteria, a conducive environment, training and aid needed for the generation of new companies capable of valuing the knowledge generated on the Iberus Campus. Therefore, this centre will be directly linked to the International Postgraduate Centre (IPC) and its main duty will be to generate research and training in learning and innovation programmes in order to promote the training of students in this field and improving their employability and the transfer of knowledge. The centre will also have a pre-incubator scheme for start-up companies with offices on all the campuses and the obtaining of seed capital will be channelled for the creation of technologically based companies.

This centre will include actions in the following areas:

- Horizontal enterprise training throughout the learning process
- Development of skills related to creativity and innovation
- Innovation management policies and training and development programmes for spin-offs.
- Setting up of a Masters in Research and Innovation that strengthens the commitment to the transfer of research to businesses, training professionals that will work in the research centres and in the businesses, managing the innovation. Its objectives are:

- Providing students with management and organisational knowledge, skills and aptitudes in the field of innovation
- Stimulating and promoting the application of innovative methodologies and techniques
- Training students in tools used in the management of research and innovation
- Creating a network of professionals with the necessary knowledge, skills and experience for the management of research and innovation
- Connecting the research and productive sector
- Improving employment stability
- Promoting the corporate survival and success of companies in the region of the Iberus Campus
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of courses containing enterprise subjects</td>
<td>10%</td>
<td>50%</td>
</tr>
<tr>
<td>Existence of a pre-incubator with offices on all the campuses</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

**B.4.4. Creation of joint research centres with businesses**

These centres will be developed as joint research areas with businesses that encourage joint research between technologists and researchers, which represents a considerable added value in the communication and closer ties between the business and university community.

The establishment of joint research centres enables the development of joint R+D units between people from universities and businesses, carrying out their daily work in partnership and sharing not only objectives and goals, but also physical areas, thereby promoting personal interaction which is so important in the progress of technological innovation.

These joint research centres will have areas at the universities and their use will be limited to the established research contracts. Agreements with science and technology parks will also be developed, so that the joint centres of sufficient size can be located there.

**OBJECTIVE**

**B5. Improve the visibility of research activity internationally**

This objective is proposed for two different fields. Firstly, the objective is to improve international visibility for research results from the research lines and groups of the Campus, which will lead to new alliances that will make the creation and leadership of international joint networks possible. This visibility is closely related to the publication of articles in journals with a high impact factor, as well as to participation in international conferences. Secondly, the objective is to carry out broader scientific dissemination that is less specific and education of the general public, as part of the social responsibility of the universities. In this way, research work and results will be communicated to the public, thereby stimulating curiosity and interest in scientific and technological achievements and, in short, raising the public estimation of research as a strategic element in social, cultural and economic development.
ACTIONS

B.5.1. Creation of a knowledge management tool for the Campus: “Iberus Global Knowledge Exchange (IGKE)”

The creation of a knowledge management tool like “Iberus Global Knowledge Exchange” is considered an essential element for developing the potential of the Campus, which will enable databases, major projects, publications and scientific and technological bids from each of the areas of specialisation of the alliance and each of the universities of the Campus to be shared.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Currentsit.</th>
<th>2015 Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of shared IGKE projects</td>
<td>-</td>
<td>10/area of specialisation</td>
</tr>
<tr>
<td>No. of publications integrated in the IGKE</td>
<td>-</td>
<td>80%</td>
</tr>
</tbody>
</table>

B.5.2. Promotion and consolidation as a permanent structure on the Campus of the Scientific Culture Units (SCU)

The SCU are the units responsible for channelling the promotional actions of the universities and the research centres. Therefore it will be necessary to coordinate the SCU of the Campus research agents, pooling promotional resources and generating a common strategy for scientific public information.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current Sit.</th>
<th>2015 Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of SCU in the network in the Campus</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

B.5.3. Promotion and support for the participation of researchers in the diffusion and awareness raising regarding the research work they carry out.

Conducting training days in raising awareness which seek to show the public the research carried out through press conferences, dispatching interesting information to the various media, specialised debate forums etc. Their main objectives are:

- Coordinate the Scientific Culture Units
- Carry out specific actions of scientific awareness raising to the public which continue through the Campus.
- Achieve greater participation by researchers in awareness raising works about their results.
- Create a Campus Museum of Science
- Create a common Experts Guide

This action intends to improve the public image of the Campus by showing the general public the research work carried out in the main Campus areas of specialisation by the researchers themselves and also helping a public culture of science to grow.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Currentsit.</th>
<th>2015 Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of days training in raising awareness</td>
<td>66</td>
<td>70</td>
</tr>
</tbody>
</table>
B.5.4. Holding of research laboratories open days

The objective is to improve the recruitment of future students and university researchers through Campus research laboratory open days, both to the general public and aimed at teacher training and vocational training students.

The carrying out of these open days is conceived with the purpose of complementing the current “science hall” days where teaching staff and researchers go to institutes or vocational training centres to conduct workshops and activities or present experiments in the field of science and research.

B.5.5. International dissemination and education regarding scientific activity

The objective of this action is to achieve greater international visibility for the research results of the Campus groups and organisations which will positively affect the development of new international alliances making the creation of new joint research networks or the improvement of existing ones possible.

This visibility is closely related to the publication of articles in magazines with a high impact factor as well as to participation in international conferences.

The main objectives of this action are:

- Increase participation and leadership in international projects.
- Increase the publications of quality and impact
- Develop a specific space on the Campus web site devoted to reporting the main lines of specialisation as well as all those scientific and technological results achieved by the different research groups.
- Use social networks

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of investigators participating in training days raising awareness</td>
<td>154</td>
<td>225</td>
</tr>
</tbody>
</table>
Summary area B: Actions with regard to Scientific Improvement and Transfer of Knowledge

B1. Consolidate an investigation of excellence strengthened from the Iberus Campus specialisation areas

1.1. Establish ambitious R+D+I programmes within the framework of the strategic alliances

- B.1.1. Establishment of ambitious R+D+I projects within the strategic alliance framework
- B.1.2. Establishment of agreements with driving companies/institutions for the development of impact projects in the areas of specialisation
- B.1.3. Programme for the recruitment of internationally recognised researchers for their addition to the most high-profile groups
- B.1.4. Programme for the recruitment of young researchers to recognised research groups, thereby promoting the necessary generational cover for the maintenance and consolidation of existing recognised positions

B2. Establishment of a scientific coordination strategy for the Iberus Campus based on excellence as an area of growth and motivation

- B.2.1. Design of a research map that will enable people to be aware of and to see the lines of research and their strategic position as well as their prestige and quality.
- B.2.2. Creation of the Scientific Coordination Office (SCO-Iberus)
- B.2.3. Implementation of a strategy for shared use of the scientific and technological infrastructures of the campus, promoting a common framework for their use and detecting needs for updating and acquisition of new equipment
- B.2.4. Investment plan for the acquisition of scientific and technological infrastructures that will enable the Iberus Campus to position itself as part of the international elite in the areas of specialisation

B3. Promote lines of research with future potential taking advantage of the synergies between the various groups/teams of the Iberus Campus

- B.3.1. Development of a consolidation programme of multi-disciplinary lines between the universities and the research centres of the Campus
- B.3.2. Creation of a programme of leaders responsible for identifying the possibility of being awarded high-level national and international projects
- B.3.3. Creation of a mobility programme for post-doctorate researchers through residencies at internationally respected universities
Summary of area B (continuation:)
Actions with regard to Scientific Improvement and Transfer of Knowledge

B4. Improve the company-campus interaction model by promoting the transfer and evaluation of research results

- B.4.1. Creation of a shared commercial network for the Iberus Campus
- B.4.2. Creation of a programme for innovation managers
- B.4.3. Creation of an Innovation and Enterprise Centre (IEC)
- B.4.4. Creation of joint research centres with businesses

B5. Improve the visibility of research activity internationally

- B.5.1. Creation of a knowledge management tool for the Campus: “Iberus Global Knowledge Exchange (IGKE)”
- B.5.2. Promotion and consolidation as a permanent structure on the Campus, of the Scientific Culture Units (SCU)
- B.5.3. Promotion and support for the participation of researchers in the diffusion and awareness raising regarding the research activities that they carry out
- B.5.4. Holding of research laboratory open days
- B.5.5. International dissemination and education regarding scientific activity
2.3. Transformation of the campus for the implementation of a socially integrated model and its interaction with the regional environment (Area C)
2.3. Transformation of the campus for the implementation of a socially integrated model and its interaction with the regional environment (Area C)

The clear support shown to the Iberus IEC organisation by the four member autonomous communities and their regional and local governments shows the harmony with the territory where the activity of the Campus takes place and strengthens efforts made in the analysis of and proposals for solving the area’s problems and current and future challenges, bearing in mind present national and international trends.

This transfer of knowledge, the training of qualified professionals and the development and application of new techniques is sought through the lines of research and teaching, basically in the areas of specialisation of the Campus.

Iberus Campus must also be capable of being at the service of society through the promotion and spreading of culture, a commitment to gender equality, the promotion of sustainable development, social cooperation and university cooperation in development.

The Campus must also be designed in such a way that it has green zones, accommodation for students, lecturers and researchers, accessible buildings and parking, common areas and suitable signposting, and must be integrated with the city itself through sustainable transport systems as well as having the appropriate areas for associations, public bodies and other entities.

**Starting point**

Iberus campus aspires to become a model institution in sustainable environmental management, serving as a reference to other institutions. With this objective numerous actions in environmental management, energy efficiency and “green purchase” have been set in motion. In this regard and in relation to the commitment to renewable energy, a key area for the alliance, this year the University of Lleida is installing photovoltaic electric generators to provide ¼ of the energy consumed in the University. The Public University of Navarre has developed a study analysis of the facilities’ energy consumption to discover the possibilities of reducing them, and the possibilities of implementing alternative energies. It also has an experimental micro-network for research into generation and consumption management through renewable sources: solar, wind, photovoltaic, hydrogen and electric vehicles.
Another aspect of great impact on environmental management is the mobility plan, especially if it promotes the use of public transport or promotes energy saving. The Campus universities have recognised this aspect in their strategic plans as well as in their own specific plans such as that of the Public University of Navarre 2009. As a result of this raising awareness by the Universities and local town halls, parking for bicycles and bicycle lanes are available at all the universities.

Both the University of Lleida (with a specific plan) and the University of La Rioja and the Public University of Navarre have arranged accessibility for people of limited mobility in practically all of their buildings - The University of Zaragoza, however, is starting from a less advanced situation in this regard since it has many historic buildings. For this reason, among others, the University of Zaragoza has presented an ambitious campus thematic restructuring project where the criteria of accessibility will be considered as an inherent part of the design.

The Universities of Rioja and Zaragoza are working together with Logroño and Zaragoza City Councils on a campus pedestrian model for the purpose of generating an area within the town centres which does not only include the academic activity but also cultural and leisure activities.

Making another step forward in the creation of a Campus integrated in to the city, the University of Zaragoza and Zaragoza City Council have developed various plans for the creation of an Erasmus (European Region Action Scheme for the Mobility of University Students) District in the central zone where, among other measures, the locating of an International Meeting Point, a Continuous Training Centre, a Centre for courses for Spanish as a foreign language, a Development Cooperation Centre has been proposed as well as halls for videoconferences and the development of a University Information Point.

Zaragoza Housing has also approved an agreement with the University of Zaragoza where city owned apartments will be adapted as accommodation for lecturers and next year’s students and a portfolio of private accommodation will be managed with the same purpose and in the medium term, a halls of residence for students will be created in the Pontoneros building.

The University of Lleida and the Public University of Navarre for their part have student and lecturer halls of residence integrated in the Campus. The University of Lleida is also finalising a further group of 50 dwellings for rental and is promoting, along with the City Council, the construction of a hall of residence for researchers at the Agricultural Science and Technology Park.

The participation of all the entities of the territorial environment has led the universities to widen their relationships with both collective and private institutions. In this way new programmes of cultural and sporting activities have been defined, the library policies have been reformed.
with the expansion of resources and extension of opening hours, they have created new access points to the university, the activity of groups and associations has been supported (more than 100 relationships with social entities and associations) and they have created new social projects (85 volunteer work programmes).

One of the challenges faced by the Campus universities in which said institutions have started to work even when not uniformly, is the improvement of relations between the university and society through the launching of projects for the reduction of administrative costs or the implementation of electronic administration.

<table>
<thead>
<tr>
<th>Description</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of users of the sports facilities</td>
<td>4,035</td>
</tr>
<tr>
<td>No. of cultural activities</td>
<td>316</td>
</tr>
<tr>
<td>No. of activities of scientific education</td>
<td>805</td>
</tr>
<tr>
<td>% of the campus without architectural barriers</td>
<td>95%</td>
</tr>
<tr>
<td>% of the campus with an adapted emergency plan</td>
<td>62%</td>
</tr>
<tr>
<td>% of renewable energies of the total energy used</td>
<td>10%</td>
</tr>
<tr>
<td>No. of clean points</td>
<td>24</td>
</tr>
<tr>
<td>Places in university halls of residence</td>
<td>1,422</td>
</tr>
<tr>
<td>Volume of financing of solid projects *</td>
<td>€ 744,943</td>
</tr>
<tr>
<td>No. of programmes for volunteer, solidarity and cooperation work, in which the university cooperates</td>
<td>85</td>
</tr>
<tr>
<td>No. of relationships established with neighbourhood associations and social entities</td>
<td>97</td>
</tr>
</tbody>
</table>

(*)Data relating to the University of Zaragoza

OBJECTIVE

C.1. To improve the role of the university as a motivating agent in the economic and social environment

ACTIONS

C.1.1. Improvement in the creation of university-company chairs and their gradual transformation into Chairs of Excellence

Institutional and business chairs are the ideal instrument for achieving stable collaboration between the university and businesses and institutions. This is a strategic and long-lasting union, through which both parties benefit from research results and development and innovation. At the head of each one of them is a director, and to carry out monitoring of their activity there is a joint committee, which approves the annual action plan and carries out monitoring. Among the activities they carry out are the following:

• Develop lines of research of common interest
• Winning of research projects in national and international fields
• Advice on innovation and development as well as preferential information on research or transfer projects
• Preparation of doctoral theses and end-of-course projects
• Student teaching practice
• Promotion of the integration of university lecturers into the business environment
• Continuous training activities
• Organisation of seminars, conferences, conventions and courses

The university-company/institution chairs are a good foundation for interaction in collaboration with the productive sector to promote the Iberus Campus objectives, not only in the fields of innovation and transfer, but those related to social responsibility and changes to economic models, as well as those regarding educational improvement and internationalisation. The university-company chairs are the first step in the establishment of chairs of excellence linked to the International Centre for Postgraduate and International Doctorate and the Innovation and Enterprise Centre.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in established university-company chairs</td>
<td>-</td>
<td>10%</td>
</tr>
</tbody>
</table>

C.1.2. Participation in clusters, innovative business groups and Spanish and European technological platforms

One of the main axes of the University Strategy 2015 consists of giving a market value to knowledge through the transformation of research results. The university is the largest R+D+I centre within the Iberus Campus area, meaning that its participation in the initiatives to define the innovation needs of business groups is a key part in guiding research that contributes value to the area. The clusters, Innovative Business Groups (IBG), as well as the technological platforms are a basic setting where innovation cutting-edge needs are defined. Iberus Campus proposes a programme of institutional participation in these platforms, by making a commitment in agreement with the lines of specialisation of the campus.
C.1.3. Collaboration agreements with companies for starting professional development projects with the best students from the beginning of degree programmes

A new type of company-campus collaboration has been established which allows the best students to develop and combine an academic and professional career (in-company) at national and international level, thereby improving their employability.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of students participating in professional development programmes</td>
<td>-</td>
<td>200</td>
</tr>
</tbody>
</table>

C.1.4. Employment as the objective of the educational and research process

Improvement in the employability of Campus graduates is considered as a key factor of the project. For this reason, and with the objective of making the process of university students joining the workforce easier, universities have proposed the creation of a common employment service understood as a large-scale connected employment platform which, starting from the current guidance services, takes coordinated steps for its transformation into a real employment service.

Through this platform, any offers that the companies make at each university, as well as the various career guidance courses will be shared. Additionally, the possibility of developing an evaluation system through professional abilities is being studied as an innovative tool in the university Employment Service, starting from the strategic agreement with the Zaragoza Chamber of Commerce, the Navarra Chamber of Commerce and ESADE for its implementation.

The objective of this platform is also to increase mobility of the universities, both nationally and internationally.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of integration of the employment services of the Campus universities</td>
<td>-</td>
<td>100%</td>
</tr>
</tbody>
</table>
OBJECTIVE

C.2. Promoting Social Responsibility

ACTIONS

C.2.1. Development of a Campus gender equality observatory which includes the execution and monitoring of the Campus Equality Plan

A Campus Gender Equality and Gender Violence Observatory will be created, responsible for coordinating and carrying out in-depth monitoring of the measures that the common plan establishes.

In this regard the development of a Campus Equality Plan will act as a stimulator of socially responsible policies, which will be considered a priority in order to define some common bases that guarantee fundamental rights such as that established in article 14 of the Spanish Constitution on the right to equality of all Spanish people without discrimination based on gender.

The plan will be organised into the following groups of main measures:

Measures for promoting gender equality in access to university.

- Measures to encourage the professional promotion of university employees.
- Measures for the reconciliation of the work-life balance of people who work at the university.
- Measures against gender violence in the university.
- Initiatives for promoting the value of gender equality at the university.

- Study and evaluation measures of the career by gender of university employees and development of the principle of gender equality.

In this regard the manifesto written by the University of Zaragoza on the equality and participation of women in sport sponsored and promoted by the Higher Sports Council is included.

The Study Centre of the woman “Dolors Piera” can also be included, which has been a promoter of equality in Lleida after the Equality Opportunities Plan between men and women by the University of Lleida 2008-2010.

The role which in this sense the Campus Gender Equality and Gender Violence Observatory will play will be to coordinate and carry out monitoring of the degree of progress of the aforementioned measures.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of women in managerial positions compared to the total</td>
<td>-</td>
<td>45%</td>
</tr>
</tbody>
</table>

(*) The current situation is unknown

C.2.2. Post-graduate programmes on feminist studies, on women and on gender taught at the Campus International Post-Graduate and Doctorate Centre

The Gender Equality and Gender Violence Observatory along with the International Postgraduate Centre will be responsible for developing and promoting postgraduate studies as well as degree subjects which enable full equality on the Campus to be guaranteed, as well as its interaction with the general public.
C.2.3. Risk Prevention Unit, health and safety in the workplace, ergonomics and “campus healthy hearts”.

The concept of excellence on the campus implies the integration of risk prevention in teaching and research as well as continuous improvement in safety, ergonomics and health in the workplace in premises, facilities and processes for the transmission to students of experiences of good practices in a safe and healthy university environment as an essential measure to achieve substantial progress of a preventive culture.

Health and safety in the workplace is an ethical, legal and social requirement which must be integrated as a basic element of modernisation and improvement in the universities making up Iberus Campus in each of the activities that are carried out on the campus and in the actions of all hierarchal levels. The duty of the universities as transmitters of knowledge also allows them to contribute to spreading the culture of Health and Safety among future generations of professionals educated at the university who in due course will fulfil leading roles in all sectors of society.

The coordination of the Risk Prevention Units has been proposed in order to promote a preventive culture within the Iberus Campus in order to achieve a safe a pleasant working environment as well as encouraging health and safety in the workplace through the application of preventive measures and development of activities designed to eliminate or minimise risks.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of post-graduate students in feminist studies</td>
<td>-</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of preventive measures implemented in a coordinated way in the Campus</td>
<td>-</td>
<td>15</td>
</tr>
<tr>
<td>% of the Campus with an adapted emergency plan</td>
<td>62%</td>
<td>90%</td>
</tr>
</tbody>
</table>
C.2.4. Creation of the unit for the promotion of voluntary work and cooperation in the development of Iberus Campus

Iberus Campus aims to become established as a public area, helping to create participative and supportive citizens that are prepared to find solutions to the problems which affect society as a whole and providing the channels so that this participation is compatible with its everyday activity as a University.

Iberus Campus will maintain continuous communication with other institutions, foundations, associations and other NGOs for the promotion of public attitudes at the same time as developing a set of coordinated actions throughout the campus in the field of solidarity, voluntary work and cooperation in development.

One of the main objectives of the Campus is to completely adapt all its infrastructures and equipment so that they are fully accessible to disabled people. As mentioned in the “starting point” section, all the Campus universities are very advanced in this regard except the University of Zaragoza. This university will carry out some of the actions which are mentioned below by accepting the restructuring project for thematic areas (see action C.5.3.).

- Access to buildings:
  - Elimination of single steps and introduction of alternative routes accessible with ramps
  - Installation of handrails
  - Reduction in slopes
  - Installation of accessible counters
  - Implementation of tactile support (Braille system, high relief and/or tactile plans) in the visual information already existing in the accesses

- Interior horizontal movement:
  - Surface non-slip treatment on paving
  - Inclusion of tactile information (Braille and high relief) on the identifying signposting in the areas

- Auditoriums and lecture halls:
  - Installation of adapted, ergonomic furniture
  - Installation of magnetic loops
  - Subtitles in audiovisual support
  - Specific support products

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<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of financing of public projects *</td>
<td>744,943</td>
<td>1,200,000</td>
</tr>
<tr>
<td>No. of voluntary solidarity and cooperation work programmes in which the university takes part</td>
<td>85</td>
<td>95</td>
</tr>
</tbody>
</table>

(*) Relating to the University of Zaragoza, not available for the other universities

OBJECTIVE

C.3. Improvement in campus accessibility and in INTRA/INTER campus mobility

ACTIONS

C.3.1. Full adaptation of infrastructures and equipment for disabled people
• Adaptation of lifts
• Cafeteria and dining areas:
  - Bars and counters adapted for wheelchair users
  - Improvement to existing visual communications
  - Inclusion of tactile information (Braille and high relief)
• Construction and improvement to the buildings’ access ramps:
  - Suitable inclines and widths
  - Non-slip materials
  - Handrails
• Signposting:
  - Improvement in existing visual communications
  - Supplementary acoustic or tactile information (Braille and high relief)

The main measures in this regard are listed below:
• Broadband interconnections between the different Campus infrastructures
• Supplying IP television devices in the campus universities as a teaching element and for international standing
• Installation of television sets and video equipment in the classrooms
• Establishment of an open Wi-Fi area for the whole Campus
• Extension of the iTunes U project, in which the University of Zaragoza already participates, throughout the whole Campus
• Improvement of accessibility information
  - Training for technicians: development of accessible mobile web services
  - Creation of a style guide for the development of accessible mobile web services
  - Procedure for the creation of accessible online processes
  - User helpdesk through accessible video conferencing
  - A multi-media conference hall as an accessible information area
  - A set of accessible audiovisual materials with audio description, subtitles and sign language

C.3.2. Improving teaching and communication methods using audiovisual resources and ICT, guaranteeing full ACCESS TO INFORMATION

Information and communication technologies play a key role in a strategic alliance such as the Campus. For this reason, the improvement of teaching methods through the introduction of a quality ICT infrastructure in the Campus is essential in order to guarantee an improvement in the quality of teaching, in the training of students, complete access to information on a Campus such as Iberus that is spread over different sites, a commitment to internationalisation and the basic element in social responsibility of providing access to information to all groups.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Campus buildings without architectural barriers</td>
<td>95%</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of classrooms with video projector</td>
<td>85%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Increase in users of the iTunes U platform

<table>
<thead>
<tr>
<th>IP television devices</th>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
</table>
C.3.3. Preparation of a global Campus mobility plan

A global Campus mobility plan will be developed which entails the following benefits for the university community:

• Improvement to and increase in the number of bicycle lanes
• Increase in the number of parking places
• Creation and improvement of pedestrian areas
• Improvement of access to and frequency of public transport

Through this action, the existing mobility plans in each of the universities in the strategic alliance are promoted along with a commitment to more sustainable and efficient means of transport.

A support programme will also be created in order to make the mobility of students, lecturers and researchers easier between the various campuses of the different autonomous communities that make up the Iberus Campus.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of places for people with reduced mobility</td>
<td>85</td>
<td>120</td>
</tr>
<tr>
<td>Increase in parking places</td>
<td>-</td>
<td>160</td>
</tr>
<tr>
<td>No. of aids for students, lecturers and researchers for mobility on Campus</td>
<td>-</td>
<td>150</td>
</tr>
</tbody>
</table>

OBJECTIVE

C.4. Promote sustainability and energy efficiency objectives

ACTIONS

C.4.1. Implementation of a package of improvements linked to sustainability, renewable energies and the efficient use of energy

Energy and sustainability are strategic areas in the alliance and it is here where it aspires to be an international leader.
For this reason a common plan of improved links to renewable energies and their efficient use has been established. The environmental objectives to be achieved by the Campus are:

• 5% reduction in water consumption
• 10% reduction in energy consumption
• 20% of total energy to be renewable

A study of tree groups will also be undertaken on the Campus, which will enable it to provide them with a better environment, which will benefit the university community and the general public.

### C.4.2. Preparation of a global waste management plan

The Campus will have a plan with will deal with:

• Selectively collecting the greatest amount of generated waste
• Constructing areas or infrastructures which enable temporary and safe storage of the most contaminated waste

They will also define general objectives regarding prevention, valuation and control. In this regard and as active prevention policies the use of clean technologies or the reduction in the use of dangerous substances will be promoted.

### C.4.3. Creation of an Iberus Campus Green Office

The group of universities that make up the Iberus Campus strategic alliance takes on the challenge of minimising its environmental impact, by making the university community aware and facilitating the acquisition of good sustainable environmental habits and practices. For this reason the creation of an Iberus Campus Green Office is proposed whose functions include:

• Creation of a long-term comprehensive environmental strategy
• Environmental improvements to new projects on the Campus
  - Holding of energy auditoriums and studies for the implementation of renewable energies in the Campus buildings
• Savings in resources:
  - Carrying out of monthly monitoring of water and energy consumption and application of savings techniques
  - Actions on the campus surroundings and facilities in the field of energy, water, mobility and waste

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of clean points</td>
<td>24</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>% reduction in water consumption</td>
<td>-</td>
<td>5%</td>
</tr>
<tr>
<td>% reduction in energy consumption</td>
<td>-</td>
<td>10%</td>
</tr>
<tr>
<td>% of renewable energies as part of total energy used</td>
<td>10%</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of implementation of the Green Office</td>
<td>-</td>
<td>100%</td>
</tr>
</tbody>
</table>
**OBJECTIVE**

C.5. Develop open community campuses that will become the focus for social and civic life

**ACTIONS**

C.5.2. Provision of multi-purpose areas for cultural activities, local associations and municipal authorities

The Campus must promote and satisfy both the university activities themselves and those which are defined as common values for all the members of the university community in connection with its community, both environmentally and socially.

Depending on availability it is planned to adapt and create multi-purpose installations and equipment that can be used by both the university and the community, including:

- University of Zaragoza Paraninfo Auditorium
- Chancellor’s and Humanities Building in the University of Lleida
- Higher School of Agricultural Engineering in the University of Lleida
- Multi-Service Building at the Public University of Navarre
- Project for the University of La Rioja Paraninfo Auditorium

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of places in university halls of residence</td>
<td>1,422</td>
<td>1,700</td>
</tr>
</tbody>
</table>
These will be used for the programming of cultural activities and public events created by the university for the public that can be used by the various cultural and civic organisations within the area of influence of the Campus.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of relationships established with local associations and social entities</td>
<td>97</td>
<td>150</td>
</tr>
<tr>
<td>No. of users of the sports facilities</td>
<td>4,035</td>
<td>8,650</td>
</tr>
<tr>
<td>No. of cultural activities</td>
<td>316</td>
<td>400</td>
</tr>
<tr>
<td>No. of libraries</td>
<td>21</td>
<td>21 *</td>
</tr>
<tr>
<td>No. of scientific education activities</td>
<td>805</td>
<td>950</td>
</tr>
</tbody>
</table>

(*) Interconnected through the common service
C.5.3. Reorganisation of the existing clusters in the various cities, establishing thematic sub-campuses that introduce rationality into the system

To achieve better operational efficiency it is proposed to establish planning by clusters for thematic areas on the Campus. This action is more common at the University of Zaragoza where dispersal of faculties is better known and therefore where the impact is greater.

The following clusters have been proposed (see example on the following page):

- **Scientific-technological area (Rio Ebro campus):** this brings together the majority of the university research organisations, the potential of engineering transfer and innovation and the group of centres working in the field of energy; it includes the construction of joint institutions with the Higher Scientific Research Council: The Institute of Chemical Synthesis and Homogenous Catalysis (ISQCH) and the new Aragón Institute for the Science of Materials (ICMA), in the Research Support Services building; and is planning a general campus service centre, a computer centre and the complete transfer of Sciences to its facilities.

- **Agro-bio, water and environmental technologies area (Green campus):** this would include the scientific capabilities and the existing facilities in the Veterinary campus and in the Huesca Environmental Sciences campus, the construction of the laboratories building for the consolidation of the biomedical veterinary research along with the facilities installed in the Avenida de Montañana, around the Aula-Dei complex. A suitable location is also planned for the laboratory farms of the existing Animal Experiment Support Service in the current veterinary faculty.

- **Social, humanist and health area (San Francisco campus):** renovation of the current campus and organisation as a large social and humanist campus which would share space with the health area.

In addition to the actions being carried out (CIBA) or for immediate start (Education Faculty and renovation and restructuring of the Philosophy and Arts Faculty), this would include the reuse of the science buildings and improvements to the campus environment.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Current sit.</th>
<th>2015 objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of progress in the spatial reorganisation by thematic areas</td>
<td>-</td>
<td>35%</td>
</tr>
</tbody>
</table>
Current situation of the Río Ebro Campus of the University of Zaragoza and its 2025 horizon
Current situation of the San Francisco Campus of the University of Zaragoza and its 2018 and 2025 horizon
Summary area C: Actions with regards to transformation of the campus for the development of an integral social model and their interaction with the territorial environment

C1. To improve the role of the university as a motivating agent in the economic and social environment

- C.1.1. Promotion of the creation of university-company chairs and their gradual transformation into Chairs of Excellence
- C.1.2. Participation in clusters, innovative business groups and Spanish and European technological platforms
- C.1.3. Collaboration agreements with companies for starting professional development projects with the best students from the beginning of degree programmes
- C.1.4. Creation of a university Employment Service which provides cover to the whole Campus

C2. Promoting Social Responsibility

- C.2.1. Development of a Campus gender equality observatory which includes the carrying out and monitoring of the Campus Equality Plan
- C.2.2. Postgraduate programmes on feminist, women and gender studies taught at the Campus International Postgraduate and Doctorate Centre
- C.2.3. Risk Prevention Unit, health and safety in the workplace, ergonomics and "campus healthy hearts"
- C.2.4. Creation of the unit for the promotion of voluntary work and cooperation in the development of Iberus Campus

C3. Improvement in campus accessibility and campus INTRA/INTER mobility

- C.3.1. Full adaptation of infrastructures and equipment for disabled people
- C.3.2. Improving teaching and communication methods using audiovisual resources and ICT, guaranteeing full ACCESS TO INFORMATION.
- C.3.3. Preparation of a global Campus mobility plan.

C4. Promote sustainability objectives and energy efficiency

- C.4.1. Implementation of a package of improvements linked to sustainability, renewable energies and the efficient use of energy
- C.4.2. Preparation of a global waste management Plan
- C.4.3. Creation of an Iberus Campus Green Office

C5. Develop open community campuses that will become a focus for social and civic life

- C.5.1. Town planning for student and lecturer accommodation linked to the Campus
- C.5.2. Provision of multi-purpose areas for cultural activities, local associations and municipal authorities
- C.5.3. Reorganisation of the existing clusters in the various cities, establishing thematic sub-campuses that introduce rationality into the system
2.4. Thematic specialisation areas based on the strong points of the alliance (Area D)
2.4. Thematic specialisation areas based on the strong points of the alliance (Area D)

The success of an innovation system is based on the optimal functioning of its various elements or subsystems (companies, public R&D system, government, support and environmental organisations). To be successful, it is essential that these elements adequately interact with each other. From an economic point of view the most important productive interaction is that of technology transfer from the public R&D system to companies, whether directly or through specialised bodies.

The University Strategy 2015 establishes specialisation as one of the cornerstones of the Campus of Excellence. In R&D&I, fragmentation of the market, weak links between universities and companies and insufficient cooperation among EU countries means that the strategic partnerships that are created do not have the sufficient critical mass nor innovative capacity to be able to sustain competition in a global environment. Thus, the proposal of the Iberus Campus aims to group its researchers together with research institutes, technology centres, science parks, hospitals and companies around three areas of knowledge, by developing a knowledge ecosystem that provides a backbone for quality, state-of-the-art training, competitive, multidisciplinary and innovative research, and efficient knowledge transfer to the productive sector. These specific areas of specialisation include:

**Selection of thematic areas**

The thematic areas were chosen on the basis of the universities’ internal capabilities and opportunities in relation to the public policies of the different territories in which they are located.

**Outstanding researchers**

With regard to the internal capabilities of the Iberus Campus’ universities, the following is a list of relevant researchers in these centres:
<table>
<thead>
<tr>
<th>RESEARCHER</th>
<th>LINE OF RESEARCH</th>
<th>UNIVERSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALBAJES GARCÍA, RAMÓN</td>
<td>Agrifood and Nutrition (Crop protection/Insect ecology/Insect control technology)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>APARICIO TEJO, PEDRO MARÍA</td>
<td>Energy and Environment (Enviromental Sciences)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>ARNÁEZ VADILLO, JOSÉ DIMAS</td>
<td>Energy and Environment (Geosciences, Geomorphology/Erosion (Water))</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>AVENOZA AZNAR, ALBERTO</td>
<td>Health Technology (Organic chemistry)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>BADIOLA DIEZ, JUAN JOSÉ</td>
<td>Agrifood and Nutrition (Animal health/Animal pathology/Food safety)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>BATALLA VILLANUEVA, RAMÓN J</td>
<td>Energy and Environment (Physical geography/Geomorphology/Erosion (Water))</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>BONET LLEDOS, JOSE ANTONIO</td>
<td>Agrifood and Nutrition (Vegetable production/Forestry)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>BUSTINCE SOLA, HUMBERTO</td>
<td>Health Technology (Information technology)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>CABALLERO MURILLO, PRIMITIVO</td>
<td>Agrifood and Nutrition (Vegetable production/Forestry)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>Cabeza Fabra, Luisa Fernanda</td>
<td>Energy and Environment (Energy Technology/Engineering and Chemical technology)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>CAMPOS GARCÍA, PEDRO JOSÉ</td>
<td>Health Technology (Photochemical/Heterocyclic compounds/Organometallic compounds)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>CARRASCO PÉREZ, JUAN</td>
<td>Records, Heritage and Identity (Geography and History)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>Casanova Ruiz, Julian</td>
<td>Records, Heritage and Identity (Modern History)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Castillo Suarez, Juan Ramon</td>
<td>Health Technology (Analytical Chemistry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Cativiela Marín, Carlos</td>
<td>Health Technology (Organic chemistry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Christou, Pavlos</td>
<td>Agrifood and Nutrition (Molecular Biotechnology)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>Del Río Bocio, Carlos</td>
<td>Energy and Environment (Electrical and Electronic Engineering)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>Doblaré Castellano, Manuel</td>
<td>Health Technology (Technical materials/technical and mechanical engineering)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Egidio Martínez, Aurora</td>
<td>Records, Heritage and Identity (Spanish philology)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Enriquez Dominguez, José Antonio</td>
<td>Health Technology (Biochemistry and Molecular and Cellular Biology)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Espinosa Ruiz, Urbano</td>
<td>Records, Heritage and Identity (Human sciences)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>Fernández Garbayo, Eduardo J</td>
<td>Health Technology (Inorganic Chemistry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Forniés Gracia, Juan</td>
<td>Health Technology (Inorganic Chemistry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>Galceran Nogues, Jose Juan</td>
<td>Agriculture and Nutrition (Transport phenomenon/Electrochemical/Electroquimic analysis)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>García Ruiz, Joaquín</td>
<td>Health Technology (Solid State Physics at Low Temperatures)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>García Turza, Claudio</td>
<td>Records, Heritage and Identity (Hispanic and Classical Philology)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>RESEARCHER</td>
<td>LINE OF RESEARCH</td>
<td>UNIVERSITY</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>GÓMEZ-MORENO GÓMEZ-MORENO</td>
<td>Health Technology (Biochemistry and Molecular and Cellular Biology)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>CALERA, CARLOS</td>
<td>Health Technology</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>GONZALO GARCÍA, RAMÓN</td>
<td>Energy and Environment (Electrical and Electronic Engineering)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>IBARRA GARCÍA, MANUEL RICARDO</td>
<td>Health Technology (Condensed Matter Physics)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>LAGUNA CASTRILLO, ANTONIO</td>
<td>Health Technology (Inorganic Chemistry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>LALINDE PEÑA, ELENA</td>
<td>Agrifood and Nutrition (Chemistry)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>LASA UZCUDUN, INÍGO</td>
<td>Agrifood and Nutrition (Agricultural production)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>LOBO SATUÉ, ANTONIO</td>
<td>Health Technology (Psychiatry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>LÓPEZ MARTÍN, ANTONIO JESÚS</td>
<td>Energy and Environment (Electrical and Electronic Engineering)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>MARCO SIMÓN, FRANCISCO</td>
<td>Records, Heritage and Identity (Ancient History)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>MARROYO PALOMO, LUIS MARÍA</td>
<td>Energy and Environment (Electrical and Electronic Engineering)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>MARTÍN BELLOSO, OLGA</td>
<td>Agrifood and Nutrition (Food technology)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>MARTÍN CLOSAS, LLUIS</td>
<td>Agrifood and Nutrition (Horticulture)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>MARTÍN MONTAÑÉS, CARLOS</td>
<td>Health Technology (Microbiology/Preventive Medicine/Public Health)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>MARTÍNEZ ABAIGAR, JAVIER</td>
<td>Agrifood and Nutrition (Biology/Plant ecology/Plant physiology)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>MARTÍNEZ ZAPATER, JOSE MIGUEL</td>
<td>Agrifood and Nutrition (Viticulture)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>MAYORAL MURILLO, JOSÉ ANTONIO</td>
<td>Health Technology (Organic Chemistry/Physical Chemistry)</td>
<td>University of Zaragoza (UZ)</td>
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<td>MENÉNDEZ SASTRE, MIGUEL</td>
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<td>University of Zaragoza (UZ)</td>
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<td>MERINO FILELLA, PEDRO</td>
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<td>University of Zaragoza (UZ)</td>
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<tr>
<td>MOLINA TERREN, DOMINGO MIGUEL</td>
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<td>University of Lleida (UdL)</td>
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<tr>
<td>MONTOYA VILLARROYA, JULIO</td>
<td>Health Technology (Biochemistry and Molecular and Cellular Biology)</td>
<td>University of Zaragoza (UZ)</td>
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<tr>
<td>MORENO AZNAR, LUIS ALBERTO</td>
<td>Health Technology (Physiatry and Nursing)</td>
<td>University of Zaragoza (UZ)</td>
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<tr>
<td>MURILLO MARTÍNEZ, JESUS MARÍA</td>
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<td>Public University of Navarre (UPNA)</td>
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<tr>
<td>NAVAL IRABERRI, JAVIER</td>
<td>Health Technology (Biochemistry and Molecular and Cellular Biology)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>ORO, LUIS A.</td>
<td>Health Technology (Inorganic Chemistry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>POLO REDONDO, JOSEFINA MARÍA YOLANDA</td>
<td>Health Technology (Marketing and Market Research)</td>
<td>University of Zaragoza (UZ)</td>
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<tr>
<td>PURROY UNANUA, ANTONIO</td>
<td>Agrifood and Nutrition (Plant production)</td>
<td>Public University of Navarre (UPNA)</td>
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<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>ROMAGOSA CLARIANA, IGNACIO</td>
<td>Agrifood and Nutrition (Hybridization of Crop/Plant Genetics)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>ROS SALVADOR, JOAQUIN</td>
<td>Health Technology (Basic Medical Sciences)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>RESEARCHER</td>
<td>LINE OF RESEARCH</td>
<td>UNIVERSITY</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>SABATE CURULL, FLOCEL</td>
<td>Records, Heritage and Identity (Medieval History)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>SALAS FUMÁS, VICENTE</td>
<td>Health Technology (Economics and business management)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>SANCHIS ALMENAR, VICENTE</td>
<td>Agrifood and Nutrition (Food Microbiology / Mold / Food Processing)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>SANTAMARIA RAMIRO, JESUS M.</td>
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<td>University of Zaragoza (UZ)</td>
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<tr>
<td>SERRANO OSTÁRIZ, JOSE LUIS</td>
<td>Health Technology (Organic Chemistry/Physical Chemistry)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>SLAFER LAGO, GUSTAVO ARIEL</td>
<td>Agrifood and Nutrition (Agriculture / Plant Physiology)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>SOROLLA AYZA, MARIO</td>
<td>Energy and Environment (Electrical and Electronic Engineering)</td>
<td>Public University of Navarre (UPNA)</td>
</tr>
<tr>
<td>TORRES MANRIQUE, CARMEN</td>
<td>Agrifood and Nutrition (Molecular Ecology / Biotechnology oenological)</td>
<td>University of La Rioja (UR)</td>
</tr>
<tr>
<td>VALERO CAPILLA, ANTONIO F.</td>
<td>Energy and Environment (Electrical and Electronic Engineering)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
<tr>
<td>VIÑAS ALMENAR, M. INMACULADA C.</td>
<td>Agrifood and Nutrition (Fungi / Disease Biological Control / Food Microbiology)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>VOLTAS VELASCO, JORDI</td>
<td>Agrifood and Nutrition (Plant Genetics / Plant Physiology)</td>
<td>University of Lleida (UdL)</td>
</tr>
<tr>
<td>ZARAGOZA FERNANDEZ, PILAR</td>
<td>Agrifood and Nutrition (Anatomy, embryology and animal genetics)</td>
<td>University of Zaragoza (UZ)</td>
</tr>
</tbody>
</table>
Indicators of scientific production:
The scientific production of the partner universities of the Iberus Campus, based on articles published over the past five years and included in the ISI Web of Knowledge, is presented in the table below.

The list does not include all the Campus’ publications, but only the total number of publications in the main specialisations:

<table>
<thead>
<tr>
<th>Area of Knowledge</th>
<th>UNIZAR</th>
<th>UPN</th>
<th>UR</th>
<th>UdL</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. publications</td>
<td>5,997</td>
<td>1,313</td>
<td>712</td>
<td>1,974</td>
</tr>
<tr>
<td>Chemistry, physical</td>
<td>299</td>
<td>24</td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>Physics, condensed matter</td>
<td>247</td>
<td>24</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Chemistry, inorganic &amp; nuclear</td>
<td>240</td>
<td>---</td>
<td>50</td>
<td>7.02%</td>
</tr>
<tr>
<td>Engineering, chemical</td>
<td>217</td>
<td>31</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Food Science &amp; Technology</td>
<td>225</td>
<td>73</td>
<td>76</td>
<td>256</td>
</tr>
<tr>
<td>Engineering, electrical &amp; electronic</td>
<td>126</td>
<td>193</td>
<td>---</td>
<td>12</td>
</tr>
<tr>
<td>Mathematics, applied</td>
<td>195</td>
<td>92</td>
<td>56</td>
<td>40</td>
</tr>
<tr>
<td>Optics</td>
<td>91</td>
<td>83</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Physics, applied</td>
<td>152</td>
<td>78</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Microbiology</td>
<td>118</td>
<td>28</td>
<td>65</td>
<td>67</td>
</tr>
<tr>
<td>Mathematics</td>
<td>152</td>
<td>39</td>
<td>59</td>
<td>35</td>
</tr>
<tr>
<td>Agronomy</td>
<td>78</td>
<td>13</td>
<td>---</td>
<td>132</td>
</tr>
<tr>
<td>Agriculture, dairy &amp; animal science</td>
<td>117</td>
<td>17</td>
<td>---</td>
<td>119</td>
</tr>
<tr>
<td>Biochemistry &amp; molecular biology</td>
<td>165</td>
<td>22</td>
<td>8</td>
<td>91</td>
</tr>
<tr>
<td>Horticulture</td>
<td>62</td>
<td>14</td>
<td>19</td>
<td>85</td>
</tr>
</tbody>
</table>

In turn, a “H-index” study of researchers was carried out. The data presented provides information about the different areas of excellence. Listed below are the areas of knowledge under which the various researchers are classified, in order of appearance, stating the number of researchers in brackets (some researchers appear in two areas). A H-index of between 30 and 50 was chosen.

(*) In the case of the University of Zaragoza, the field of chemicals and materials represents 16.93% and includes the areas: Chemistry, physical; Chemistry, inorganic & nuclear; Physics, condensed matter; and Engineering, chemical.
As additional indicators, details are provided about participation in major competitive projects organised by the CONSOLIDER Ingenio 2010 programme, CIBER (Biomedical Research Centre Network), CENIT, PSE (Unique Strategic Projects) and other European programmes.

A) CONSOLIDER-INGENIO 2010 is the most important financial instrument aimed at scientific groups and research projects in Spain. The CONSOLIDER programme forms part of the INGENIO 2010 initiative and finances strategic actions based on scientific activities that significantly advance access to knowledge or that establish original lines of research at the frontier of knowledge.

Those who receive such aid are consolidated groups who lead the field of science in Spain, have previously produced quality results and have a solid track record within the international scientific community.

| Materials science, multidisciplinarity | 1 |
| Chemistry, physical | 4 |
| Biochemistry & molecular biology | 1 |
| Chemistry, inorganic & nuclear | 11 |
| Chemistry, organic | 6 |
| Physics, condensed matter | 5 |

The University of Zaragoza coordinates the two Consolider-Ingenio projects, one in the area of Health Technologies and the other in Energy and Environment, and participates as a partner in another 13 projects.

| Energy and Environment | € 7,491,942.69 |
| Agrifood and Nutrition | € 578,173.03 |
| Records, Heritage and Identity | € 241,333.00 |
| Health Technologies | € 7,200,635.46 |
| Total | €15,512,084.17 |
B) The Biomedical Research Networking Centres (CIBER) that form part of the Ingenio 2010 programme are groups of entities that are organised into consortia in order to develop a comprehensive scientific project on a single pathology or group of pathologies, or on a strategic research area, with the aim of becoming an international benchmark in their fields of scientific research. These are research groups, with no physical contiguity, and which belong to different administrations, institutions, autonomous communities, from the public or private sector with research lines or objectives focused on a common specific area and which coordinate with other groups in order to achieve scientific objectives that would otherwise prove difficult in a more restricted context.

Campus researchers and teams form part of six of the nine CIBER projects established to date:

All of them belong to the area of specialisation Materials and Technologies for Quality of Life: Health Technologies.

C) The CENIT Programme (National Strategic Consortia of Technical Research) promotes R&D&I collaboration between companies, universities, public research bodies and centres, science and technology parks and centres. The CENIT projects co-finance major public and private sector research activities.

<table>
<thead>
<tr>
<th>TABLE 7 Number of CENIT projects</th>
</tr>
</thead>
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<th>TABLE 8 Funding from CENIT projects (Euros)</th>
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D) The Special Strategic Projects (PSE) are a set of inter-related R&D&I activities that promote the integration of scientific and technological agents and boost technology transfer. These include generic research activities, technological developments, technology demonstration, dissemination and implementation of complementary actions to encourage the implementation of results obtained. These activities must be strategic, and aimed at benefitting the environment, enhancing the competitiveness of the productive sector, or be of national socio-economic interest.

E) EUROPEAN PROJECTS
Below we show the details of the funding obtained by the universities through their participation in European projects - the EU Framework Programme and the INTERREG Programme.

<table>
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<th>TABLE-9 Number of PSE sub-projects</th>
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<td>IBERUS CAMPUS</td>
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<td>Health Technologies</td>
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The Iberus Campus participates in 17 sub-projects out of a total of nine Special Projects, acting as coordinator in two of those.

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<th>TABLE-10 Funding from PSE sub-projects</th>
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<td>IBERUS CAMPUS</td>
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<td>Energy and Environment</td>
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<th>TABLE-11 Number of European projects</th>
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<td>IBERUS CAMPUS</td>
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<td>Total</td>
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(*) The Iberus Campus is also involved in 15 European projects outside these areas.

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<th>TABLE-12 Funding from European projects</th>
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<td>IBERUS CAMPUS</td>
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<td>Energy and Environment</td>
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2.4.1. Materials and Technologies for Quality of Life

The Materials and Technologies for Quality of Life area of specialisation has two specific scopes of application: Health Technologies and Energy and Environment.

Firstly, we will consider two horizontal areas - Chemistry and Materials Science and Technology - which are a fundamental pillar and scientific support for the area of specialisation but which cannot be dealt with specifically in the description of the scopes of application.

Chemistry at Iberus ICE

Chemistry is a core science subject within scientific and technical disciplines, and provides support to the areas of Health Technologies and Energy and Environment:

- Firstly, the Chemistry area provides therapeutic pharmaceuticals, as well as the synthetic methods needed to procure them.
- Secondly, chemical analysis methods, the development of cleaner and more sustainable synthetic methods, the application of new chemical technologies with less environmental impact, and the design of more energy-efficient materials are essential when considering the second subject in the proposal.

Chemistry is particularly important at the University of Zaragoza, as it contributes a large number of relevant publications (accounting for 22.61% of the 5,060 articles published over the past five years in the ISI Web of Knowledge). It is important to note that the University of Zaragoza is ranked among the world’s best universities, according to the ARWU of the Shanghai Jiao Tong University, and it is Chemistry in particular that places the coordinated Iberus Campus at the level of the few Spanish universities that appear in the thematic rankings (only five out of the total).

Furthermore, according to the Latin American ranking of research institutions, the University of Zaragoza is in 8th place in Chemistry, and 18th in overall production, with chemical publications accounting for 27% of the total.

Table 1: The University of Zaragoza in the ARWU

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<tr>
<th>Ranking</th>
<th>Spain</th>
<th>Europe</th>
<th>World</th>
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<tbody>
<tr>
<td>Academic Ranking of World Universities - ARWU</td>
<td>7-11</td>
<td>171-208</td>
<td>402-501</td>
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<td>2009(1)</td>
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<tr>
<td>ARWU Chemistry (2)</td>
<td>1</td>
<td>11-25</td>
<td>51-75</td>
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Source:
(1) Centre for World-Class Universities and the Institute of Higher Education of Shanghai Jiao Tong University, China.
(2) 5 fields were examined (SCI, ENG, LIFE, MED and SOC) and 5 “subjects” (MATH, PHYS, CHEM, COMPUT and ECON) in which ARWU ranks the top 100 universities in the world.
Much of the scientific activity carried out in Chemistry has a strong element of interdisciplinary collaboration:

- with the Ebro Valley partner universities
- with other chemistry groups around the world
- with groups specialised in different scientific disciplines, including physics, materials science, engineering, medicine, etc.

This spirit of collaboration is also present in teaching. For example, the Master’s course in Sustainable Chemistry, launched at the University of Zaragoza and the first in Spain to adapt to the EHEA, was born with this interdisciplinary vocation and includes the subjects of Chemistry, Engineering, Biochemistry, Law, Economics and Medicine.

The Materials Science and Technology area promotes the advancement of scientific knowledge and technological development through the application of materials to new uses or the mutation of their properties by means of innovative treatments and processes.

It addresses several lines of research, with links or action areas common to other fields:

- **Functional organic materials**
  Focused on design, synthesis, processing and evaluation of new functional organic materials of interest in the fields of optics, optoelectronics, electrical conduction and biomedicine.

- **Materials for energy applications and laser processing**
  Includes processing and characterisation of functional materials for energy applications. Structural materials such as composites and nanocomposites are used for alternative energy, transport, windmills and pug mills, providing good mechanical performance at high temperatures.

- **Magnetic materials**
  Includes a wide variety of magnetic materials, and magnetism of different-sized systems. Magnetic molecules, nanostructures, microstructures and macroscopic systems are synthesised and produced. The main focus is on the study of magnetic materials of potential technological interest. Study is conducted on the relationship between the microscopic and macroscopic properties of mixed oxides, nanoscopic systems such as molecular nanomagnets, thin films and heterostructures based on magnetic materials with properties relevant to spintronics. The interaction between thermal, optical and magnetic properties is used to exploit their multifunctionality in applications related to magnetic refrigeration and optical activation of the magnetic state.

- **Materials for biological applications**
  The main objective is to analyse problems associated with nanoparticle biological and biomedical applications, structural biomaterials and modelling of human visual response.
- The synthesis and characterisation of magnetic nanoparticles and, from these, the development of biocompatible magnetic suspensions. These materials are suitable for therapeutic and diagnostic use in biomedicine and other biology-related areas. Studies are carried out on the materials’ potential therapeutic applications for localised drug delivery and for diagnostic applications such as intelligent contrast agents. It also analyses their anisotropic physical properties, the existence of magnetic order and magnetic frustration on the nucleus surface.

- Biomaterials with high-performance mechanical properties for structural and tribological applications such as ultra-high molecular-weight polyethylene, diamond-like carbon coatings, shape memory alloys and bioceramics. These are used in devices for orthopaedics, orthodontics, and vascular urology.

- **Theory and simulation in Materials Science**

  This involves the theoretical study of the optical properties of small-scale metallic and dielectric structures. The findings have great future potential and are among the most groundbreaking in the international arena. In non-linear physics, studies are being conducted on different issues concerning the dynamics and structure of complex and non-linear systems, especially those related to applications in Materials Science.
The intensive use of technology is changing the paradigms of clinical health care practice, as well as Biomedicine research, which is now much more evidence-based. Technology plays a part in the entire health care cycle: prevention, diagnosis, therapy, surgery, rehabilitation, remote care and research.

To meet this challenge there must be a continuous and fruitful interaction between bio-experts (doctors, surgeons, biologists, biochemists) and engineers and scientists. Training development (graduate, post-graduate and doctorate) is also a key requirement in the interfaces between both worlds (biomedical engineering, biological engineering, biotechnology, nanomedicine). This will undoubtedly improve the quality of life of citizens and result in reduced public health care costs through increased prevention and remote support with respect to hospital health care. It will also lead to advances in cutting-edge, image-based diagnostic and surgery systems and in advanced therapies (tissue engineering, gene and cell therapy) and state-of-the-art pharmacology (therapeutic nanoconjugates, nanoparticles with guidance control, hyperthermia, controlled drug release).

Areas of research

Areas of research identified for development include: Prevention, remote care (household devices, telemedicine); Multi-modal diagnosis (medical imaging, biological signals, predictive modelling, smart devices); Tissue engineering (biomaterials, bioreactors, scaffolds, cell therapy); Nanomedicine (nanobiosensors, drug delivery, nanoconjugates); Disability and rehabilitation assistance (remote rehabilitation, disability support systems). In addition, development actions are also important for graduate, post-graduate and doctorate education in Biomedical Engineering, Nanomedicine and Biological and Cellular Engineering.

Today there is a strong commitment to Nanotechnology and Bioengineering in the more technologically-advanced countries. Taking France as an example, there are three important initiatives in the application of nanotechnology in the productive sector, based on setting up companies in an environment of major scientific and technological development with renowned research centres and top-level scientific infrastructures: “Essonne Nanopole” in the Paris region, “Micro and Nanotechnologies” in Grenoble, and “Canceropole” in Toulouse. In each of these scientific-technological-business complexes they have made a strong commitment to integrating micro and nano devices with application in advanced industrial sectors.
Research in the field of **Stem Cells and Regenerative Medicine** focuses on different areas of basic and clinical research. It develops activities in: Molecular Basis of Cell Differentiation; Characterisation of Adult Stem Cells; Tissue Engineering and Cell Therapy.

**Partnerships**

The development of Nanoscience and Bioengineering, and the formulation of the research area in Stem Cells and Regenerative Medicine within the Iberus CIS, have been of major significance, enabling the identification of the Health Technologies area of specialisation:

- There is a large group of biomedical and nanoscience research centres and institutes which are located within the Iberus Campus and which actively works with it. These are listed in section 2.5 of this report.

- Special projects have been coordinated in these areas through the Ingenio 2010 Programme:
  - the CONSOLIDER programme “Nanotechnology in Biomedicine”, wherein research is carried out into nanotherapy for drug development and for the functioning of nano-diagnostics through the development of biosensors.

- the CIBER programme "Bioengineering and Nanomedicine", where the Biomedical Research Centre Network in Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN) brings together some of the principal Spanish research groups in this field, from universities, hospitals and other technology centres. Its vocation is to conduct translational research and transfer its results to the industry. It coordinates the activities of 49 research groups in the fields of Bioengineering and Biomedical Imaging, Biomaterials and Tissue Engineering and Nanomedicine.
Energy and environmental sustainability, and the constraints imposed in increasingly globalised markets, necessitates the creation of development and production scenarios and models that are more environmentally-friendly, fair and balanced. The Ebro Valley is a unique European bioregion, where there are possibilities to develop and integrate new renewable technologies.

The Ebro Valley has unique features that enable it to achieve these goals. Located in southern Europe, it has all the resources necessary: sun; wind; land; water; location; innovative companies that are world leaders in renewable technologies; a diverse history and culture; institutions; and plenty of know-how provided by its prestigious technological institutes and universities.

The scientific project proposed here is based on three technological axes:

- The SOLVENTYA project
- Production of biofuels from biomass
- Energy efficiency in logistics

**The SOLVENTYA project**

This entails using the water of the River Ebro as an energy store, through the reverse pumping of renewable surplus capacity. In the medium term, this will lead to exceeding the limitations of the electricity grid, thus increasing penetration of these energies.

The electrical system’s current design must simultaneously address the use of renewable sources and the needs of consumers who are increasingly demanding better quality, and a guaranteed supply in particular. The fluctuating and random nature of renewable energies makes them unsuitable as demand-led energy as they are likely to cause instability in the network. This severely limits their market penetration rate as they have to be balanced with an increase in the percentage of conventional, guaranteed and manageable energy sources.

Integrating and developing renewable energies in the Ebro Valley will require a combination of political, institutional and entrepreneurial will and a vast amount of knowledge. Hense, the SOLVENTYA framework project has one common goal: sustainability.
The possibility of making existing dams reversible—which would be undertaken by Spain’s leading energy companies—opens up expectations for an increase in renewable energies in the future, and would at the same time increase the availability of water for agricultural, urban, industrial and energy purposes.

**Distributed generation**

European and Spanish energy policies seek to increase the diversification of energy-generation sources and the percentage share of renewable energies in order to achieve maximum energy self-sufficiency, together with energy saving and rational use of energy, which implies the using more efficient electrical systems. The fluctuating and random nature of renewable energies makes them unsuitable as demand-led energy as they are likely to cause instability in the network. This severely limits their market penetration rate as they have to be balanced with an increase in the percentage of conventional, guaranteed and manageable energy sources.

This situation is resulting in a new paradigm of the energy generation system and electric power transmission: **distributed generation**. The aim is to develop a new scenario, with a predominantly renewable energy system, through the integration of manageable distributed-energy storage systems, using local resources that each territory can best contribute.

In addition, it will be possible to maintain the stability of the electric grid with a link to new energy-generation systems, and to increase the transmission capacity of power lines; by reducing the need for transmission at those points where the stabilisers are connected. The exceptional availability of renewable resources in the Ebro Basin and the land-sea links with their energy uses, form the foundations for establishing a framework for action in which **projects for distributed generation technologies and integration** are developed, and in which water use (reverse pumps) and land (biomass) constitute the elements of integration, storage and management of renewable resources, conceptually random.

These changes will pose a change in traditional practices related to Agrifood and livestock activities in rural areas, as land energy uses (biomass) and water (reverse pump) will provide a complementary alternative, necessary for the establishment of a new type of **sustainable social development** in balance with the urban environment.
The main technological characteristics proposed in the SOLVENTYA project are:

• Development of an energy scenario based predominantly on the integration and optimisation of local energy resources.

• Resource analysis: sun, water, surface flow, reservoirs, pumps, flow levels, underground water, groundwater levels, wind quantity and quality, potential inventory of Agrifood, livestock and crop biomass.

• Analysis of the energy potential of existing facilities and new integration and reverse storage facilities.

• Use of renewable energy sources in the Ebro Valley, integrating it as the main potential energy storage system due to the different existing water levels in rivers, streams and groundwater in the Ebro Valley.

• To achieve highly-efficient systems through integrated energy generation and storage, adapted to local consumption, by creating isolated pockets of energy generation in areas of demand.

• Implementation of indigenous intelligent energy stabilisation systems for generating and capturing energy flow, with the aim of supporting existing electricity networks in order to increase the stability, quality and guarantee of supply.

• Development of specific technologies in Power Electronics, to obtain adaptable and variable equipment and systems, as essential elements of energy-integration systems.

• Development of continuous-current technologies, for the integration, distribution and use of electrical energy in forming efficient, robust and competitive energy systems.

• Development of specific technologies in highly-efficient hydrodynamic machines with variable and reversible speed.

• Development of technologies for mini- and micro-generation of wind, hydro and thermal power for use in local integrated systems in rural and urban areas.

• Development of techniques for sensing, measuring and operating, for the optimal implementation of control and management systems, and operation of integrated distributed systems.

• Development of communication and IT skills, including the development of predictive and adaptive management algorithms, necessary for optimal system performance.

• New technologies for power transmission and distribution systems suitable for integration systems.
• Direct electrical storage systems and techniques. Nanostructured materials for electrical storage and photovoltaic collection. Superconductivity.

• Analysis of the effects of energy integration in the Water Framework Directive (WFD).

• Socio-economic analysis of the local impact of these systems on the rural, industrial and urban environment.

• Testing of agro-energy crops and integrated management of forests in the Valley.

• Legal studies for a new legislative framework to remove barriers and encourage new investment.

Producing fuels from biomass

This is an undeniable goal for society in the field of energy, with respect to meeting high demand and providing a guaranteed power supply, in addition to reducing the current dependency on fossil fuels. In addition to the generation and storage of renewable energy sources, biofuels will have to replace fossil fuels. In point no.13 of Directive 2009/28/EC of the European Parliament and of the Council, it states the desirability of achieving a high market share of energy from renewable sources for energy consumption, i.e. energy from renewable sources for use as fuel in transport.

In this context, biomass—both residual and derived from energy crops—has a significant potential for recovery into valuable products within the concept known as bio. It is therefore important to promote the development of new technologies and processes that enable products to be produced efficiently. The technologies and processes developed, if adapted accordingly, may also be used for the recovery of waste materials such as solid municipal waste and water purification sludge. This, in addition to increasing potential energy, would also reduce the amount of waste generated, thus contributing to the achievement of other important environmental goals, such as minimising the environmental impact of waste.
Biomass scientific project

In line with the knowledge capabilities of the Iberus ICE’s university partners, the scientific project— with both an experimental and modelling approach— entails the development and introduction of improvements in technology and processes for the production of biofuels from biomass. The main processes for improvement are:

• biomass gasification to produce synthesis gas, and subsequent exploitation of this gas for second-generation biofuels (bioethanol, biogasoline and biogasoil - the latter two via the Fisher-Tropsch process)
• production of biodiesel by transesterification
• production of hydrogen through the reforming of Bioli (from biomass-derived pyrolysis) and glycerine (a by-product of biodiesel production).

Energy efficiency in logistics

Finally, it is worth noting that energy efficiency forms the third pillar of support for EU policies to reduce the environmental impact of energy use. The sector with the strongest potential for energy savings is transport, which accounts for one third of total EU consumption. The dominance of road transport and its heavy dependence on oil leads to congestion and pollution problems, as well as energy waste. The important role of transport in the economy of the Ebro Valley and in the various logistics interventions being implemented in the region, make it reasonable to include scientific goals related to energy efficiency in logistics.

Currently, the Plaza Logistics Park in Zaragoza is the main logistics hub in southern Europe and, with the arrival of the European rail gauge through the central crossing of the Pyrenees, it will become a first-rate multimodal platform. The agreement between the University of Zaragoza, the Government of Aragon and the MIT (Massachusetts Institute of Technology) to provide Masters and Doctorate courses in the Zaragoza Logistics Centre—which also houses the Spanish Technological Platform for Integrated Logistics, Intermodality and Mobility (LOGISTOP)—is a good starting point for developing new energy-efficiency initiatives in transport.
The group of centres belonging to the strategic partnership in the Iberus ICE Agrifood and Nutrition area of specialisation provides first-class support for the intensification of technological innovation and development policies in the food industry, on issues related to agricultural, livestock, forestry and food systems, and the conservation of natural resources and the environment.

The ultimate goal of these actions is to contribute to agriculture, food and other potential strategies such as pharmaceuticals, materials and technologies in order to enhance their competitiveness and sustainability and to produce scientific and technical information that contributes to the development of competitive, efficient Agrifood systems that are both socially and environmentally sustainable.

The Ebro Valley ICE works towards integrating scientific advances in Agribusiness, along with other scientific fields and research activities in the Agrifood industry. It exploits advances in biotechnology in relation to microorganisms, plants and animals in order to develop new, healthier, eco-efficient and competitive products and services. Consideration will also be given to rural development, which will be focused on boosting the local economy, whilst at the same time preserving our heritage and cultural diversity.

The areas of action are focused on agricultural, livestock and forestry research, as well as aspects related to their quality and safety, and their impact on the markets. This will all be carried out from an integrated approach, through competitive production that is compatible with rural development and respect for the environment.

Research will also be conducted on safety in the human and animal food supply chain, food-related diseases, production, food processing and storage, consumers’ food preferences and the effects of diet and nutrition on health.

These areas of action correspond to the European strategy on life sciences and biotechnology which is expected to boost the competitiveness of European agriculture and biotechnology, companies in the food sector — advanced technology SMEs in particular. Moreover, they will also improve the general welfare of society.
The areas of research are aimed at:

• meeting social needs and demands in relation to sustainable methods of use, production, storage, processing and distribution of food products.

• promoting the quality, safety and health properties of food products—from an integrated approach—through competitive production that is compatible with rural development and respect for the environment.

• developing important innovations and the effective transfer of technology, addressing all industries and economic sectors that produce, manage, exploit or in some way transform biological resources.

• generating support for the implementation of current and future policies and regulations in the fields of public, animal and plant health and consumer protection.

Definition of research project areas:

• **Sustainable production and management of biological resources of land and sea**
  The aim is to facilitate research on sustainable production systems; plant and animal health and production; animal welfare; fisheries and aquaculture, including the exploitation and sustainable use of their biodiversity; development of better crops, forest resources, raw materials, marine products and biomass technologies that enable the creation of high-quality, useful, environmental and safe products that have high added value.

• **Genetic resources and improvement**
  The goal is to advance in the areas of biodiversity knowledge and management, identification of important characteristics for the production and genetic control of crops and generation of new variability. Consideration will be given to developing methodologies for more efficient genetic selection and the evaluation of the more interesting characteristics and the development of improved raw material for quality products through sustainable agriculture and livestock farming.

• **Integrity and control of the food chain**
  Based on a “from producer to consumer” approach, this area includes aspects of nutrition, health and animal welfare; research in food safety, with the same integral approach; and the study of consumer attitudes in order to meet their expectations.

• **Optimisation of Agrifood production and safe, quality products**
  The aim of production systems is to improve and optimise agricultural farming by incorporating techniques that ensure sustainable production using clean technologies and also to contribute to increasing and/or exploiting the biodiversity of agricultural systems.

This must all be in line with foreseeable changes in the medium-term future, such as climate change.
Also included in this area is crop production under extreme environmental conditions; a more rational use of irrigation systems and fertilisers; adaptation to new crop varieties or species and evaluation of farming systems in sustainable agriculture. The overall objective is to develop systems to improve the quality of agricultural products (healthier and safer food) and to minimise the environmental impact of agricultural practices.

• Development of new ways of processing and preserving food
These new ways of processing and preservation will be based on better use of resources, greater energy efficiency and greater respect for the environment, in order to produce food that is safer, healthier, more varied, of proven quality and longer-lasting.

• Study and evaluation of the impact of climate change on Mediterranean agriculture and livestock farming, and on food safety and public health
This area includes the study of mitigation and adaptation strategies for livestock farming in the face of climate change, and the development of future regional climate scenarios for the middle Ebro Valley. Assessment of the effect of food and water-borne diseases, identification of potentially-contaminating emerging pathogens in the food chain, transmitted by new vectors adapted to the new climatic conditions. This area will also study the promotion of participation of all those agents involved in the various sectors and systems, in order to integrate climate change adaptation into sectorial policies.

• Development of sustainable farming systems
The agricultural business is facing stiffer competition due to market globalisation, increased competition for land resources by urban and industrial users, the need to adapt production methods to the new Agenda 2000 guidelines and, lastly, increasing public interest in environmental issues.

• Integrated approach to the study of the relationship between food, nutrition and diet and the health of the population, from the point of view of nutrition and derived pathologies
Update of the European population’s reference intake of energy and nutrients. Promoting healthy diets and physical exercise, prevention of overweight, obesity and chronic diseases. Study of the relationship of overweight and obesity with lifestyle and diet. Establishment of dietary guidelines and healthy lifestyles. Optimisation of health services to citizens related to food.
2.4.3. Records, Heritage and Identity

If names are a consequence of things, this proposal within the parameters of an International Campus of Excellence (ICE), whose phrase contains within it the concepts implied by the word 'University' — aims to sum up three of the main areas of academic excellence of the entities who drive it toward a coordinated effort within a cultural and scientific context in which a borderless programme will be undertake — recognisable by the superior quality that makes it worthy of the scientific community's respect and esteem.

These goals of academic quality and social projection must not only be adapted to the European Higher Education Area and Bologna strategies, but also to the overall integral meaning evoked by the "iberus" ICE, on the banks of a mighty river such as the Ebro (Hiberus Flumen), which gave the Iberian Peninsula its name and the banks of which are steeped in a long European, Mediterranean and transatlantic cultural history.

Records, Heritage and Identity are some of the fundamental areas which have marked research in social sciences and humanities over the past few decades.

There are three areas of reflection which are closely-interrelated and deeply embedded in the modern process of redefining identity in today's world, faced with a vigorous process of globalisation which has provoked and continues to provoke different reactions in all contemporary societies. This process takes on particular relevance in our immediate social environment: first, by being involved in long-term European project which is parallel to the necessary redefinition of the role Europe should play in the new world emerging from the crisis of the late 20th century; and, second, by sharing in the rich and dynamic realities that come with belonging to the Hispanic world, in which our community should play a decisive role; and finally, because of the specific peculiarities of our society, immersed in a complex process of the development and articulation of collective identities within Spain.

From this perspective it is essential to develop studies related to the conservation of heritage in all its forms: the Spanish language; the recovery of historical memory; and the formation of ancient and modern identity — all subjects in which the Iberus CIS has highly-renowned researchers and research groups that collaborate regularly with peer groups in Europe and America.

Ancient cultures

The study of the ancient world is articulated through several strong research groups — Hiberus, Urbs, etc. — from which many projects, obtained through competitive calls, are managed. These projects include prominent areas such as research, protection and revaluation of archaeological heritage and the study of the different expressions of identity and otherness in the ancient world, on a religious, civic, ethnic and individual level.
From this perspective, excavations are underway at sites such as Labitolosa, Bilbilis or Segeda, exploring more thoroughly, for example, the Celtic, classical and Roman roots of modern Europe or reflect upon the formation of ancient identities which, sometimes, as in the case of the ancient Basques, directly affects modern-day identity construction.

These studies fall into multidisciplinary projects, which enable the development of knowledge in the field of ancient societies, with the collaboration of historians, archaeologists and philologists, along with specialists in Indo-European linguistics, epigraphy and iconography.

All this has an scientific, technological and social impact which, on an international level, results in collaborative research projects on socio-economic, political and cultural changes in the areas corresponding to the provinces of the Roman Empire — thus creating comprehensive databases — with research teams from other Spanish Universities (Complutense, Barcelona, the Basque Country, Salamanca, etc.) and from Germany, Austria, France, Italy, Hungary, Switzerland, the United Kingdom, Romania, Poland etc., as well as institutions such as the German Archaeological Institute in Berlin and Madrid, the Berlin Academy of Sciences, University of Rome Department of Science historical, archaeological and anthropological antiquity of the “La Sapienza” Department of Historical, Archaeological and Anthropological Science of Antiquity, the Austrian Academy of Sciences, the Institute of Archaeology, Budapest, the Spanish School of History and Archaeology in Rome, the Archaeological Superintendency of Rome, the Institute of Archaeology, the Centre for Classical and Byzantine Studies and the Centre for the Study of Ancient Documents at Oxford University, among others.

**Contemporaneity**

At the same time, other projects are being developed in the field of Art History, always with the ultimate goal in mind - the intrinsic heritage value of a work of art and the management of cultural heritage which is closely linked to research, conservation and management of that heritage.

All of this has a scientific, technological and social impact that has affects not only collaborative research projects on international artistic language and overall management of world heritage, with French, English and Italian researchers, but also links with other universities (University of Girona, University of Sevilla, Complutense University of Madrid, Pantheon-Sorbonne Paris III, etc.) and institutions (Prado Museum, Reina Sofia National Museum, National Museum of Modern Art in Rome, etc.), and also the implementation of the pioneering Master’s Degree (2006-2007) in Cultural Heritage Management.
**Historical memory**

History, and above all, the traumatic experiences of wars and dictatorships, often leads to conflicts between different memories, both individual and collective, and between different ways of looking at the past. Faced with forgetfulness and indifference to history and heritage, modern States have to defend memory-related public policies based on archives, museums and education. The universities, and the research they generate, are the cornerstones of this project. The scale and importance of these research lines, undertaken by prominent specialists at Iberus ICE, calls for the continuation of international exchanges and to extend the project to other universities and institutions. It is also one of the most recognised ways of training new researchers, teachers and intellectuals.

The partner universities of the Iberus CIS have maintained close contact and collaboration with some of the more relevant universities and research institutes in these particular areas, such as: the Kellogg Institute at the University of Notre Dame, one of the most renowned research centres that deals with memory and with the comparative analysis of transitions from dictatorships to democracies; the Remarque Institute and the New School for Social Research in New York; the National University of La Plata and the University of Buenos Aires / CONICET (Argentina); the University of Chile; the University of Nantes, and the London School of Economics and Political Science.

Academic researchers Paul Preston, Tony Judt, Guillermo O'Donnell and Scott Mainwaring play an important role in the collaboration with these institutions.

**Philology**

Within the area of Records, Heritage and Identity, Philology must be recognised as a science that deals with issues of language in its broadest linguistic, literary and cultural sense. Language, the greatest sign of the dignity of man and mastery of which allows access to other knowledge, was an essential pillar of humanism. Thanks to language and the revaluation of the classical world, it was possible to open up the path followed by Humanities, in its inclusive meaning of all disciplines, including science and technology. It is well known how much the creation of the Instituto Cervantes has meant to this field, not only because of its presence in different countries, but also because of its virtual classrooms that enable a new way of learning. The preference for Hispanic Studies graduates for Spanish teaching positions or other higher-level positions within the institute provides, in this and in other cases, a strong labour supply.
However, universities should, on this front, be responsible for their own areas of teaching and research. In this respect, Spanish universities face the challenge of providing the scientific community with competitive graduate programmes. This will allow greater mobility of teachers and students, as well as training of quality researchers and teachers who will be well-equipped to enter university jobs inside and outside Spain.

Virtual resource platform

New graduate Hispanic studies should be open to the resources offered by new technologies. It should therefore have a robust tool that is different from existing virtual resources, to round off the uniqueness of the Hispanic graduate studies course at the Iberus Campus of Excellence. This will permit enabling international exposure beyond Europe’s borders, reaching two potential markets such as Latin America and the United States, as well as emerging Hispanic studies in Africa and Asia.

Within the wide range of online resources related to Hispanics, which already boasts an extensive bibliography, is the proposed Iberus Campus of Excellence, based on the coordination and collaboration with institutions and projects with a long track record and respected reputation. Those already present are the Miguel de Cervantes Virtual Library; Universia; the Cervantes Institute Portal del Hispanismo; the International Association of Hispanists; and other national or international associations dedicated to specific areas of Language and Literature.
2.5. Predicted partnerships in the project (Area E)
2.5. Predicted partnerships in the project (Area E)

The strategic partnership that makes up the Iberus ICE of the Ebro Valley is developing a knowledge ecosystem which will form the backbone for quality, state-of-the-art training, competitive, multidisciplinary and innovative research and efficient knowledge transfer to the productive sector.

The Iberus CEI claims some specific areas of specialisation:

• Materials and Technologies for Quality of Life
  - Health Technologies
  - Energy and Environment
• Agrifood and Nutrition
• Records, Heritage and Identity

These areas of specialisation, and the arguments put forward in the previous section, are backed up by a group of companies and institutions that develop R&D&I activities with the four member universities. Special mention is deserved by those who are involved in the major projects that address the scientific and technological challenges outlined in the areas of specialisation. A document attached to this report details each one of the scientific and technological infrastructures and the universities’ strategic partners. The following table defines the level of involvement and the complementarity of each of these partners:
### Strategic partners

<table>
<thead>
<tr>
<th>Entity</th>
<th>Area of specialisation</th>
<th>Complementarity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Spanish National Research Council (CSIC)</strong></td>
<td>Will be a strategic partner who will collaborate in the different areas of specialisation.</td>
<td>• Will promote collaboration between Spanish and foreign entities. • Will provide scientific and technological advice. • Will facilitate the transfer of results to the business sector. • Will contribute to the creation of technology-based companies. • Will form a team of experts.</td>
</tr>
<tr>
<td><strong>National Centre for Renewable Energies (CENER)</strong></td>
<td>Campus Iberus area of Energy and Environment</td>
<td>• Will support research processes and promote renewable energies through their state-of-the-art technological infrastructure, with the most modern laboratories and facilities in Europe (their Wind Turbine Test Laboratory is the only one of its kind in the world).</td>
</tr>
<tr>
<td><strong>ACCIONA S.A. and ACCIONA ENERGÍA S.A.</strong></td>
<td>Campus Iberus area of Energy and Environment</td>
<td>• Have shown their support for the Solventya project for the reversibility of the Ebro as an energy store. • They will provide real experience in the renewables sector to students and researchers.</td>
</tr>
<tr>
<td><strong>Ebro River Basin Authority (CHE)</strong></td>
<td>Campus Iberus area of Energy and Environment</td>
<td>• Will be a strategic partner in the Solventya project for the reversibility of the Ebro as an energy store.</td>
</tr>
<tr>
<td><strong>ENDESA</strong></td>
<td>Campus Iberus area of Energy and Environment</td>
<td>• Will contribute to research and development of renewable energies. • Have shown their support for the Solventya project for the reversibility of the Ebro as an energy store.</td>
</tr>
<tr>
<td><strong>General Motors España S.L.U.</strong></td>
<td>Campus Iberus area of Energy and Environment</td>
<td>• Will contribute to research and development in renewable energies, energy efficiency in transport and logistics, ergonomics and manufacturing systems.</td>
</tr>
<tr>
<td><strong>Taim Weser</strong></td>
<td>Campus Iberus area of Energy and Environment</td>
<td>• Will generate advanced research projects for high-level engineering. • Will contribute to research, development and innovation (R&amp;D&amp;I) in three strategic areas: engineering equipment, waste treatment and, particularly, renewable energies. • A line of continued cooperation will be established between the company’s technicians and the university teachers and a policy of practical training for students and researchers will be developed. • It will especially support doctoral theses and final projects of high scientific and technological value.</td>
</tr>
<tr>
<td><strong>URBASER</strong></td>
<td>Campus Iberus area of Energy and Environment</td>
<td>• Will work in areas related to solid waste management, medical waste treatment and management and integral water management. • Will promote the reduction of waste generated and lower treatment and disposal costs.</td>
</tr>
<tr>
<td>Entity</td>
<td>Area of specialisation</td>
<td>Complementarity</td>
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</tr>
</tbody>
</table>
| The Biomedical Research Networking Centre in Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN) | Campus Iberus area of HealthTechnologies         | • Will promote basic and clinical health research (Bioengineering, Biomaterials and Nanomedicine).  
• Will promote the transfer of research results to society and to the productive sector in particular.  
• Will promote the dissemination of results and collaborate in teaching activities.               |
| Oryzon Genomics                            | Campus Iberus area of HealthTechnologies         | • Will contribute their experience in developing diagnostic and prognostic solutions for oncology and neurodegenerative diseases.  
• Will strengthen the biomedicine and agricultural biotechnology area of research.  
• Will be especially important in helping to develop patents.                                      |
| Principia Technology Group                 | Campus Iberus area of HealthTechnologies         | • Will help build a solid foundation in R&D&I in nanotechnology at the Campus  
• Will provide access to key sectors such as automotive, biomedical and Agrifood.  
• Will foster the development of business initiatives that arise from R&D&I activities.          |
| Codorniu                                   | Campus Iberus area of Energy and Environment     | • Will promote the development of research projects related to the Agrifood sector.                                                                                                                            |
| Grupo Alimentario Guisona                  | Campus Iberus area of Energy and Environment     | • Promote the development of research projects related to the Agrifood sector.                                                                                                                                |
| Vall Companys Group                        | Campus Iberus area of Energy and Environment     | • Facilitate the development of research projects related to the Agrifood sector.                                                                                                                             |
| Rioja, Qualified Designation of Origin     | Area of Agrifood and Nutrition                   | • Will contribute their vision and knowledge of the wine sector.  
• Will involve researchers in the creation of a Wine Technology Platform which will be launched this year.                                           |
| Cervantes Institute                        | Campus Iberus area of Records, Heritage and Identity | • Will be a strategic partner in teaching Spanish and in the dissemination of Spanish and Latin-American culture.  
• Will assist with teacher training and updating teaching methods.                                   |
Below are listed the institutions that complement and cooperate with the Ebro Valley Iberus CEI, providing strategic complementarity for international positioning. The list is ordered according to the areas of specialisation mentioned above. Although some centres may have activities that fall outside the stated area of specialisation, they have been included in those which comprise their main work.

### Materials and Technologies for Quality of Life

#### Centres active in various areas

<table>
<thead>
<tr>
<th>Entity</th>
<th>Level of involvement</th>
<th>Complementarity</th>
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</thead>
<tbody>
<tr>
<td>Nanotechnology Research and Development Foundation in Navarre (FideNA)</td>
<td>Joint initiative of the Government of Navarre, the University of Zaragoza and Principia Technology Group (a spin-off from the MIT)</td>
<td>Will promote the development of business initiatives that arise from R&amp;D activities and will coordinate the initiatives of Nanotechnology businesses and researchers in Navarre</td>
</tr>
<tr>
<td>IUI in Nanoscience (INA)</td>
<td>A Campus Research Institute (University of Zaragoza)</td>
<td>Will promote nanoscience among researchers in spintronics, magnetic nanostructures, nano-arrays and molecular materials.</td>
</tr>
<tr>
<td>Advanced Electronic Microscopy Facilities (ICTS)</td>
<td>Belonging to the University of Zaragoza, they have shown their interest in collaborating in the Campus Iberus area of Materials and Technology for Quality of Life</td>
<td>They will offer cutting-edge equipment and techniques in electron and local probe microscopy. This is the most important facility in Spain in this area.</td>
</tr>
<tr>
<td>R&amp;D&amp;I Centre PrincipiaTech Navarre</td>
<td>With the participation of Principia Tech, the Government of Navarre and the Public University of Navarre</td>
<td>Will promote and facilitate the transfer of knowledge from basic research to the company.</td>
</tr>
<tr>
<td>Entity</td>
<td>Level of involvement</td>
<td>Complementarity</td>
</tr>
<tr>
<td>---------------------------------------------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Aragon Material Science Institute (ICMA)</strong></td>
<td>Joint research centre of the CSIC and the University of Zaragoza</td>
<td>Will promote the area of Materials Science and Technology (spectroscopy of solids, solid state physics at low temperatures, magnetism of solids). Will promote the area of Chemistry (organometallic chemistry, coordination chemistry).</td>
</tr>
<tr>
<td><strong>IUI in Homogeneous Catalysis (IUCH)</strong></td>
<td>Campus Research Institute (University of Zaragoza)</td>
<td>Will support new research initiatives in basic science (generation of new concepts in catalysis) and applied science (optimisation of procedures and development of new products with improved properties).</td>
</tr>
<tr>
<td><strong>IUI in Engineering of Aragón (I3A)</strong></td>
<td>Campus University Research Institute (University of Zaragoza)</td>
<td>Will provide researchers and specialised equipment for biomedical engineering; environmental intelligence; recycling processes.</td>
</tr>
</tbody>
</table>

**Health Technologies (Materials and Technologies for Quality of Life)**

<table>
<thead>
<tr>
<th>Entity</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Biomedical Research Centre of Aragon (CIBA)</td>
<td>Developed by the Aragon Institute of Health Sciences and the University of Zaragoza</td>
<td>Will assist in the transfer of knowledge and in the interaction between groups. The Centre is strategically located in the health corridor formed by the University Clinical Hospital Lozano Blesa, the University of Zaragoza’s Faculty of Medicine and Miguel Servet Hospital.</td>
</tr>
<tr>
<td>Biomedical Research Centre of La Rioja (CIBIR)</td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Health Technologies</td>
<td>Will provide the Integral Radiotherapy Unit, which is the first unit of its kind in a public hospital centre.</td>
</tr>
<tr>
<td>Navarre Technological Medical Welfare Complex</td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Health Technologies</td>
<td>Will promote the development of medical technology for adequate health care.</td>
</tr>
<tr>
<td><strong>Aragon Institute of Health Sciences (I+CS)</strong></td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Health Technologies</td>
<td>It will be responsible for research and knowledge transfer in Biomedicine and Health Sciences and will provide resources to researchers, health professionals and public and private institutions who wish to develop research projects in the biomedical field.</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
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</tr>
<tr>
<td><strong>Medical Imaging Facility (ICTS)</strong></td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Health Technologies</td>
<td>Will conduct research and provide services to multidisciplinary research teams and pharmaceutical and medical imaging companies.</td>
</tr>
<tr>
<td><strong>IUI in Biocomputation and Physics of Complex Systems (BIFI)</strong></td>
<td>University Research Institute of the Campus (University of Zaragoza)</td>
<td>Will perform competitive research in the areas of computation applied to the physics of complex systems and biological models.</td>
</tr>
<tr>
<td><strong>IUI in Mathematics and its Applications (IUMA)</strong></td>
<td>University Research Institute of the Campus (University of Zaragoza)</td>
<td>Will support mathematical research in four areas: algebra and geometry, mathematical and numerical analysis, optimisation and simulation and dynamical systems.</td>
</tr>
<tr>
<td><strong>Lleida Biomedical Research Institute (IRBLleida)</strong></td>
<td>Joint Research Institute of the University of Lleida and the Catalan Institute of Health</td>
<td>Will carry out activities that include basic research, research in primary and hospital health care, and translational research in the biomedical field.</td>
</tr>
<tr>
<td><strong>IUI in Engineering of Aragon (I3A)</strong></td>
<td>University Research Institute of the Campus (University of Zaragoza)</td>
<td>Will provide researchers and specialised biomedical engineering equipment; environmental intelligence; processing and recycling.</td>
</tr>
<tr>
<td><strong>National Centre for Renewable Energies (CENER)</strong></td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Energy and Environment, particularly in relation to the SOLVENTYA project</td>
<td>Will support research processes and promote renewable energies through their state-of-the-art technological infrastructure, with the most modern laboratories and facilities in Europe (their Wind Turbine Test Laboratory is the only one of its kind in the world).</td>
</tr>
<tr>
<td><strong>Energy Resources and Consumption Research Centre Foundation and University Research Institute (CIRCE)</strong></td>
<td>Foundation established by the University of Zaragoza, the Government of Aragon and the Endesa Group. It also has the status of University Research Institute and is attached to the Campus</td>
<td>Will promote research, development and innovation in the energy sector, especially renewable energies, by organising conferences and dissemination activities and training in optimisation.</td>
</tr>
<tr>
<td><strong>Foundation for the Development of New Hydrogen Technologies in Aragon (Ha)</strong></td>
<td>Belongs to the Government of Aragon. Has shown its willingness to collaborate in the Campus Iberus area of Energy and Environment</td>
<td>It will support the development of new technologies related to hydrogen and renewable energies.</td>
</tr>
<tr>
<td><strong>Carbochemistry Institute (ICB)</strong></td>
<td>Belongs to the CSIC. It has shown its willingness to collaborate in the Campus Iberus area of Energy and Environment</td>
<td>Will promote lines of research in fields related to combustion, gasification and pyrolysis, gas cleaning, waste utilisation and production and characterisation of new materials (nanotubes).</td>
</tr>
<tr>
<td><strong>Biofuels Facility (ICTS)</strong></td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Energy and Environment</td>
<td>Will provide the scientific community with an infrastructure that covers all stages of second-generation biofuels production.</td>
</tr>
<tr>
<td><strong>Vehicle Repair Research Institute (Zaragoza Centre)</strong></td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Energy and Environment</td>
<td>Will develop ongoing training of professional experts involved in the diagnosis, repair and valuation of the damaged vehicles.</td>
</tr>
<tr>
<td><strong>Pyrenean Ecology Institute (IPE)</strong></td>
<td>Belongs to the CSIC, with dual headquarters in Jaca and Zaragoza. It has shown its willingness to collaborate in the Campus Iberus area of Energy and Environment</td>
<td>Will analyse the stability of ecosystems and their response to regulating or modifying factors, particularly changes caused by human use.</td>
</tr>
<tr>
<td><strong>IUI in Environmental Sciences of Aragon (IUCA)</strong></td>
<td>University Research Institute belonging to the Campus (University of Zaragoza)</td>
<td>Will develop lines of research on the atmosphere and climatic risk and integral agricultural and livestock waste management.</td>
</tr>
<tr>
<td><strong>Combustion Technology Research Laboratory (LITEC)</strong></td>
<td>Joint research centre of the CSIC, the University of Zaragoza and the Government of Aragon</td>
<td>Will preferably be dedicated to the study of combustion, covering its more basic aspects to its technological applications. Its main areas of scientific activity include basic and applied combustion, industrial aerodynamics and hydrodynamics and pollution studies.</td>
</tr>
<tr>
<td><strong>Motor Technology Park of Aragon</strong></td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Energy and Environment</td>
<td>It will contribute to the development of the sector by providing cutting-edge tools for developing future global solutions in the areas of education and road safety and by establishing technological services and training structures that add value to companies and institutions.</td>
</tr>
<tr>
<td><strong>Zaragoza Logistics Centre (ZLC)</strong></td>
<td>A joint initiative between the University of Zaragoza and the main financial entities in Aragon: Ibercaja and Caja de Ahorros de la Inmaculada. The ZLC has University Research Institute status and is attached to the Campus (University of Zaragoza)</td>
<td>Will promote research and training in logistics and supply chain management.</td>
</tr>
<tr>
<td><strong>Sustainability Technology Research Centre (CRETESOS)</strong></td>
<td>Campus research centre (University of Lleida)</td>
<td>Will contribute scientific knowledge about energy optimisation of buildings and industrial processes, thermal energy storage and hybrid collectors for thermal and photovoltaic use.</td>
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</tbody>
</table>
## Agrifood and Nutrition

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<tr>
<th>Entity</th>
<th>Level of involvement</th>
<th>Complementarity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>La Rioja Agrifood Innovation and Technology Centre (CITA-ir)</strong></td>
<td>Has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will promote the creation of quality brands and develop innovation, from the initial raw material to final production.</td>
</tr>
<tr>
<td><strong>Animal Production Research Centre (CIPA)</strong></td>
<td>Campus Centre (University of Lleida)</td>
<td>Will promote research in animal production; healthy food; the environment and agribusiness and sustainable buildings for livestock.</td>
</tr>
<tr>
<td><strong>Agrifood Research and Technology Centre of Aragon (CITA-a)</strong></td>
<td>Public centre belonging to the Government of Aragon. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will promote research, development and transfer of technology, as well as provide advice and offer services to the food sector.</td>
</tr>
<tr>
<td><strong>National Centre for Food Safety and Technology (CNTA), Ebro Laboratory.</strong></td>
<td>Has shown its willingness to collaborate in the Campus Iberus area of Agrifood and Nutrition</td>
<td>Will provide analytical services, technical and R&amp;D&amp;I assistance to over 500 companies in the food sector.</td>
</tr>
<tr>
<td><strong>Seed and Seeding Centre (CSPV)</strong></td>
<td>Centre belonging to the Government of Aragon. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will be responsible for monitoring, certifying plant material for breeding and performing varietal control studies.</td>
</tr>
<tr>
<td><strong>Forest Technology Centre of Catalonia (CTFC)</strong></td>
<td>Centre formed by Solsonès Regional Council, the University of Lleida, the Provincial Government of Lleida, the Catalan Foundation for Research and Innovation, the Catalan Centre for Integrated Rural Development (CEDRICAT) and the Catalan Government.</td>
<td>Will contribute to the modernisation and competitiveness of the forestry sector and to the sustainable development of the natural environment in the Mediterranean area through research, training and technology transfer.</td>
</tr>
<tr>
<td><strong>Food Science and Technology Pilot Plant (PPCTA)</strong></td>
<td>Centre of the Faculty of Veterinary Science of the University of Zaragoza</td>
<td>In addition to providing teaching support, the Pilot Plant will support research and the possibility of conducting contract research and/or services with businesses or entities in the sector, thus contributing to the optimisation and valuation of food production and control.</td>
</tr>
<tr>
<td><strong>Meat Industry Technology Centre of La Rioja (CTIC)</strong></td>
<td>Has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will drive the development of the meat sector, responding to technological, training and technical assistance requirements, in order to improve end product quality and manufacturing processes.</td>
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</tr>
<tr>
<td><strong>Agrifood Transfer Centre</strong></td>
<td>Technical centre of the Government of Aragon. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will undertake the evaluation, testing and transfer of new agribusiness technologies and be responsible for their promotion and dissemination. They will also assist in training farmers and livestock owners.</td>
</tr>
<tr>
<td><strong>Aula Dei Experimental Station (EEAD)</strong></td>
<td>Belongs to the CSIC. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will promote research to obtain plant material with specific characteristics.</td>
</tr>
<tr>
<td><strong>Agro-biotechnology Institute (IdAB)</strong></td>
<td>Joint research centre of the Public University of Navarre, the CSIC and the Government of Navarre</td>
<td>Will promote lines of research related to the biochemistry and molecular biology of infectious and genetic processes of plants, bacteria and animals.</td>
</tr>
<tr>
<td><strong>Mediterranean Agronomics Institute of Zaragoza (IAMZ-CIHEAM)</strong></td>
<td>One of the four Mediterranean Agronomic Institutes of the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), it has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will develop programmes that are centred around the sustainability of natural and agricultural systems in the Mediterranean region, obtain maximum value from agricultural output, and promote economically-efficient Agrifood processes and consumer safety.</td>
</tr>
<tr>
<td><strong>Vine and Wine Sciences Institute (ICVV)</strong></td>
<td>Viticulture and Oenology research centre created by the Government of La Rioja, the CSIC and the University of La Rioja</td>
<td>Will encourage the transfer of scientific and technological results so that its research will have practical implications that contribute to the development of the sector. It will therefore have a Results Transfer Office, which will be managed by the sector. It will also support university education in viticulture and oenology, especially at graduate level.</td>
</tr>
<tr>
<td><strong>Agrarian Management Technical Institute (ITG Agrícola)</strong></td>
<td>Institute of the Government of Navarre. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will promote research on the production of extensive crops, fruit and vegetables and greenhouse produce and will train farmers, providing a pillar for achieving greater professionalisation.</td>
</tr>
<tr>
<td><strong>Livestock Management Technical Institute (ITG Ganadero)</strong></td>
<td>Not-for-profit organisation serving livestock farmers in Navarre. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will provide training and services and will disseminate techniques as well as compatible production systems for the sector.</td>
</tr>
<tr>
<td><strong>IRTA</strong></td>
<td>Research Institute of the Catalan Government, attached to the Department of Agriculture. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will promote technology research and development within the field of Agrifood, collaborating with the Campus and facilitating the transfer of their scientific and technological advances.</td>
</tr>
<tr>
<td><strong>Agrifood Laboratory</strong></td>
<td>Public centre of the Government of Aragon. It has shown its willingness to collaborate in the <em>Campus Iberus</em> area of Agrifood and Nutrition</td>
<td>Will conduct analysis and testing of agricultural matter and Agrifood products at source.</td>
</tr>
<tr>
<td><strong>Aula Dei Science and Technology Park</strong></td>
<td>Has shown its willingness to collaborate in the <em>Campus Iberus</em> area of Agrifood and Nutrition</td>
<td>Will offer researchers, business people, entrepreneurs and society in general an excellent research environment for Agribusiness, with research support services and expert researchers and technicians.</td>
</tr>
<tr>
<td><strong>Agrifood Science and Technology Park of Lleida (PCiTAL)</strong></td>
<td>Joint venture between the University of Lleida (UdL) and Lleida City Council</td>
<td>Will strengthen the Campus search teams and foster greater interaction between them, attract new researchers in the field of Agrifood and create new skilled jobs and career opportunities for university students.</td>
</tr>
<tr>
<td><strong>Agrifood Technology Research and Development Service (CIDA)</strong></td>
<td>Belongs to the Government of La Rioja. It has shown its willingness to collaborate in the <em>Campus Iberus</em> area of Agrifood and Nutrition</td>
<td>Will improve the quality of research teams by encouraging collaboration with other technology and research centres, universities, institutions and companies that are not attached to the Campus.</td>
</tr>
<tr>
<td><strong>National Centre for Food Safety and Technology (CNTA)</strong></td>
<td>CNTA and the Campus have agreed the joint development of lines of research, training activities, and student work experience in the Technology Centre</td>
<td>Will provide greater proximity to companies in the Agrifood sector, and hence greater proximity to development and innovation.</td>
</tr>
<tr>
<td><strong>Agro-biotechnology Institute (IdAB)</strong></td>
<td>Joint research centre of the CSIC and the Government of Navarre</td>
<td>Will mobilise animal and plant research (in the area of Agro-biotechnology)</td>
</tr>
<tr>
<td><strong>ITG Agricola</strong></td>
<td>ITG Agricola works closely with the Public University of Navarre. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will provide proximity to farmers, livestock farmers and producers, test new techniques and propose new research issues.</td>
</tr>
<tr>
<td><strong>ITG Ganadero</strong></td>
<td>ITG Ganadero works closely with the Public University of Navarre. It has shown its willingness to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will provide proximity to farmers, livestock farmers and producers, testing new techniques and proposing new research issues.</td>
</tr>
<tr>
<td><strong>Azti-Tecnalia</strong></td>
<td>Technology Centre specialised in Marine and Food Research. It has agreed to collaborate in the Campus area of Agrifood and Nutrition</td>
<td>Will improve knowledge transfer and dissemination by contributing its experience in providing solutions to improve Agrifood products, processes and systems.</td>
</tr>
</tbody>
</table>
### Records, Heritage and Identity

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</thead>
<tbody>
<tr>
<td><strong>International Spanish Language Centre (CILENGUA)</strong></td>
<td>Has shown its willingness to collaborate in the Campus area of Records, Heritage and Identity</td>
<td>Will train researchers and organise meetings with Spanish language experts.</td>
</tr>
<tr>
<td><strong>Dialnet and Dialnet Foundation</strong></td>
<td>Dialnet was created by the University of La Rioja as an inter-university cooperation project, becoming a standard in open access to scientific literature in Spanish.</td>
<td>Will provide a website that gathers and facilitates access to scientific and scholarly content in Spanish and Portuguese, with the collaboration of 44 out of the 77 Spanish university libraries.</td>
</tr>
<tr>
<td><strong>Fernando el Católico Institution (IFC)</strong></td>
<td>Set up by the Provincial Council of Zaragoza and attached to the CSIC. It has shown its willingness to collaborate in the Campus area of Records, Heritage and Identity</td>
<td>Will contribute a broad knowledge of Aragonese culture and science and will help defend, research and disseminate Aragonese cultural heritage.</td>
</tr>
<tr>
<td><strong>Institute of Upper Aragon Studies</strong></td>
<td>Independent body of Provincial Council of Huesca since 1977 and linked to the CSIC. It has shown its willingness to collaborate in the Campus area of Records, Heritage and Identity</td>
<td>Will contribute a broad knowledge of Aragonese culture and science and help defend, research and disseminate Alto Aragonese cultural heritage.</td>
</tr>
<tr>
<td><strong>L’Institut d’Estudis Ilerdencs (IEI)</strong></td>
<td>Belongs to the Provincial Government of Lleida. It has shown its willingness to collaborate in the Campus area of Records, Heritage and Identity</td>
<td>Will contribute a broad knowledge of Catalan culture and language and help defend, research and disseminate Catalan cultural heritage.</td>
</tr>
<tr>
<td><strong>Institute of Islamic and Near East Studies (IEIOP)</strong></td>
<td>Joint research centre of the Regional Parliament of Aragon, the CSIC and the University of Zaragoza</td>
<td>Will provide research on Arabic and Islamic culture and the Near East, especially with regard to Arabic language and literature, Islamic art and the ancient Near East.</td>
</tr>
</tbody>
</table>
**Riojan Studies Institute**

Independent body of the Department of Education, Culture and Sport of the Government of La Rioja. It has shown its willingness to collaborate in the Campus area of Records, Heritage and Identity. Will contribute a broad knowledge of Riojan culture and will help defend, research and disseminate Riojan cultural heritage.

**Teruel Studies Institute**

Institute formed by the Provincial Council of Teruel. It has shown its willingness to collaborate in the Campus area of Records, Heritage and Identity. Will contribute its research and cultural work in various branches of science and art, in relation to the province of Teruel and its material and cultural interests.

**Identity and Society Research Centre (IRIS)**

Campus Institute (University of Lleida) Will promote the dissemination and appreciation of local historic and cultural heritage and the consolidation of regional patterns of social, cultural and sociolinguistic variables.

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**Horizontal elements of the Strategic Partnership**

The vision of strategic partnership established within the framework of the International Campus of Excellence, within the University Strategy 2015 initiative, considers R&D&I as a strategic challenge for the future of our country, which must be promoted in as many areas of activity possible. Consequently, we have developed a strategic partnership that will strengthen international collaborative and cooperative links among universities, knowledge transfer agents and the business sector. Some of these agents cannot be directly assigned to specific areas of specialisation as they carry out work that is horizontal to them. These agents are listed below.

**Scientific infrastructures**

<table>
<thead>
<tr>
<th>Entity</th>
<th>Level of involvement</th>
<th>Complementarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supercomputador Caesar Augusta. Node of the Spanish Supercomputing Network</td>
<td>Has shown its willingness to collaborate in Campus Iberus</td>
<td>It will provide the Campus with its supercomputer infrastructure, distributed throughout Spain and openly accessible to the Spanish scientific community.</td>
</tr>
</tbody>
</table>
### R&D&I support and promotion structures

<table>
<thead>
<tr>
<th>Entity</th>
<th>Level of involvement</th>
<th>Complementarity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TecnoEbro Association</strong></td>
<td>Formed by the University of Zaragoza, four of its own university research institutes and two joint research institutes; the CSIC with its own institute; the Government of Aragon with the Aragon Technology Institute and the European Business and Innovation Centre; the foundations Research Centre for Energy Resources and Consumption and the Research Association of the Plastics Industry’s Injection Workshop</td>
<td>Will provide companies with a combination of multidisciplinary technological solutions and specialised training to meet their innovation and continuous improvement needs.</td>
</tr>
<tr>
<td><strong>Aragonese Foundation for Research and Development (ARAFD)</strong></td>
<td>Not-for-profit institution created by the Government of Aragon</td>
<td>Will promote R&amp;D&amp;I as a key factor in regional development. Its programmes will include the incorporation of internationally renowned researchers in the scientific arena, with the aim of encouraging, renewing and complementing the lines of research developed in the Campus and to steer them towards strategic needs.</td>
</tr>
<tr>
<td><strong>University of Zaragoza Business Foundation (FEUZ)</strong></td>
<td>Created by the Chamber of Commerce and Industry of Zaragoza and the University of Zaragoza</td>
<td>Will channel the participation and collaboration of companies, institutions and Campus personnel by serving as a centre for information and advice in the key areas of training, employment, promotion of business initiatives and innovation.</td>
</tr>
<tr>
<td><strong>University-Society Foundation</strong></td>
<td>Not-for-profit entity of the Public University of Navarre</td>
<td>Will channel the participation and collaboration of companies, institutions and Campus personnel by serving as a centre for information and advice in the key areas of training, employment, promotion of business initiatives and innovation.</td>
</tr>
<tr>
<td><strong>Research Results Transfer Offices (OTRIs)</strong></td>
<td>Aragon comprises the following OTRIs: The University of Zaragoza, La Almunia Polytechnic University School, CSIC in Aragon, Technology Institute of Aragon, Centre of Research for Energy Resources and Consumption, Confederation of Entrepreneurs of Zaragoza, Business-University Foundation of Zaragoza and Zaragoza Logistics Centre Foundation. The OTRI in Navarre is an interface body belonging to the Vice-Chancellor’s Research Office. The OTRI in La Rioja is run by the University Foundation of La Rioja.</td>
<td>These will be the interface organisations that will energise relationships between the scientific and business worlds, providing them with R&amp;D capabilities and the results of research activities.</td>
</tr>
</tbody>
</table>
Integrated with the University of Lleida, it includes a technological springboard aimed at research evaluation activities, a network of scientific and technical services available to the productive sector and the TECNIO centres of ACCIO’s IT network (technological innovation support centres): Centre for Agrifood and Biotechnology Development (DBA), GREA Centre for Concurrent Innovation, GRIHO Centre, NUTREN Centre (Nutrition and Ageing).

These organisations will provide training and support to the Campus research teams and energise the relationships between the scientific and business worlds, especially in the area of Agrifood and Nutrition.

Integrated with the University of Zaragoza, the Circe Foundation, the Aula Dei Foundation, the Aragon Hydrogen Foundation, Aragon Institute of Health Sciences, Technological Institute of Aragon and Zaragoza Logistics Centre.

Will promote the design and implementation of a common strategy that will strengthen the participation of the various scientific and technological agents in order to achieve: more funded projects; increased economic return on R&D; more coordinated activities and greater participation by companies in the Campus.

A G9 Group collective project.

Will commercialise research results through the use of patent portfolios.

Technology and innovation centres

<table>
<thead>
<tr>
<th>Entity</th>
<th>Level of involvement</th>
<th>Complementarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological Institute of Aragon (ITA)</td>
<td>Belongs to the Government of Aragon. It has shown its willingness to collaborate in Campus Iberus</td>
<td>Will handle the technology needs of businesses in the Ebro Valley and provide them with services and research, development and innovation projects.</td>
</tr>
</tbody>
</table>

Science and technology parks and poles

<table>
<thead>
<tr>
<th>Entity</th>
<th>Level of involvement</th>
<th>Complementarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walqa Technology Park</td>
<td>Joint initiative of the Government of Aragon, Huesca City Council, Ibercaja and Multicaja. It has shown its willingness to collaborate in Campus Iberus</td>
<td>Will focus a critical mass of companies specialised in the Internet, telecommunications and e-commerce in order to promote the growth of the region’s ICT sector.</td>
</tr>
<tr>
<td>Navarre Technology Park</td>
<td>Initiated by the Government of Navarre and the Public University of Navarre</td>
<td>Will complement the knowledge and technology transfer activities of the Campus, mainly in the area of ICT.</td>
</tr>
</tbody>
</table>
Entrepreneurial agents

<table>
<thead>
<tr>
<th>Entity</th>
<th>Level of involvement</th>
<th>Complementarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEEIARAGON and CEEILleida</td>
<td>The European Business and Innovation Centres of Aragon and Lleida have shown their willingness to collaborate in Campus Iberus</td>
<td>Will provide promoters with innovative business ideas in relation to the industrial sector and advanced business services sector.</td>
</tr>
<tr>
<td>University Laboratory for Innovative Business Creation (LUCE)</td>
<td>Joint research centre of the European Business and Innovation Centre of Navarre and the Public University of Navarre</td>
<td>Will handle training activities and foster entrepreneurship among students and teachers.</td>
</tr>
<tr>
<td>European Business and Innovation Centre of Navarre (CEIN)</td>
<td>The CEIN, a strategic partner of the Public University of Navarre since 1996, has shown its willingness to collaborate in the Campus Iberus</td>
<td>Will jointly assist in identifying potential business ideas and support the creation of companies and their financing. Will help to support new spin-off companies that arise in the Campus, through providing technological assessment, business plan development and use of facilities. It will also help to source funding for new businesses.</td>
</tr>
<tr>
<td>Navarre Development Society (SODENA)</td>
<td>SODENA, a public investment company with shares in the capital of some of the companies that have arisen from the research activity of the Public University of Navarre, has signed a new support agreement within the framework of the CEI</td>
<td>Will be involved in the assessment and early identification of technologies with potential economic value arising from the Campus’ research in specific areas: renewable energies, socio-health, etc.</td>
</tr>
</tbody>
</table>
EBRoS Western Pyrenees (CROSS-BORDER CAMPUS)

Although not formally part of the partnership, one of the most ambitious aspects of the Iberus CEI will be the creation of a cross-border campus with Toulouse and Pau. Known as the EBRoS (European Bioregion of Science) Western Pyrenees, it is designed to be a trans-Pyrenean, inter-university space that is stable, solid, and receptive and that shares common teaching and research activities (it will be described in further detail in section 2.8 of this report).

The Iberus CEI has already signed collaboration agreements with the French universities of Toulouse and Pau, with the aim of achieving international cooperation in the areas of teaching and research. Iberus CEI’s vision is to consolidate this cross-border partnership so that gradually, within existing regulatory and legal constraints, activities and collaborations can be established that will allow a cross-border Campus to function in a similar way to that of the Iberus CEI with its national partnerships, and thus become a pole of international excellence in its particular areas of specialisation.
2.6. Policies and actions for the internationalisation of the campus (Area F)
2.6. Policies and actions for the internationalisation of the campus (Area F)

Everyday, the phenomenon of globalization that impacts society and the economy, also has direct impact on the universities. The international relations policies and the right degree of internationalization of the universities becomes, more than ever, a key issue to consider. The international dimension is included in the mission of the university: in the culture and institutional strategy, in the educational, research and expansion functions, and in the international projection of offerings and capabilities. Internationalization is manifested in mobility programs existing at every level (students, professors and researchers, and administrative and service personnel); in the international academic offering; the cross border cooperation; participation in international networks and alliances; the attraction of better foreign students, professors and researchers; and promotion of international visibility.

Starting Point
Encouraging mobility among students as well as teaching, research and administrative staff is considered strategic in the Campus Iberus. The University of Zaragoza was a pioneer in the implementation and development of the Socrates-Erasmus program, achieving important advances in this area and opening different lines of action inside and outside of Europe. And so, the mobility programs were launched with academic and compensation requirements similar to the Erasmus program, fomenting exchange with Latin America (Americampus); U.S.A., Canada, Australia, New Zealand, Japan, etc. (UZ-Bancaja); Erasmus practical training; Leonardo; etc.

In the last few years, the Campus Universities have established very stable bilateral relations in different European geographical areas and have implemented fruitful international collaborative agreements in the areas of both training and research.

This mobility policy should be accompanied by adequate planning for university and research housing, as well as supporting logistical needs of foreign students, professors and researchers that come to our Campus. This point is kept at the forefront of the concept of the Campus, even if lodging wasn't included historically as a just another policy for integrating in the university and the starting point is a long way from the objectives set out. In general, its necessary to keep in mind that we are not dealing with just increasing the number of students, professors and researchers, or to facilitate mobility in either direction, rather that each measure of internationalization should contribute to achieving academic quality objectives in the European and global context. As such the programs of talent capture in the teaching as well as the research area are key in the process given that...
they help meet the identified challenges for the areas of specialization.

The internationalization of the academic offering for both undergraduate and postgraduate studies is a valuable tool for attracting foreign students to the Campus. Other types of programs are also aimed at international targets (International Summer Courses, Independent studies, Visiting Student programs, Study Abroad Programs, etc.)

This internationalization requires ways to solve flexibility issues: limited number of places, registration periods, etc.

The international relations policies should be closely linked to the institutional strategy and the systems as a whole and not just isolated actions taken by central functions. Under this premise the University of Lleida as well as the University of La Rioja have to prepare specific Internationalization Plans or Programs. The University of Zaragoza makes international policies a transversal axis of its Strategic Plan.

Starting now, it is necessary to have a unique projection for the Campus in order to avoid having multiple strategies and unstable fragmented initiatives.

Along these lines, it is essential to generate joint platforms for projecting, for international relations, and mobility in order to foster successful positioning of the Campus Iberus on the international stage.

One of the most ambitious aspects of the ICE Iberus will be the configuration of a cross border campus with the Universities of Toulouse and Pau, called EBRoS (European Bioregion of Science) Western Pyrenees, conceived as a stable, strong, permeable interuniversity transpyrenees space with common teaching and research actions. (This aspect is detailed in depth in section 2.8 of this report.)

In this first stage, the intent is to configure a common educational offering embodied in joint undergraduate and postgraduate studies as well as collaborations in specific lines of research in areas of specialization already being researched. For example, with the University of Toulouse and the University of Pau there are collaborative actions such as:

- UZ Cross Border Cooperation Scholarship program: This scholarship program encourages University of Zaragoza student mobility to the University of Toulouse and University of Pau and of Pays de l’Adour PRES centres. The scholarships target undergraduate and postgraduate students for course work as well as to do practical training. The program is financed through a collaborative agreement between the University of Zaragoza and the Government of Aragon signed in May of 2010.

- Post graduate and double degree agreements: in engineering with the National Polytechnic Institute and the National Institute of Applied Sciences of Toulouse; in Business Administration with the University Paul Sabatier of Toulouse; in Mathematics, Engineering and Materials Science, and Tourism with the University of Pau.
• Cooperation in the area of research: There are project collaborations such as: Otrac (Development of a reproducible cross border organization like breed/territory/product “from genetics to quality meat” in order to develop a sustainable economy in the Pyrenees area), Cotsa (Transpyrenees Cooperation for safety of food coming from sheep and goats), Piregrid (Creation of a totally functional computation Grid platform in the regions of Aragon, Navarra, Aquitaine and Midi-Pyrénées), Crimprev (Assessing deviance, crime and prevention in Europe), Zeocell (Nanostructured electrolyte membranes based on polymer-ionic liquids-zeolite composites for high temperature pem fuel cell), Nanomencourse, TB-VIR (Mycobacterium tuberculosis W-Beijing genetic diversity and differential virulence and host immune responses), Right of older people to live in cities. All of these structures fall under programs like the Interreg IV, VI and VII European Union Framework Programs.

• Transversalis Project: University Cooperation and Innovation Project for cross border employment. Coordinated by the University of Toulouse, the project affiliates 8 higher education institutions in the Franco-Spanish cross border zone. The project promotes training and professional insertion of students and professionals as well as integration of the concept of sustainable development in the Tourism and Mountain professions.

• Student mobility programs: Bilateral agreements under the Erasmus program and student mobility actions on an international scale with the objective of doing practical training in a foreign country. In addition to these specific actions, collaborations will also result from each one of the Agreements signed with the Universities of Toulouse and Pau. They establish actions in the area of education and research: Implementation of EHEA, Student, instructor and researcher mobility, Practical training of students in companies, double degree agreements, co-tutelage of theses, and summer courses.

Another important aspect is the agreement that the University of Zaragoza and the Government of Aragon maintain with MIT. The Zaragoza Logistics Center (ZLC), Logistics Research Institute attached to the Department of Science Technology and the University of the Government of Aragon, and the University of Zaragoza is fruit of this collaboration. It has a track record of nearly ten years of success teaching the ZLIG Master of Engineering in Logistics & Supply Chain Management and Doctorate in Logistics and Supply Chain Management.

This Masters program, pioneered in Aragon, is the University of Zaragoza’s own program and takes one academic year. This starting point enables designing the expansion of joint initiatives with MIT within the range of specializations of the Campus Iberus.

OBJECTIVES AND ACTIONS
The policies and actions concerning internationalization are considered transversal and their main purpose is to define and implement a unique internationalization strategy for the Campus, one that prevents the existence of multiple fragmented unstable strategies. This main purpose is organized into 3 objectives and 20 specific actions reflected in different sections of the report:
1. Increase international visibility of the Campus Iberus: The actions linked to this objective are:
   • “A.2.1. Preparation of a domestic and international marketing plan to give exposure to the Campus Iberus

   • A.2.2. Creation of an internationalization and communication unit linked to the coordination and management structure for aggregation

   • B.5.1. Creation of a knowledge management tool for the Campus: “Iberus Global Knowledge Exchange (IGKE)”

   • B.5.2. Promote and establish a stable structure for the Scientific Culture Units (UCC) in the Campus

   • B.5.3. Encourage and support researcher participation in the spread and disclosure of their research activities

   • B.5.5. Spread and disclose scientific activity at an international level

2. Develop a strategic alliances strategy with prestigious domestic and international universities.
   • A.3.1. Creation of a Cross Border Campus with the universities of Toulouse and Pau-EBRoS (European Bioregion of Science) Western Pyrenees

   • A.3.2. Strengthen the strategic alliance with MIT

   • A.3.3. Identification and programming of strategic alliances with other universities in areas of specialization

   • A.3.4. University personnel incentive program to establish stable permanent agreements.

3. Attract and strengthen mobility of international talent
   • A.4.1. Creation of the International Postgraduate and Doctorate Centre (CPDI) Iberus

   • A.5.1. Gradual Plan for internationalization of the added academic offering

   • A.5.2. Creation of joint degrees between the Campus and other international universities

   • A.5.3. International visiting professors program

   • A.5.4. Creation of an International Receiving Centre

   • A.5.5. Encourage pre and post doctorate stays

   • B.1.3. Program for attracting researchers of international prestige for inclusion in the most recognized groups

   • B.1.4. Program for incorporating young researchers to prestigious research groups, driving the generational change necessary for establishing and maintaining existing prestige

   • B.3.3. Creation of a postdoctoral mobility program through stays at internationally prestigious universities.
2.7. Participation in the sustainable economic model (Area G)
There has been an increase in recent years in the role played by universities in the socio-economic development of the territory in which they are based.

The so-called “third mission” –knowledge transfer– required by universities is the main reason for this increased role, which is not to say that their traditional missions of advanced teaching and scientific research have been neglected.

The University-Company-Society relation diagram best represents how the universities that make up this partnership contribute, through their activities, to the development of an economic and knowledge pole — unique in respect to its size, inclusive nature and inter-regional cooperation.

Iberus Campus, as an integrator in the Ebro Valle, contributes almost 7% of national GDP to the region’s socio-economic development. By establishing the Cross-Border Campus with the French universities of Toulouse and Pau, the future international potential of the Campus will enable the creation of a broad socio-economic axis between the Ebro Valley and the Midi-Pyrenees and Aquitaine regions.

The role of the universities is essential in converting the current economic model into one that is sustainable and knowledge-based.

The universities are well aware of the social and economic situation in which they find themselves. At this time of high unemployment and continuing negative GDP growth, the Spanish Government has launched a package of anti-crisis measures to be implemented in the short term and has also approved the Sustainable Economy Law, thus laying the foundations for a new economic model.

The purpose of this law is to introduce into the legal system the necessary structural reforms to create conditions that favour economically-sustainable development.

For the purpose of this Law, the term sustainable economy means a pattern of growth that reconciles economic, social and environmental development with a productive and competitive economy; that promotes quality employment, equal opportunities and social cohesion, and that guarantees respect for the environment and responsible use of natural resources, enabling the needs of this generation to be met without compromising the needs of future generations.

The Law establishes eight basic principles on which all measures and tools for its implementation are based.
These basic principles are:

1. **Increased competitiveness.** A drive to increase business competitiveness through a regulatory framework that: promotes competition and efficiency in the goods and services markets; facilitates the allocation of productive resources and increased productivity, especially through training, innovation and application of new technologies; and increases the ability to compete in international markets.

2. **Stability of public finances.**

3. **Promotion of the innovative capacity of companies.** Innovation support that favours entrepreneurial companies and industries and the renewal of traditional sectors, as a means of boosting competitiveness.

4. **Energy saving and efficiency.** Commitment to sustainability, resulting in reduced costs, less dependence on energy and preservation of natural resources.

5. **Promotion of clean energy, reduction of emissions and effective treatment of waste.**

6. **Rationalisation of residential construction.**

7. **Extension and improvement in the quality of education and promotion of lifelong learning.**

8. **Strengthening and guaranteeing a welfare state.**
The role of universities in this context is to achieve enhanced interaction between higher education and research and innovation in order to educate entrepreneurial and competent individuals with the specialised knowledge necessary for the functioning of a sustainable and competitive economy that can create more, and better quality, jobs.

In this context, Iberus ICE’s contribution to the sustainable economy model centres around five axes that are expressed through the objectives and actions of the Campus and which are directly linked to the spirit of the Act and to the abovementioned principles.

These axes of Iberus ICE’s sustainable economy model are:

1. **The scientific challenges that pave the way for leading businesses in the challenges of the millennium.**

These challenges will be met through the building of partnerships with companies and through innovation and scientific dissemination. The activities corresponding to this axis are described in the actions set out in Area B of this report (Scientific improvement).

The universities that make up the Iberus Campus dedicate a large part of their financial resources (€57,770,862*) to promoting science and technological innovation, thus achieving a positive
indirect effect, giving rise to an increase and improvement in economic development, particularly in society’s overall quality of life and with regard to the territory.

The average R&D&I contribution of universities to their respective autonomous communities amounts to 22.5%.

This indicates that the universities are important agents in the innovation and research ecosystem.

The inter-relationships achieved between the universities and the various autonomous governments means this R&D&I spend can be increased over the next few years, as well as the level of knowledge transfer from the Campus to the business society.

2. **Social responsibility.** Linked to the actions of objective C.2. To promote social responsibility, broken down into the areas of gender equality (C.2.1. and C.2.2.), occupational risk prevention, work safety, ergonomics and “healthy heart campuses” (C.2.3), promotion of volunteerism and development cooperation (C.2.4.) and C.3. To improve campus accessibility and INTRA/INTER Campus mobility, broken down into the areas of adaptations for disability (C.3.1), accessibility of information (C.3.2) and campus mobility plan (C.3.3).

3. **Sustainability and energy efficiency.** Linked to the actions of objective C.4. To drive sustainability and energy efficiency objectives, broken down into the areas of sustainability and energy efficiency (C.4.1), waste management (C.4.2) and creation of a Campus ‘green’ office (C.4.3).

4. **Contribution to the urban landscape and development of the Campus’ socio-cultural activities.** Linked to the actions of objective C.5 To develop campuses that are open to the surrounding environment, enabling them to become centres for urban social life, broken down into the areas of urban planning (C.5.1), socio-cultural environment (C.5.2) and improvement of the urban environment (C.5.3).
5. Employability and professional career.

Linked to the actions of objective A.9

Cooperation with secondary schools and professional training - broken down into the area of professional training (A.9.1 and A.9.2).

B.1. Excellence in research - broken down into the areas of attracting and training researchers (B.1.3 and B.1.4).

C.1. The university as driving agent of the socio-economic environment - broken down into the areas of employability and professional development (C.1.3 and C.1.4) and B.4. To improve the company-Campus interaction model, by promoting the transfer and exploitation of research results - broken down into the areas of creation of innovation and entrepreneurship centres (B.4.3), and joint research centres with businesses (B.4.4).

Average number of months to find a job*

<table>
<thead>
<tr>
<th>Year</th>
<th>Aragon</th>
<th>Catalonia</th>
<th>Navarra (Autonomous Community of)</th>
<th>La Rioja</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
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<td>2007</td>
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<td>2008</td>
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</tr>
<tr>
<td>2009</td>
<td></td>
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</tbody>
</table>

* Average number of months taken by 16-35 year-olds to find a job after leaving education in the last 10 years, by autonomous community, level of education (university) and gender. The transition from education to the labour market (Methodology EPA-2005). INE (2010)

Average unemployment rate by level of education**

<table>
<thead>
<tr>
<th>Year</th>
<th>Higher Education</th>
<th>PHD</th>
<th>Other (Secondary or primary education, or illiterate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2006</td>
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<td>2008</td>
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<tr>
<td>2009</td>
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</tbody>
</table>

(**) Source: Survey of the Working Population. Unemployed by level of education and autonomous community (average of the four autonomous communities involved in the Iberus Campus: Aragon, Navarre, Catalonia (Lleida) and La Rioja. Percentages in respect to total of each autonomous community. INE (Spanish National Statistics Institute) (2009)
2.8. National and international knowledge and innovation alliances and networks (Area H)
2.8. National and international knowledge and innovation alliances and networks (Area H)

It is fundamental to create national and international knowledge and innovation alliances and networks in order to:

- Offer inter-university education at the undergraduate and post graduate level.
- Increase the level of excellence in research.
- Provide more visibility to the actual campus.
- Encourage access to knowledge and to the most innovative initiatives.

The historical relationship between the universities of the Campus is important and led them to collaborate in different strategic fields throughout their history. The main axis of this collaboration are:

1. The University of Zaragoza, the Public University of Navarre and the University of La Rioja - under the umbrella of Group 9 universities, they collaborate closely in the following areas:
   - Interuniversity cooperation (Group 9 Universities Framework Agreement)
   - Collaboration in academic, teaching, scientific and research areas
   - Improvement of the quality of Doctoral studies (Exchange and use of material and human resources)
   - Postgraduate and PhD programs
   - Realization of an Agrifood company MBA
   - Computer room services for students and university libraries
   - Implementation of the student mobilityAmericampus program with Latin America.
   - Mobility of Administrative and Service Personnel (PAS)
   - Development of a shared virtual campus
   - Summer courses
   - Projects carried out with university cooperation
   - International promotional activities (participation in higher education conferences and other events)

2. The University of Zaragoza and the Public University of Navarre have laid the foundation of their relationship with regards to academic and scientific collaboration for doctoral studies, sharing of material and personnel resources, and postgraduate degrees.

3. The University of Zaragoza and the University of Lleida have established relationships in the area of Agrifood; specifically, with the development and teaching of the interuniversity Masters in Health and Swine Production together with the Autonomous University of Barcelona, as well as the interuniversity doctoral program in "Electrochemistry, Science and Technology" (along with other domestic universities).
The Campus universities ’ starting point with regards to strategic international alliances offering education and joint research programs is the following:

**University of Zaragoza**

- Universidad of Toulouse (France): Ultra high resolution microscopy (together with the University of Barcelona), work network in the nutrition area (together with other Spanish universities). Double degree in Engineering and Business Administration.
- Erasmus Mundus Master's in "Membrane Engineering", coordinated by the University of Montpellier 2 Science and Technology (France), and Erasmus Mundus PhD in "Membrane Engineering" coordinated by the University of Calabria (Italy). The University of Toulouse III Paul Sabatier, of the PRES University de Toulouse, is a partner in both activities.
- Universidad of Pau (France): Double degrees, in Mathematics, Engineering and Materials Science, Tourism.
- Braunschweig Technical University (Germany): Double engineering degree
- Hogeschool Zeeland (Holland): Double degree in Business Administration
- Massachusetts Institute of Technology (MIT) (USA): Creation of the Zaragoza Logistics Center, that offers the ZLOG Master of Engineering in Logistics & Supply Chain Management and a PhD in Logistics and Supply Chain Management.
- Philips (Holland) and other prestigious European centres: "Excellence Network Marie Curie" project within the VII CE Framework Program, Coordinated by the Nanoscience Institute of Aragon of the University of Zaragoza.
- Hispano-Luso international nanotechnology centre: Strategies for shared research and human resources and infrastructure use.
- The Institute of Materials Research's International Collaboration Centre at the Universidad de Tohoku (Japan) and the William Mong Institute of Nano Science and Technology in Hong-Kong (China): Nanoscience research programs.
- University of Campinas (Brazil), University of the State of Amazonas (Brazil) and the Federal University of Bahia (Brazil): Research projects in the areas of Sustainable Energy, Wastes, and Recycling.

**Public University of Navarre**

- University of Pau: Master's in "History, Space, and Heritage" (Exchange agreement with the Master's in History, Art History, Archaeology, Anthropology).

**University of Lleida**

- Erasmus Mundus Master's, coordinated by the University of Eastern Finland and with AgroParisTech (France), SLU (Sweden), Freiburg (Germany), BOKU (Austria) and Wageningen (Holland) participating.
- Gabriel René Moreno Autonomous University (Bolivia): Doctoral program from the Countil Program with a specialty in Forest Systems and Products.
- University of Cranfield (United Kingdom): Double degree together with the agro-industrial area
- FLACSO (Ecuador): Double degree in the area of development cooperation
- University of Perpignan (France), Paris VI (France), Gerona and the Balearic islands: Cross border consortium.

**University of La Rioja**

- University of Pau: Dialnet Foundation, Student mobility agreements, PDI's and PAS.
At ICE Iberus we know the vital importance of establishing both domestic and international alliances. Numerous actions are clarified in the Areas of educational, science and knowledge transfer, including in Area C: activities regarding transformation of the Campus.

- **Area A: teaching and EHEA adaptation improvement** (See objectives and actions pertaining to: “A.3. Develop a policy for strategic alliances with prestigious domestic and international universities”; “A.4. Creation of an international Postgraduate and PhD Centre” and “A.5 Attract international talent with a prestigious academic offering”)

- **Area B: scientific and knowledge transfer improvement** (See objective and actions corresponding to: “B.1. Establish excellence in research driven from the areas of specialization” , “B.3 Drive lines of research with future potential using the synergies between different Campus groups/teams.

- **Area A: actions for transformation of the Campus** (See objective and activities corresponding to: “C.1. Strengthen the role of the University as an agent for revitalizing the social and economic environment”.


Cross border Campus: EBRoS Western Pyrenees

(Iberus + Toulouse + Pau)

One of the objectives of the Iberus Campus is to develop a policy of strategic alliances with prestigious domestic and international universities. Specifically, a key action will be institutional strengthening of cross border cooperation. Campus Iberus is shaping a framework work agreement with University of Toulouse as well as the University of Pau and of Pays de l’Adour that will enable building an EBRoS Western Pyrenees Cross border campus.

This agreement will provide an institutional framework to all those activities already under way in the teaching as well as research areas,. This is thanks to the geographic proximity of these regions and, especially, to the strategic alignment of some research areas where clear synergies were found.

The highlights of the cross border campus EBRoS Western Pyrenees are detailed below:
PRES "University of Toulouse"

The Higher Education and Research Cluster (PRES) at Toulouse is one of the 17 PRES that have been recognized in France.

Founded by 6 higher education institutions in Toulouse, it is a public consortium for scientific cooperation created by the Decree 2007/385 of 21 March 2007.

It is made up of the following institutions:

**Founders**
- University of Toulouse I Capitole
- University of Toulouse II Le Mirail
- University of Toulouse III Paul Sabatier
- National Polytechnic Institute of Toulouse (INPT)
- National Institute of Applied Science of Toulouse (INSA)
- Higher Institute of Aeronautics and Space (ISAE)

**Associates**
- Political Studies Institute of Toulouse
- National Engineering School of Tarbes
- CUFR JF Champollion
- Mining School d’Albi-Carmaux
- National Veterinary School of Toulouse
- School of Engineers of Purpan
- National Civil Aviation School
- National Agronomies School
- National Higher School of Architecture of Toulouse
- Higher School of Commerce of Toulouse

**Objectives of PRES**

This higher education and research cluster is pursuing:

- bringing together skills and talents
- encouraging international or transversal projects
- revitalizing research and training activities
- strengthening the image and legitimacy of the University of Toulouse within the highly competitive European and International context

**Highlights of the University of Toulouse PRES**

- More than 90,000 students enrolled in 16 higher education centres in 10 cities of the Midi-Pyrénées region.
- Offers more than 500 degrees (Bachelor’s, Master’s, PhD, or specialization diploma) in 4 broad educational areas: Arts, Letters, and Languages; Law, Economics, and Management; Humanities and Social Sciences; and Science, Technology, Health and Engineering.
- The Doctoral Committee of the University of Toulouse groups 15 Midi-Pyrénées region doctorate schools, serving a total of 5,000 doctoral candidates in all disciplines. Throughout the period of their doctoral thesis, the PhD candidates receive quality training and workshops that facilitate professional entry.
The Midi-Pyrenees region occupies first place in France for research effort, with 16.2 researchers for every 1000 salaried employees and 4.1% of GDP of the region dedicated to Research, Development, and adding value (near double the European average).

The University of Toulouse coordinates an ambitious planning project: 56,000 m² of new buildings being built through 2016 and 108,000 m² will be renovated. They have the top research support equipment, and nearly 2 million documents in the library with innovative digital media support.

International visibility. The Midi-Pyrenees region is known around the world for its companies and research platforms in the aerospace, agronomic, health and economy sectors. Fifteen percent of the students are foreign as well as the researchers from all over the world.

University of Pau and of Pays de l'Adour

The University of Pau and of Pays de l'Adour (UPPA) has campuses in 4 locations (3 in Aquitania and 1 in Midi-Pyrenees):
- Pau, in the Pyrenees-Atlantiques county
- Bayonne and Anglet in Las Landas
- Mont-de-Marsan, also in Las Landas
- Tarbes, in Hautes-Pyrenees.

Highlights of the University of Pau and of Pays des Adours (UPPA)

- UPPA has approximately 11,273 students, 700 Teaching and Research Staff (PDI’s) and 476 Administrative and Service Staff (PAS).
- 180 degrees of different levels are awarded.
- 25 research groups recognized by the Ministry of Education of the French government perform fundamental and applied research activities in 7 broad areas.
  - Chemistry: Materials and the Environment
  - Mathematics
  - Geophysics
  - Complex fluids
  - Comparative Law
  - Linguistics and Basque studies
  - Land use planning
- Each year, some 70 Doctoral candidates present and defend their theses by mediation of the two doctoral schools accredited by the Ministry of Education:
  - The Doctoral School of Exact Sciences and their applications and the Doctoral School of Humanities
- Committed to technology transfer, with historical ties to important industrial groups such as Total E&P France, and Turboméca. Today the evaluation unit of the University is a real interface between businesses and research teams in everything regarding research contracts, transfer of "savoir faire", creation of innovative companies, and in service of R&D centres and technology platforms.
Strengthening the alliances between Campus Iberus and the Universities of Toulouse and Pau enables use of existing synergies and strengthens areas of specialization for research and innovation as well as teaching.

Strong points of the aggregation

- Toulouse has more than 10,000 researchers making it the number one region in France for research effort.
- Pau has 33 research teams of which 9 are associated with CNRS (National Science Research Centre)
- Campus Iberus has 476 recognized research groups
- The University of Toulouse offers more than 500 bachelors, masters, and PhD degrees.
- The University of Pau approximately 180.
- Campus Iberus, around 300

Ample academic offering

- Dynamic innovative scientific research
- Historical relationship between the Universities
- International visibility
- Double degree agreements
- Student mobility programs
- Scholarship programs for Cross Border Cooperation (UZ and UPPA)
- Joint research projects
- Thematic Networks

PRES is known around the world for its companies and research platforms, and for the level of its higher education.
- Campus Iberus has prestigious companies in its strategic areas.
Ample academic offering

• Currently at Campus Iberus, 164 degrees are taught, 90 official masters; 2 Erasmus Mundus masters and more than 20 doctoral programs have gotten mentions for quality.
• In addition to the diversity of its academic offering, 3 of Campus Iberus’ 4 universities are among the 10 best in the national ranking for quality teaching prepared by the CYD (Knowledge and Development) Foundation.
• This cross border alliance without a doubt reinforces the teaching area in its search for training excellence now that:

  ❖ The University of Toulouse offers more than 500 bachelors, masters and doctoral degrees in four broad educational areas:
    - Arte, Letters, and Language
    - Law, Economics, and Management
    - Social Science and Humanities
    - Science, Technology, Health, and Engineering

  There is a total of 7,100 practicing educators and researcher at the centre.

  The Doctoral Committee brings together 15 schools granting doctorates in the Midi-Pyrenees taking in 5,000 doctoral candidates in all of the disciplines.

  ❖ The University of Pau and of Pays de l’Adour offers 180 bachelors, masters and doctoral degrees. It has 2 schools accredited for awarding doctorates.

  • In addition, a large part of the study programs of both universities are tied to the large French research organizations like the National Centre of Scientific Research (CNRS), the National Institute of Agronomic Research (INRA), the National Institute of Health and Medical Research (INSERM), the Institute of Research and Development (IRD), The National Centre of Space Studies (CNES), and the National Aerospace Studies and Research Service (ONERA).

  • The creation of the Cross Border Campus will make it possible to share a common project reinforcing the educational program and improving the array of possibilities for students. It will be supported by the great quality and variety of degrees taught at the Universities of Toulouse and Pau in the Midi-Pyrenees and Aquitania region.
• The universities pertaining to Campus Iberus have been establishing stable bilateral relations in different geographical areas of Europe. They have also launched mobility programs for students as well as instructors and researchers, promoting exchange programs with Latin America, the United States, Canada, Australia, New Zealand, China, and Japan.

• Given that they are seen as leaders by both the business and university world, the Universities of Toulouse and Pau, through the Cross Border Campus will help the Campus’ international visibility.

University of Toulouse
• The Midi-Pyrenees region is known around the world for its companies and research platforms in the aerospace, agronomic, health and economy sectors.
• Currently, almost 15% of the students at Toulouse come from foreign countries.
• The University of Toulouse coordinates strategic projects enhancing the university at the European and international level.
• These partnerships are intended to be dynamic and to evolve so that they encourage the creation of new alliances, possibilities for cooperation, and become a systematic expansion of the PRES networks.

• Right now there are five highly significant international cooperation projects ongoing:
  ❖ Aeronautics and space
  ❖ Agronomy and veterinary
  ❖ Cancer-Bio-Health
  ❖ Socioeconomics of development
  ❖ Euroregion – the objective is excellent joint education masters-type programs with Southern Europe, especially with Spain (Mediterranean Pyrenees Euroregion)
• The Midi-Pyrenees is a magnet for important companies with more than 370,000 employing approximately 60,000 people.
• In particular, the aeronautic and space companies stand out.

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<tr>
<th>Primary companies in the aeronautics field</th>
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<th>Primary companies in the field of space</th>
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<td>![EADS Astrium Logo]</td>
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<td>![Alcatel Alenia Space Logo]</td>
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<td>![CNES-CST Logo]</td>
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• There are also important companies in other sectors, for example:

### Primary companies in the biotechnology field

<table>
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<tr>
<th>Company</th>
<th>Description</th>
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<tr>
<td>Laboratorio Pierre Fabre</td>
<td>Premier dermocosmetic laboratory in Europe</td>
</tr>
<tr>
<td>Sanofi Aventis</td>
<td>The group's largest research centre in France</td>
</tr>
<tr>
<td>Syngenta</td>
<td>Molecular and genome research laboratory</td>
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### Primary ICT companies

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<th>Company</th>
<th>Description</th>
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<tr>
<td>Siemens VDO</td>
<td>Automotive electronic equipment</td>
</tr>
<tr>
<td>Capgemini/Transiciel Sogeti</td>
<td>Computer company</td>
</tr>
<tr>
<td>Freescale Semiconducteurs</td>
<td>Production company for automotive and 3G telecom components</td>
</tr>
<tr>
<td>123 Multimedia</td>
<td>Telecommunications company - mobile service creation</td>
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### Primary Agrifood companies

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<th>Company</th>
<th>Description</th>
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<tbody>
<tr>
<td>Groupe 3A</td>
<td>Dairy products production company</td>
</tr>
<tr>
<td>Caves de Roquefort</td>
<td>World leader in Roquefort production</td>
</tr>
<tr>
<td>Nutrición et Santé</td>
<td>Production of diet and nutritional products</td>
</tr>
</tbody>
</table>
• Currently Campus Iberus has a broad base of science and technology infrastructure linked to the areas of activity. This enables it to offer first tier services to the entire university community and the productive area of the four autonomous communities making up the group.

• The relationship with the Universities of Toulouse and Pau enables the addition of new scientific resources to those already existing, providing greater value added.

• Both the University of Toulouse and the University of Pau and of Pays de l’Adour are leaders in research and innovation development and bring together internationally recognized centres.

University of Toulouse

Toulouse concentrates four scientific research clusters:

❖ Aeronautic Cluster (AESE): groups laboratories, research companies, professors, and students related to the aerospace field.

❖ Cancer Bio Health Cluster: 4,200 public and private players interacting on 220 hectares, bringing together a university hospital and research centre dedicated to cancer (INSERM/CNRS/UPS).

Since 2009 groups Pierre Fabre laboratories (750 researchers), Sanofi-Aventis extensions (500 employees) and the Advanced Technology Institute (ITAV), etc.

❖ Agripim de Auzeville Cluster: groups INP-ENSAT, IÉNFA, the Agriculture School of Auzeville and the majority of those that have research activities in this field (INRA y IFR40).

• All of this makes Midi-Pyrénées the fourth French region in number of researchers (more than10,000) and 4,2% of its GDP is dedicated to R&D, in other words, almost double the European average, making it the first in France and Southern Europe.
University of Pau and of Pays de l’Adour

• On the other hand, Pau also is an outstanding centre for research and development and has diversified fields of research, doing basic and applied research in 7 areas:
  - Chemistry: Materials and the Environment
  - Mathematics
  - Geophysics
  - Complex fluids
  - Comparative Law
  - Linguistics and Basque studies
  - Land use planning

• It has 461 researchers and 33 research teams; 9 of them associated with CNRS, and with more than 600 publications a year.
• The university has 3 Application centres, meaning annexes to the laboratories and with the objective of covering the demand for services, studies and training:
  • CASAGEC: its area of activity is development of coastal protection. Attached to LASAGEC
  • OPERA: carries out research in the field of heavy oils in cooperation with the TOTAL society. Attached to laboratories: LMA, MIGP and LIUPPA.
  • CHLOE: works in the area of geophysics Attached to the LFC laboratory.
The universities forming the Campus Iberus and the Universities of Toulouse and Pau have maintained a close relationship for some time. It was developed through the following:

University of Toulouse

- **Collaborative Understandings and Agreements** with PRES institutions in different areas:
  - Mobility (Erasmus)
  - European academic projects
  - Research projects

- **Double degree agreements:**
  - With the National Polytechnic Institute of Toulouse, in Engineering (2000)
  - With the University Paul Sabatier, in Business Administration (2005)
  - In sociology (under study)

- **Institutional visits:**
  - Within the framework of activities organized by the City Governments of Toulouse (Zaragoza Week in Toulouse, 2009) and Zaragoza (Toulouse Week in Zaragoza, 2010), delegations of rectorial teams held work meetings on "Education and mobility" (joint degrees and double degrees) and "Research and Innovation" (Agrifood, Materials, Nanoscience and Nanotechnology, Sustainable Development, Renewable Energies).

- Visit to nanoscience and nanotechnology research laboratories and institutions of the University of Toulouse (2009): Centre d’Élaboration de Matériaux et d’Études Structurales (CEMES), Laboratoire d’Analyse et d’Architecture des Systèmes (LAAS) del CNRS, Laboratoire National des Champs Magnétiques Intenses de Toulouse (LNCMI-T) and University Paul Sabatier.

- Other visits and meetings: Delegations of rectorial teams periodically have work meetings and receive the support and participation of regional governments, as well as direct involvement from the PRES President and Rector of UZ. The work program focuses on academic areas (implementation of EHEA and double degrees), research (nanoscience and nanotechnology), participation of UZ in the Eurocampus (Pyrenees Mediterranean Euroregion initiative) and support of the UZ ICE project.
• **Student mobility programs:**
  - Bilateral agreements under the Erasmus program
  - Student mobility activities on an international scale with the objective of doing practical training in another country.

• **UZ Cross Border Cooperation Scholarships:**
  This is a scholarship program to encourage University of Zaragoza students to go to PRES centres at the University of Toulouse and the University of Pau and of Pays de l’Adour (UPPA). The scholarships target undergraduates and postgraduates for taking courses as well as to do practical training. This program is financed through a collaborative agreement between the University of Zaragoza and the Government of Aragon signed May 2010.

• **Research collaboration:**
  - **Ongoing Nanotechnologies project:** Currently there are collaborations with the group led by professor R. Ibarra, from UZ, in the areas of Nanoscience and Nanotechnology. And there will be participation in a joint European project.
  - **Otrac Project:** Development of a reproducible cross border organization of the breed/territory/product “from genetics to meat quality” type for sustainable economic development in the Pyrenees area (Gascony bovine race model). Participation together with the National Veterinarian School of Toulouse
  - **Cotsa Project:** Trans-pyrenees Cooperation together with the INRA of Toulouse for safety of food coming from sheep and goats.
  - **Piregrid Project:** Creation of a completely functional Grid computation platform in the Aragon, Navarre, Aquitaine y Midi-Pyrenees regions. The IRIT University Paul Sabatier participates.
  - **Crimperv Project:** Carried out together with the University of Toulouse II le Mirail. It targets crime and prevention in Europe.
  - **Zeocell Project:** Nanotechnology study carried out jointly with the Solvionic Company (Toulouse)
  - **TB-VIR Project:** Study of the W-Beijing tuberculosis microbacteria (*Mycobacterium tuberculosis* W-Beijing genetic diversity and differential virulence and host immune responses). Participates jointly with the National Scientific Research Centre, the Structural Biology and Pharmacology Institute of Toulouse.
• **Erasmus Mundus:**
The University of Zaragoza and the University of Toulouse III Paul Sabatier, of the PRES University of Toulouse participate in the "Erasmus Mundus Master in Membrane Engineering" and in the "Erasmus Mundus Doctorate in Membrane Engineering" of the Erasmus Mundus 2010 Program (Call for Proposals EACEA/29/09).

• **Transversalis Project:**
University Innovation and Cooperation Project for cross border use and coordinated by the University of Toulouse. The Transversalis project affiliates 8 higher education and research institutions in the Franco-Spanish cross border zone with 7 activities.
The objectives of the project are on the one hand to promote education and entry into the work force in the case of students and professionals in the cross border space and on the other, to integrate the concept of sustainable development in the Tourism and Mountain professions.
This project is enrolled in the EU cohesion policy framework, and its primary objective is to integrate its structural actions into the Operational Program for Territorial Cooperation Spain-France-Andorra (POCTEFA) covering the period from 2007 to 2013.

The following actions will be carried out:
- University-employment cross border platform
- Portfolio of experience and skills
- Tourism, Sustainable development, and Pyrenees Territories
- Cross border renewable energy development observatory
- Scholarships for practical training and cross border innovation centre
- On-line training for cross border business people
- Training of trainers
University of Pau and of Pays de l’Adour

- **Collaboration agreement** in different areas:
  - Mobility (Erasmus)
  - European academic projects
  - Research projects
- **Double degree agreements:**
  - In Mathematics, Engineering and Materials Science, Tourism.
- **Institutional visits:**
  - Since 2009 it has conducted different institutional and work meetings with the UPPA and the EBROS project, within the specific framework agreement.
- **Thematic workshops:**
  - During 2010 there have been workshops on Mathematics, Summer courses, Spanish Language, History, Sports and Physical Activity, Geography-Land use planning and the environment.
  - There are workshops on Transfer and Valuation, Chemical analysis/Environment, Law, Energy systems and procedures, and Asset Management planned for the last quarter of 2010.

- **Cross Border Cooperation Scholarship Programs:**
  - At UPPA: Starting with the 2010-2011 UPPA cross border course and consisting of a scholarship of 400€ financed by the combined Community of Pau and the Regional Council. Nine students have been chosen to go to UZ (Huesca and Zaragoza campus).
  - At UZ: Similarly, a scholarship program has been put in place for cross border mobility for 2010-2011 and financed by the Government of Aragon and the University of Zaragoza. One student has been selected to go to UPPA (Tarbes Campus: sports) and three more will probably go (engineering).
  - A declaration of intent was signed between UZ and UPPA in August 2010. It provides for institutional cover of these exchanges.

- **Development of a common data base of professional practical training**, so that students from both institutions can benefit.
Areas of activity: Training and Research

1. Encourage student exchange: the Erasmus program, and specific programs for cross border mobility.

2. Support exchanges of professors and researchers and administrative personnel.

3. Encourage institution personnel to participate in workshops, symposiums, seminars and conferences organized by the institution’s counterpart.

4. Exchange information: Communicate results of teaching experiences (courses, seminars, etc.). Inform the other party regarding conferences, symposiums, scientific meetings and seminars so that each of them organize and exchange the publications and documents that result from these activities.

5. Promote creation of double degrees.

6. Prepare common research and innovation programs at the different institutions’ centres and laboratories and include co-tutelage of theses.

7. Share company offers to give students practical training.

8. Transfer and promote good practices for European project management, industrial contracts, and patents.

The themes of the collaborative objectives of EBRoS Western Pyrenees are closely related to the objectives and activities proposed in ICE Iberus. This lends consistency to the cross border Campus project and advances the integration of the Campuses, cooperation, internationalization, and international excellence.
Coordination and follow-up mechanisms

- Collaboration Agreements will be signed with two French universities and will include the objectives previously mentioned.
- Each will establish Bilateral Commissions for follow-up of the agreements and agreed activities and each University will appoint a person to be in charge.
- These monitoring Commissions will assume the following functions:
  - Implement the agreements and oversee them according to the methods established by common agreement.
  - Propose a list of studies that may have double degrees.
  - Propose the annual objectives, in reasonable time, and the teaching and research activities from the Agreements as well as all the updates necessary.
  - Propose general and specific conditions for realizing periods of theoretical education and/or practical training of the students in the other university. Define the number of students received by each member, the selection process, the duration of the stay, the student follow-up conditions as well as establishing an assessment that evaluates how well the students learned.
  - Propose general and specific conditions for mobility of teaching, research and administrative staff.
  - Do an annual assessment of the activities carried out and report to the competent authority of each institution.
  - Analyze and propose modifications, updates or annexes that could lead to broader efficacy and cooperation.
  - Insure ample communication of the alliance among the respective institutions in order to encourage and expand cooperation to other domains.
3. Coordination and management structure
The structure of the Ebro Valley International Campus of Excellence is based on the willingness of the aggregation’s five members — four universities and the CSIC — to foster an environment of coordination and management which allows the participation of all members of the university community.

The key aims of the coordination and management structure are:

- To establish responsible use of knowledge in society and to report on the results obtained.
- To establish efficient accountability and management mechanisms.
- Legitimation of the project itself: direct involvement by participating institutions in governing the ICE.

- Representation of the four territories in management as well as consultancy.
- Involvement of public entities, businesses, citizens and representatives from the scientific and technology sector.
- Appointment of people responsible for obtaining results at different levels.

In this way, and considering each party’s wish to participate, we show the Campus management and coordination structure as an entity with its own legal personality, consisting of:

**Management Committee**
(Iberus Campus Chairman)

**Executive committee**

**Manager**

**Advisory Councils**

- Citizen
- Scientific
- Business

**Technical Office**

- Project Manager 1
- Project Manager 2
- Project Manager 3
- Project Manager n

**Marketing and Communication**
Management Committee:
Formed by the Iberus Campus Chairman, the Vice-chancellors of each of the four universities, the Chairman of the Spanish Council for Scientific Research (CSIC), the Chairmen of the Social Councils of the universities and an additional representative from each of the aggregation’s five members. Between them, they will elect a General Secretary. In addition, the committee will have two members who are allowed to speak but not vote, the Campus Manager and a jurist who will act as Secretary.

The committee will hold two sessions a year and handle issues such as:
- Establishing the objectives and strategic lines of the Campus.
- Follow-up and control of the implementation of the established strategic lines.
- Approve the budget and supervise the financial activity of the Campus.
- Prepare and approve the Campus rules.

Campus Chairman
This will be an internationally-renowned scientist whose function will be to represent the Campus and chair the Scientific Council. The position will be filled by means of an international call and will be part time so as to allow for compatibility with the Chairman’s principal scientific work.

General Secretary
The General Secretary will be selected and appointed by the Management Committee from among their members, for a period of 3-4 years in accordance to that established in the Management Committee rules.

Their function will be to convene the Management Committee, record the minutes of the meetings, prepare any resulting agreements from same and be responsible for follow-up.

Executive Committee
Formed by six members, one for each institution in the aggregation (5) and the Campus Manager.

This Committee will be responsible for managing the economic and financial activities of the Campus and for implementing the agreements and decisions of the Consortium. They will be accountable to the Management Committee.

During the first year, sessions will be held every two months and on a quarterly basis thereafter.

Campus Manager
A single person elected by the Management Committee. They will be responsible for implementing the agreements of the Management Committee and for managing and directing actions proposed within the framework of the project.
**Advisory Councils:** Each Advisory Council will play an advisory role in the development of the *Iberus* – Ebro Valley International Campus of Excellence project. Three advisory councils will be set up (citizen, scientific and business).

The Chairmen of the Advisory Councils will be elected from the members by the Management Committee, apart from the Chairman of the Scientific Advisory Council who will be appointed by the Campus Chairman.

- **Citizen Advisory Council**
  Formed by representatives from the body of students, Government and associations. It will respond to the need to incorporate the concerns and interests observed in society in general and, specifically, in each one of the territories.
  Its main functions will be to:
  - Disseminate Campus activities both internally and externally
  - Advise on the development and/or modification of the Campus’ main activities.

- **Scientific Advisory Council**
  Formed by a Vice-Chancellor from each university, head of research and/or technology transfer, and persons of recognised standing in the area of research and knowledge transfer. Their main functions will be to:
  - Provide expert advice on developing Campus activities
  - Internally and externally disseminate all activities to be developed in the areas of teaching and research related to the Campus’ areas of specialisation.

- **Business Advisory Council**
  Formed by representatives from the business sector in the four autonomous communities, with a particular focus on businesses with strong links to the aggregation (See area E).
  The main function of the Council is to gather together the real needs and concerns of the sector and to advise on the impact of activities, especially in the area of knowledge and research transfer.
• **Marketing and Communication area**
  Formed by a small number of Marketing and Communication experts from the universities in the aggregation.

  The main function of this area is to promote international visibility. It will be responsible for developing a national and international marketing plan, providing annual follow-up and review, to increase the status of the Campus among international universities and in society in general.

• **Technical Office**
  Formed by a small team of people who will be responsible for carrying out project monitoring and control, risk identification, budget control and reporting control together with the Campus Manager.

• **Project Managers**
  A person will be assigned for each one of the Campus’ specific projects, in relation to the activities to be carried out.
4. Conclusions
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*Iberus* Campus is a project in which four universities of four autonomous communities in the Ebro Valley—the University of Zaragoza in Aragón, the Public University of Navarra, the University of La Rioja and the University of Lerida in Catalonia—define their plan for the building of a strategic aggregation that is capable of running an International Campus of Excellence and which has adopted the objectives of the University Strategy 2015:

• setting themselves an achievable goal for the revitalisation and modernisation of the four universities, based on the promotion of quality and excellence in training and research.
• claiming its international status in Europe and the world.
• acting as a unifying force and support to the Ebro Valley’s knowledge ecosystem, providing solutions for the development of an economic model based on knowledge and innovation.

*Iberus* Campus’ strategic plan for the creation of an International Campus of Excellence aims to contribute to the road map for the modernisation of universities by:

• Breaking down barriers between the universities that form the aggregation and the autonomous communities where they are located, and by establishing permanent links with universities around the world.

• Proposing scientific challenges in emerging domains of knowledge and in those that constitute the main concerns in the common sphere of the European Union:
  ✓ sustainable energy
  ✓ technology to serve the citizen
  ✓ healthy food
  ✓ preservation of cultural heritage
• Excelling in the subsequent areas of specialisation in which their scientific abilities can be applied: materials and technologies for quality of life, food and nutrition, memory, heritage and identity.
• Promoting the mobility of students, researchers and teachers, and developing ways of attracting international talent.
• Having a shared governance that, from the principle of scientific, academic and management autonomy, builds a model of cooperation and shared resource management.
• Establishing a responsible use of knowledge in society and reporting on the results obtained.
• Establishing new ways of interacting with the productive sector and integrating it in order to achieve the universities’ three main missions of teaching, research and innovation.
• Providing appropriate skills and competencies for the labour market, increasing graduate employability and providing an agenda for lifelong training

• Fostering a training and entrepreneurial culture among students and researchers.

• Striving for excellence in teaching and research in order to compete in Europe and the world.

• Participating in transnational networks in the Campus’ areas of specialisation.

• Having the necessary resources and systems to be more visible and attractive in the rest of the world, increasing the possibilities of attracting, retaining and motivating the best students, teachers and researchers.