

Report



VLC/CAMPUS

VALENCIA, CAMPUS OF INTERNATIONAL EXCELLENCE

Science And Technology For The Quality Of Life In The 21St Century

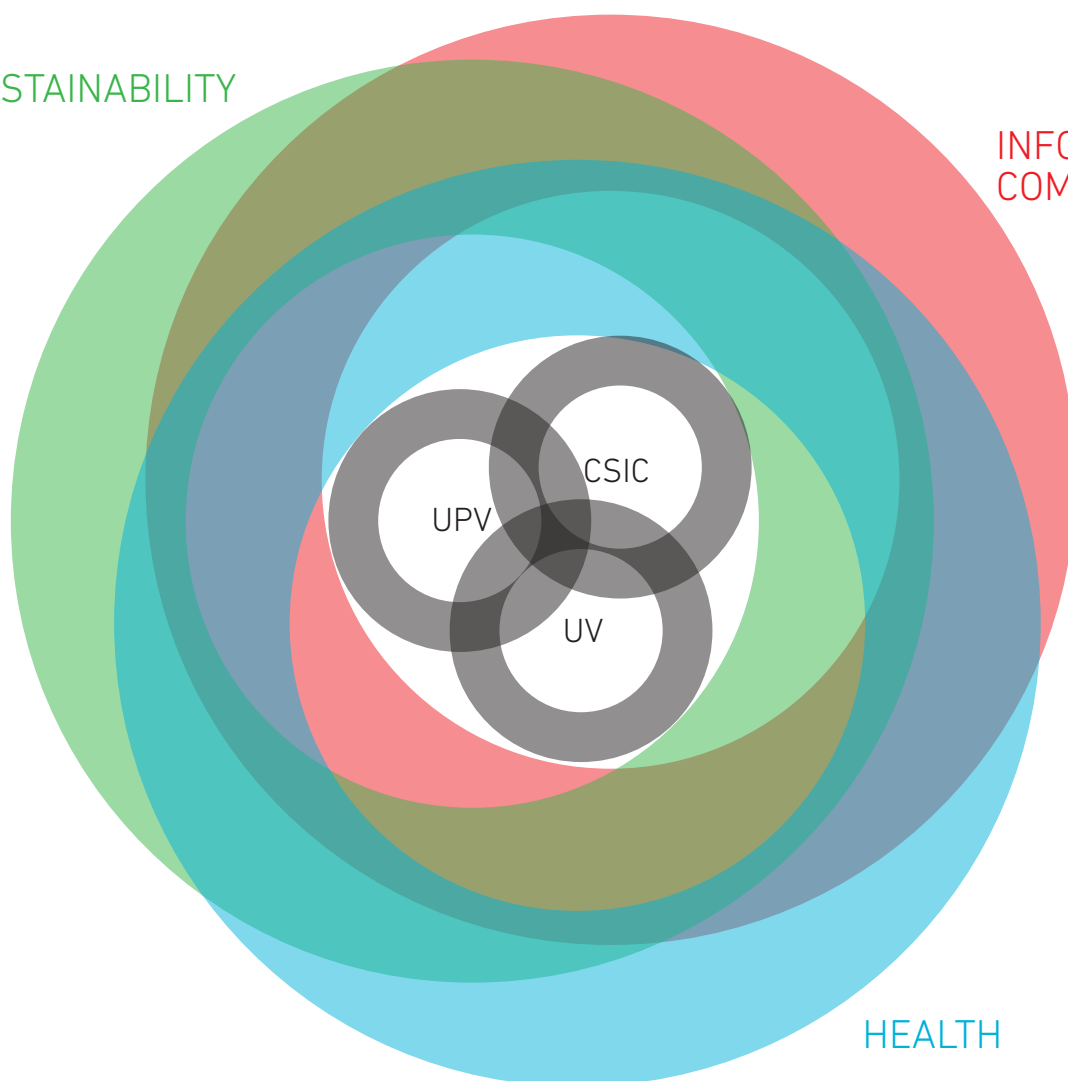
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SUSTAINABILITY

INFORMATION/
COMMUNICATION



1. GENERAL PROPOSAL

As a response to the International Campus of Excellence (CEI) call made by the Spanish Ministry of Education, the *Universitat de València* (UV), *Universidad Politécnica de Valencia* (UPV), and *Consejo Superior de Investigaciones Científicas* (CSIC) have formed a **scientific and technological partnership** specialised in the areas of health, information/communication, and sustainability. The members of this partnership already enjoy a considerable international reputation for excellence in these areas.

Our proposal is built on a strategy of cooperation among the main knowledge-producers in the metropolitan area of the city of Valencia. This strategy is a response to growing levels of international competition and the aim is to pool resources in order to grow and further raise our international standing.

This proposal is based on an analysis of our strengths and weaknesses, as well as an examination of the current opportunities and threats. It also reflects **diagnoses made in recent university strategic plans**¹, and the conclusions of a working group of local representatives who studied the social and economic contribution made by public universities in Valencia² (organised by the Valencian Institute of Economic Research (IVIE)³). These plans and studies have established that maintaining global excellence and competitiveness is the best approach for ensuring the continuing contribution of universities and research organisations to regional and national development.

This new partnership is called the **VLC/CAMPUS - Science and Technology for Quality of Life in the 21st Century**. This name reflects the metropolitan nature of the participants, and expresses their commitment to advancing the development and well-being of European society.

The UV and UPV are among Spain's leading universities and achieve high international rankings. The CSIC is the principal research organisation in Spain and the eleventh largest in the world. It has ten centres in the Valencia region and seven of these are mixed and jointly managed with either the UV or the UPV.

The strengths and complementary natures of the UV, UPV, and SCIC are the **starting points** in our drive towards **Europeanization and internationalisation**. The following points are especially important:

1 <http://www.uv.es/plaestrategic/c/index.htm>; <http://planestrategico.upv.es/>

2 <http://www.ivie.es/ivie/servlet/DocumentoListadoServlet?estado=resumen&documento=MONO+2009-02&idioma=ES&tipo=MONO&anyo=>

3. Economic Contribution of VLC/CAMPUS

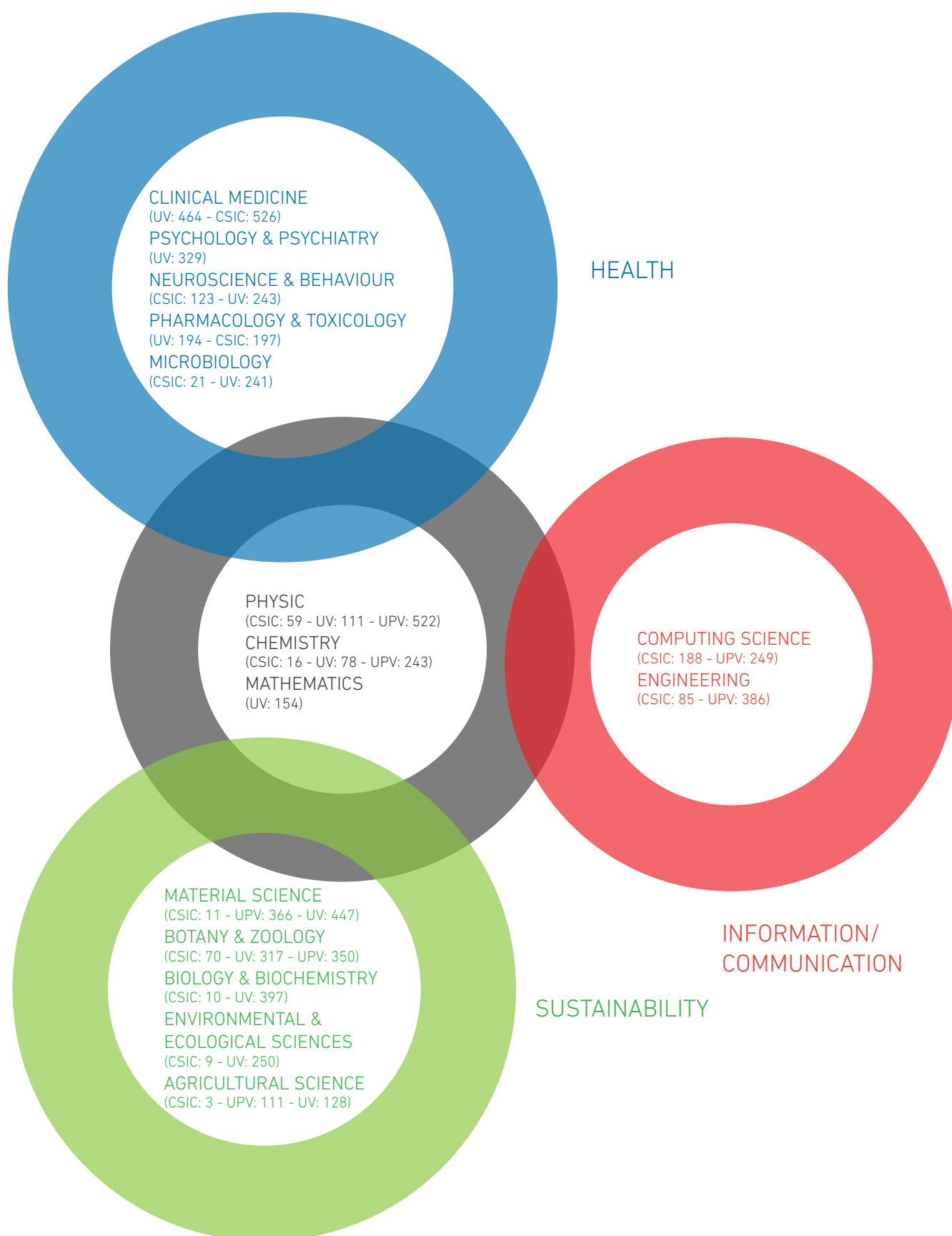


Figura 1. Ranking of the UV, UPV, and CSIC in the Thomson Reuters Web of Knowledge (2000-2010) in function of the most cited subjects and areas of specialisation at VLC/CAMPUS

Nota: The world ranking of each institution is shown in brackets. Classifications are based on meeting a 1% threshold plus citations per field and year in accordance with total citations from 4122 institutions

Source: ISI Web of Knowledge 2000-2010

- In terms of research, the UV, UPV, and CSIC hold leading positions in four areas in the Thomson Reuters (formerly ISI) Web of Knowledge Essential Science Indicators —see *Figure 1*. Three of these areas include disciplines that enable VLC/CAMPUS to specialise in the following areas: health, information/communication, and sustainability. The fourth area of specialisation is cross-disciplinary in nature and includes chemistry, physics, and mathematics:

- a) **Agricultural and life sciences** —including botany, zoology, biology, biochemistry, and material and environmental/ecological sciences. These areas form the *sustainability* grouping.

- b) **Health sciences** —including important research fields such as pharmacology, toxicology, microbiology, neuroscience and behaviour, psychiatry, psychology, and clinical medicine. These constitute the *health* grouping.

- c) **Computing science and engineering** have been grouped as *information/communication*.

- The UV, UPV, and CSIC participate significantly in the Seventh EU Framework Programme for research and technological development (FP7) by coordinating 19 projects, as well as participating in 117 projects.

- There is a record of close cooperation between researchers from the UV, UPV, and CSIC. This is reflected in the existence of many mixed groups. A positive result of this cooperation is the joint authorship of scientific articles by researchers from both universities and/or the CSIC. The number of published articles listed by Thomson Reuters (formerly ISI) that have been authored by researchers from two or three of the VLC/CAMPUS partners has doubled in the past four years.

- VLC/CAMPUS has Spain's largest portfolio of patents, and 482 national patents.

- Both the UV and UPV enjoy worldwide teaching reputations based on:

- a) The attractiveness of undergraduate degree courses at both universities – given that Valencia city is the single most popular destination in Europe for international exchange students.

- b) The attractiveness of postgraduate degree courses –

- c) An educational offer that has received international recognition – including four Erasmus Mundus activities and the founding of several international postgraduate programs.

The VLC/CAMPUS project **integrates various university activities** and includes the dimensions and levels of a campus of international excellence.

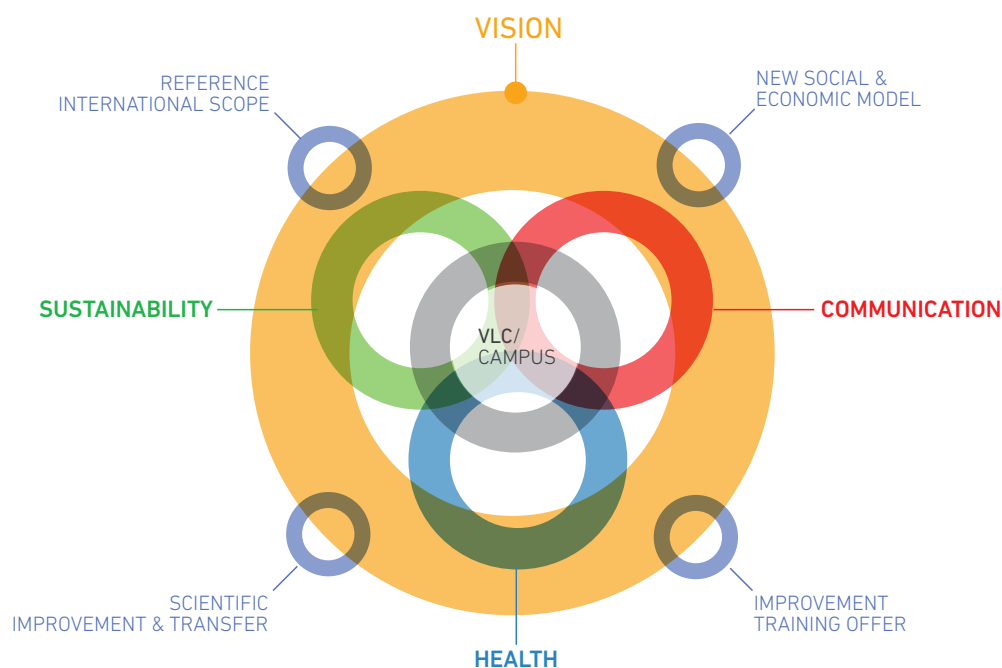
- Includes teaching and research activities – as well as knowledge transfer. This is a metropolitan project with an international audience and will include the creation of a model campus with an emphasis on ecology. The project will add further dynamism to the socio-economic and cultural development of the Valencia region; and contribute to the level of well-being in society by accelerating changes in the productive model.

- Special attention will be paid to the social relationship between excellence and fairness.

- An open methodology for innovation will incorporate all the main knowledge-producers within the project.

- A specific and robust model of management will be established that is based on the creation of a foundation and board of administration. The VLC/CAMPUS-management will ensure the highest levels of quality and social relevance.

- The visibility and image of VLC/CAMPUS will be strengthened through an effective international communication campaign.



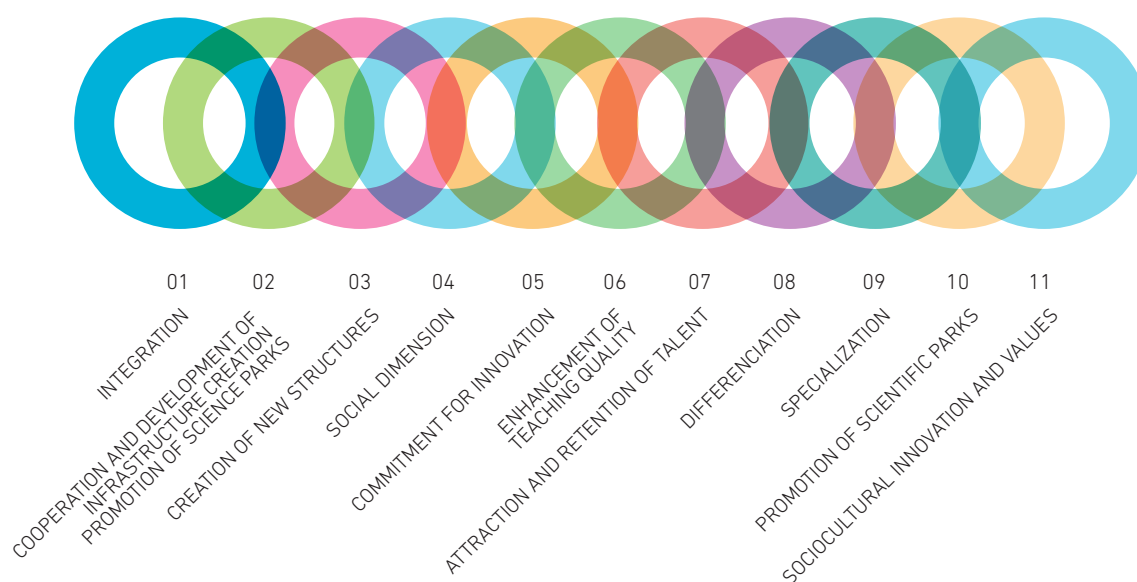
1.1. VISION AND MISSION

The VLC/CAMPUS project, included in the Spanish universities modernisation programme envisioned in Estrategia 2015, with the full support of all its members, proposes to define the type of international excellence pole it aims to achieve and how it intends to achieve it in the following terms:

1.1.1. VISION

VLC/CAMPUS wants to be recognised as:

- One of the 50 leading knowledge-producing poles in Europe with the capacity to raise the standards of the universities of which it is composed and place them at the highest level in the international rankings.
- One of the first innovative scientific-academic poles in the Euro-Mediterranean mega-region, able to make a decisive contribution to the economic and cultural development of southern Europe.
- An international reference in postgraduate studies, high-level research and knowledge transfer in the VLC/CAMPUS specialist areas.
- An organisation able to provide leadership and new ideas for city and country, strengthening the territory's innovative capacities (VLC/CAMPUS as the nucleus of regional innovation).
- A centre of creativity, innovation and tolerance. The production of new ideas (social and cultural innovation) is one of the principal functions of the University.
- A public space in which to promote university life and citizens' participation, based on quality of service to guarantee that sufficient attention is paid to the social dimension of higher education.
- One of the three largest centres of doctorate students and young PH.Ds in Spain and among the universities with the highest numbers of ERASMUS exchange students.

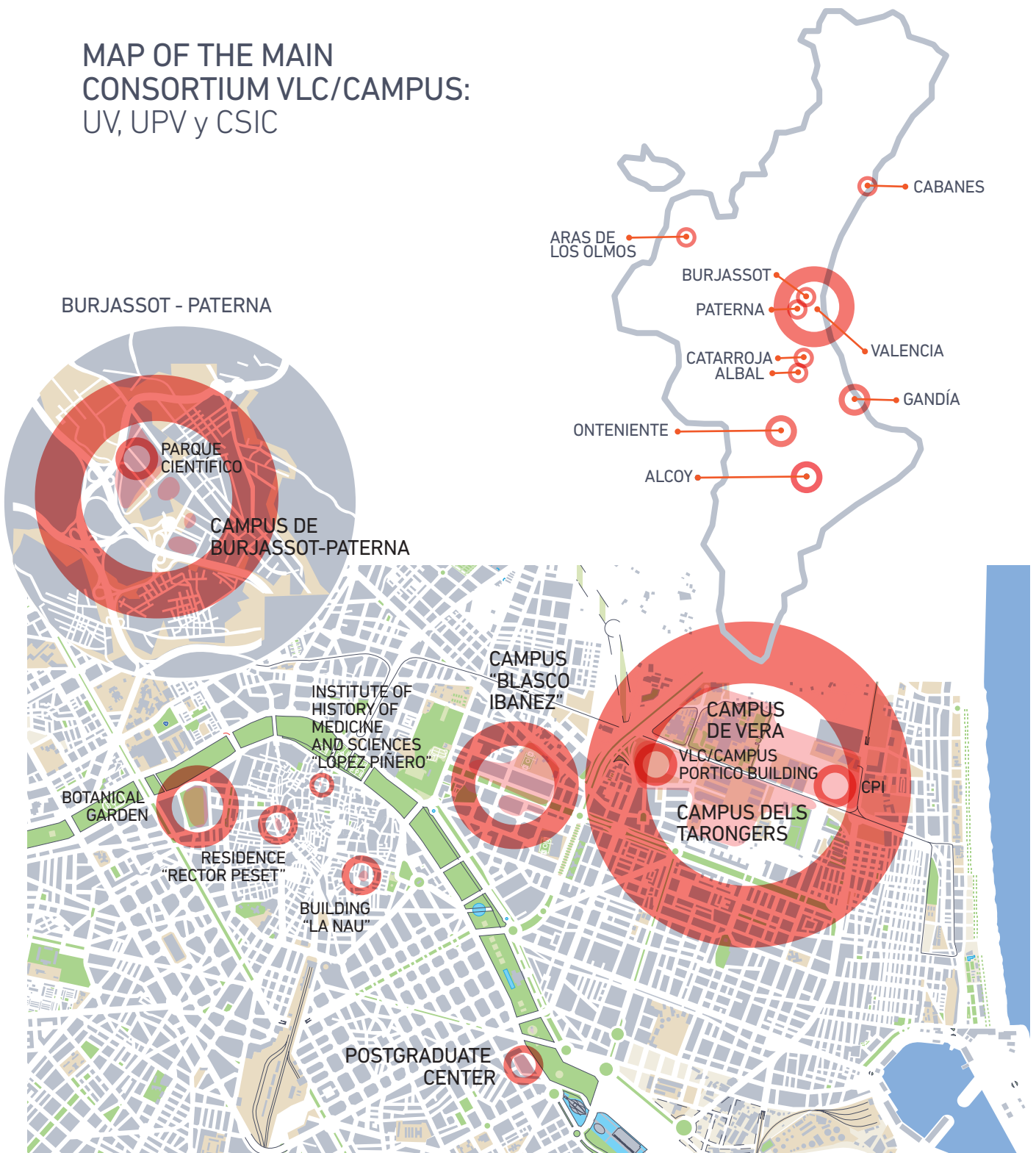


1.1.2. MISSION

VLC/CAMPUS proposes to reach its goals, incorporated in *Estrategia 2015*, by the following means:

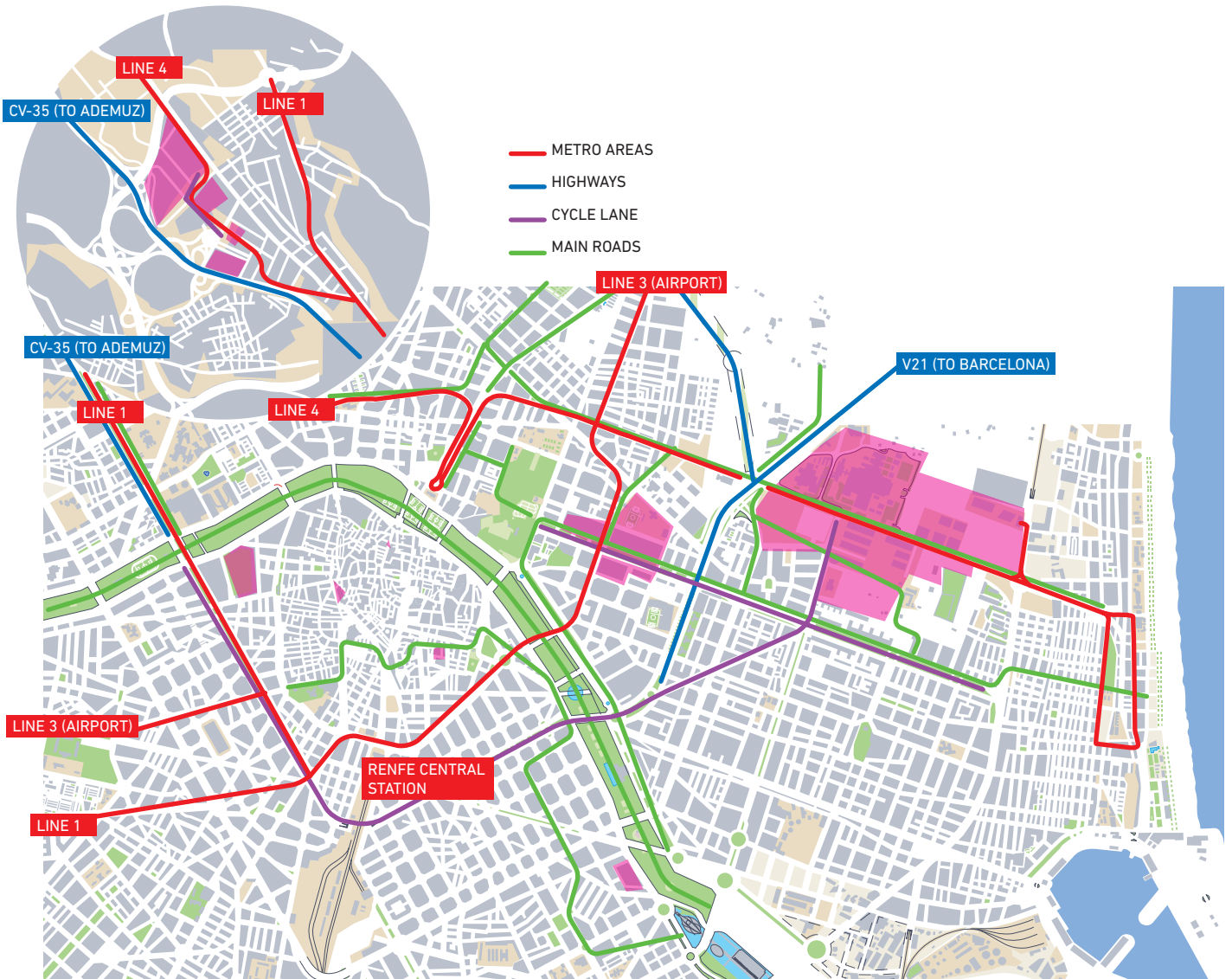
- Increasing integration of the best capacities and results of the three participating institutions in a common project.
- Increased cooperation between different research groups and knowledge fields, starting with the division of functions among the three institutions in the development of new programmes and joint projects.
- The creation of new support structures for advanced studies (Master and PH.D) with the aim of contributing to the formation of highly qualified and specialised human capital.
- Giving particular attention to the social dimension of the teaching-learning process in order to provide the appropriate study opportunities to those enrolled in VLC/CAMPUS degree courses.
- Giving priority to innovation in the teaching-learning process by extensive use of new technologies (digital VLC/CAMPUS).
- Improving the quality of teaching, services and installations to make them more attractive to Spanish, European and international students.
- Attracting talented undergraduates and doctorate students, researchers and lecturers (both young and experienced) from Europe and overseas.
- Distinguishing the VLC/CAMPUS science-technology pole from other excellence projects by reinforcing its connections and commitment to the metropolitan area.
- Specialising in socially important areas such as health, communications and sustainability, in which the participating institutions have already attained considerable international prestige, through the creation of support structures – joint innovation platforms - which will significantly improve their projection in Europe and the rest of the world.
- The joint improvement of the science parks, knowledge valuation and technological innovation processes and the creation of technology-based business companies.
- Systematic and strategic incorporation of values and social innovation that will lead to the transition to a sustainable economy and society.

MAP OF THE MAIN CONSORTIUM VLC/CAMPUS: UV, UPV y CSIC



TRANSPORTATION MAP OF VLC/CAMPUS

BURJASSOT - PATERNA



VALENCIA

1.2. CAMPUS MODEL AND SWOT ANALYSIS

1.2.1. CAMPUS MODEL

VLC/CAMPUS combines the best resources and capacities of the three institutions in a single project based on **distinction, specialisation, excellence and internationalisation**. Below, we give the reasons that support distinction and specialisation.

For this, we carried out an analysis of the current results of each of the participating institutions with the aim of identifying the areas with an international reputation, their level of interaction and mutual support, and the newly emerging fields. With the help of social organisations, we studied the needs derived from the reform and transformation of the production and social models in the region of Valencia and we updated the analysis of the directions of the strategic plans of the three institutions.

1.2.1.1. VLC/CAMPUS AS A METROPOLITAN PROJECT (DISTINCTION)

The VLC/CAMPUS project, by the merging of the participating institutions, combines the resources of the principal institutions in Valencia of higher education, research, knowledge transfer and innovation. It has thus become a **metropolitan-based knowledge pole** unique in Spain.

Its principal features emphasise its metropolitan character:

- **Spatial continuity** of a large number of the organisations' centres (the Taroners-Vera macrocampus), which facilitates the development of joint projects and its environmental impact.
- **Proximity**, with good public transport connections, of the Blasco Ibáñez and Burjassot-Paterna campuses.

- **Capillarity** of numerous centres and facilities of the three institutions in urban areas, which allows the VLC/CAMPUS project to be seen as both open to the city and integrated within it.

- **Concentration** of internationally recognised resources and services in the metropolitan area.

- **Territorial coherence** of the distribution of facilities and resources of the two universities in their natural area of influence (Province of Valencia).

- **Creation of a climate-ecosystem for creativity, talent-mobility and tolerance.**

Ever since their foundation, the University of Valencia and the Polytechnic

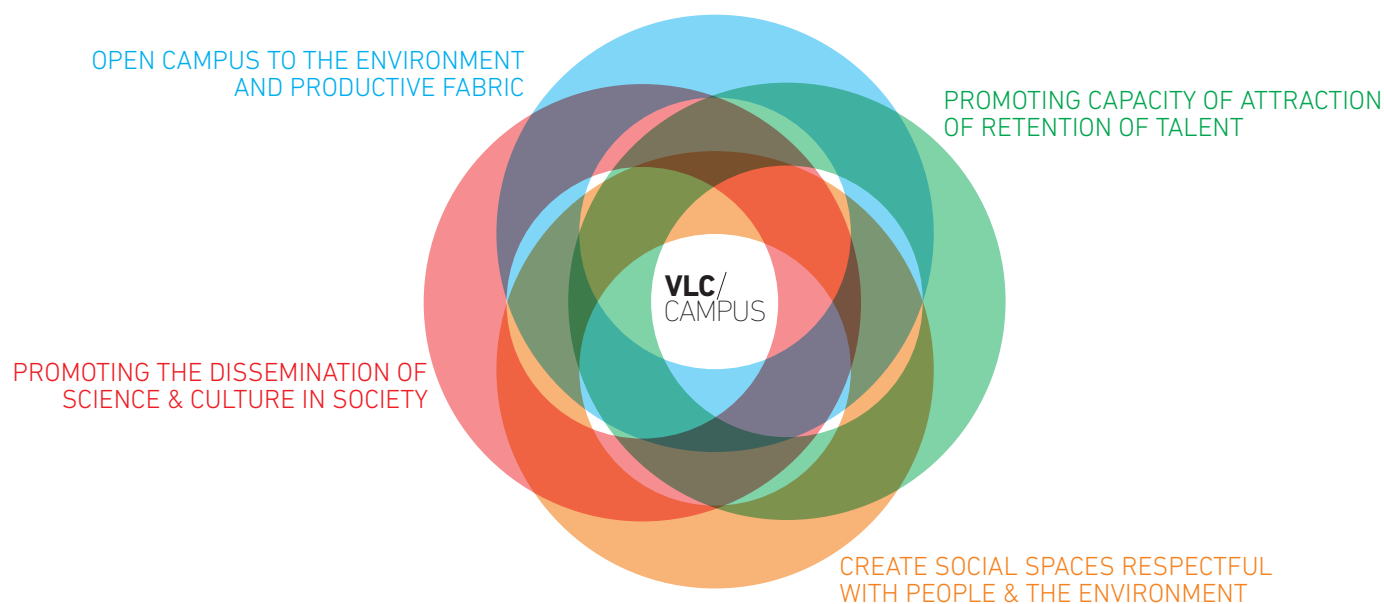


University of Valencia have had close relations with the city. The different campuses, infrastructures and facilities located all around the city (*Jardín Botánico, La Nau, Palau de Cerveró*) are centres of continuous activity and each day are places of work or study for around 100,000 people. Their commitment to the area has steadily grown with time as both have expanded their academic activities to other towns, as in Burjassot, Paterna, Gandia, Alcoi and Ontinyent. The strategic association with CSIC and the addition of its centres has contributed to this dimension. All three institutions involved in VLC/CAMPUS have long and distinguished records in research and as producers of technological capital and are the outstanding leaders in higher education and research in the region. All

these capacities, which also permit the optimisation of resources, have direct implications for the city and region. VLC/CAMPUS will give rise to different projects whose ramifications will strengthen even more the links with the surrounding area.

Three projects can be given special importance to emphasise this aspect:

- The creation of an **Inter-University Unit for International Exchange Students**, which will make Valencia the European city with the largest number of foreign students. VLC/CAMPUS, in partnership with the town corporations involved and the Valencia Regional Government will provide the necessary services (lodgings, leisure and sports activities, transport, etc.) for the development of this programme.



- An advanced society, such as that in the area, has special requirements in higher education. VLC/CAMPUS intends to provide for these needs by founding the **Valencia International School of Postgraduate and Doctoral Studies**, which is expected to increase the numbers of students in higher education in the area.
- The **Centre of Innovation and Strategy**, founded in partnership with the leading Valencia social organisations as part of the metropolitan and regional strategies, will be a centre of debate and new ideas in an economy designed for sustainability and quality of life.
- Increase the area's capacity to attract and retain talent.
- Open the campus to society and especially to manufacturing industry.
- Promote the diffusion of science and art in society.
- Create social spaces friendly to persons and the environment.

This metropolitan pole of knowledge is located on a strategic axis of the international economy, in a relatively central position in Southern Europe known by the specialists as the *Mediterranean Euro-Region*.

The above, and other actions that will be described below, correspond to VLC/CAMPUS's four objectives, from the point of view of its commitment to the area:

1.2.1.2. HEALTH, INFORMATION/COMMUNICATIONS AND SUSTAINABILITY (SPECIALISATION)

VLC/CAMPUS's specialisation proposal can be synthesised into three catalytic concepts: **HEALTH, COMMUNICATIONS** and **SUSTAINABILITY**. These were arrived at by three interconnected processes: analysis of the existing strengths of the participating institutions, diagnosis of the social and economic needs and the detection of emerging opportunities for the knowledge areas involved.

The analysis of **present strengths** was carried out by a study of the international impact of the scientific production and higher education opportunities, which, due to the different profiles of the universities involved, could be described as complementary.

The **diagnosis of social and economic needs** was based on recent research carried out by specialist institutions, such as the Valencia Institute for Economic Research (IVIE), on reports published by social organisations and also on workshops conducted by their members. Six aspects are worth special mention in this respect:

- The **environmental challenge** (climate change, environmental and social sustainability), especially important in this region due to its dependence on tourism and its complex effects both on the territory and society.
- The challenges derived from the **aging population** with the related problem personal dependence/autonomy.

- The growing importance of **global competition** and the role of specialised higher education and innovation for success in these conditions.
- The strategic direction of the new model of society towards **quality of life**.
- The importance of **technological, biotechnological and innovation** in social transformation processes.
- The importance of **employability, the business spirit and job-finding** at the different levels in higher education.

In this framework of strengths and needs, **new opportunities** arise for the participating institutions in research, knowledge transfer and higher education.

- The interaction between researchers and diverse scientific areas facilitates the treatment of new social demands with a flexible global approach.
- The fullness of the offer in higher education allows the different dimensions of the needs detected to be satisfied and questions

These concepts can be regarded as **multidimensional and transversal** and allow strategies to be designed for all university functions. The necessary resources will be provided in the form of three joint innovation platforms.

1. **Science and Technology for Health (STHealth)**. The creation of the right conditions for healthy living requires a complex interaction of all the

branches of knowledge, from basic science to genetic engineering and the social sciences. Quality of life has been found to be closely related to a healthy lifestyle.

The **STHealth Joint Innovation Platform** will strengthen and maximise the relationship between all these fields, generate productive synergy and promote joint projects.

2. **Communications and Information Technologies (CIT).** The term Information/communications synthesises the complex technological changes involved in the revolution of the information and communications technologies. These have had a decisive impact on the way knowledge and communications are produced in the new digital age.

The Joint ICT Innovation Platform ranges from basic research – photonics, shape recognition, solid-state physics- to super computers, robotics, construction of communication networks and creation of multimedia contents.

3. **Science and Technology for Sustainability (STSustainability).** When they speak of sustainability, the experts usually divide it into four fields: environmental, economic, social and global. To these another two have recently been added: cultural and political.

The **Joint STSustainability Innovation Platform** considers our study and research potential from the perspective of energy, environmental and global changes, industrial diversification, the protection of the environment, local development and environmental education.

This concentration in three socially important specialist areas is based, supported and projected on contributions of quality and impact from basic science offered by the three participating institutions. The studies they offer cover the complete range in these fields and the results of their highly qualified research staff have been outstanding.

1.2.2. SWOT ANALYSIS

On the presentation of VLC/CAMPUS, the UV, UPV and CSIC considered it appropriate to give the Valencia Institute of Economic Research responsibility for the **project's potential impact**, including the specific contribution of the International Campus of Excellence and the added value of the VLC/CAMPUS initiative.

The SWOT analysis described below is based on preliminary reports (see annex 1) of the above body, an analysis of the projects' strategic plans and the updating of these plans by the project coordination team.

An analysis of this scope must necessarily consider the characteristics of the higher education and research institutions of which it is composed as well as the projects contents in relation to the circumstances of its setting. For this reason, the presentation also included the strengths, weaknesses, opportunities and threats of the social and historical context as well as those of VLC/CAMPUS.

In relation to the characteristics of its setting, these at the present time are at a **crossroads** for two reasons:

- The first is because, before the present crisis, the demographic and economic **growth patterns in Valencia** were expanding, while at the same time there were symptoms of regression in certain areas directly and indirectly related to higher education and research. These included problems of competitiveness, productivity and unemployment among university graduates. Both indicated a product specialisation insufficiently knowledge-intensive and inappropriate to the available resources- especially as regards human capital – and were a threat to sustainable growth for a number of reasons.
- The second was that the **economic crisis** added more problems to industrial production as a result of the fall in demand (especially internal demand), excess production capacity and the sudden rise in unemployment, especially among the young. These circumstances meant that investment in material and intangible assets was scarcely profitable.

As a result of this situation, serious **threats** arose:

- Reduced activity in the production sector and reduced employment opportunities for graduates (T1).
- Possible gaps between the offer in higher education and the low regional demand for specialists (T2).
- Deficiencies in the regional strategic vision and the absence of a niche with sufficient capacity (creative ecosystem) to absorb the scientific and technological capacities produced by the universities (T3).
- Budget cuts made by the public administration unable to provide sufficient financial backing for a project on the scale of VLC/CAMPUS in times of crisis (T4).
- Inexistence of joint strategies to create regional knowledge poles (T5).
- In the global digital era, the production, diffusion and transfer of knowledge also become global, so that the higher education institutions find that their space of reference has changed. Global competitors in higher education appear which regional organisations can use to supply their needs (T6).

The institutions participating in VLC/CAMPUS have a proven capacity to carry out teaching, research and technological development, as can be seen from their contributions and improvements in the last decades in all these fields.

These capacities and strengths however also possess features that limit the present, and possibly future, contributions and the capacity to compete of the institutions in the three cited fields. These **limitations** are potentially more serious at the present time, since society needs more help than ever from higher education, science and technology in order to carry out its activities and improve people's welfare through knowledge-based methods.

Indeed, the design of a more productive pattern of growth requires improvements in the **availability and use** of knowledge-based assets. This need of the Spanish, and to a greater extent, Valencia society is difficult to satisfy without the participation of the universities and research centres.

This represents a great **opportunity** but also a **challenge** for the institutions that participate in VLC/CAMPUS, since another feature of the present world situation is that society, businesses and individuals can satisfy their needs for knowledge by moving in many directions and the ability to choose makes them more demanding and selective.

We therefore find ourselves at a crossroads at which the opportunities are many, but so are the threats from competitors. So, in order to take advantage of the former and avoid the latter, we must realistically recognise the **abilities and strengths** we can use for support and also be aware of the **weaknesses and limitations** we suffer that we must remedy.

This **strategic approach** is the right one to give VLC/CAMPUS the highest possibilities of success. Below, we list the chief strengths (S) and weaknesses (W) of the project and their relationship to the opportunities (O) that arise in such circumstances:

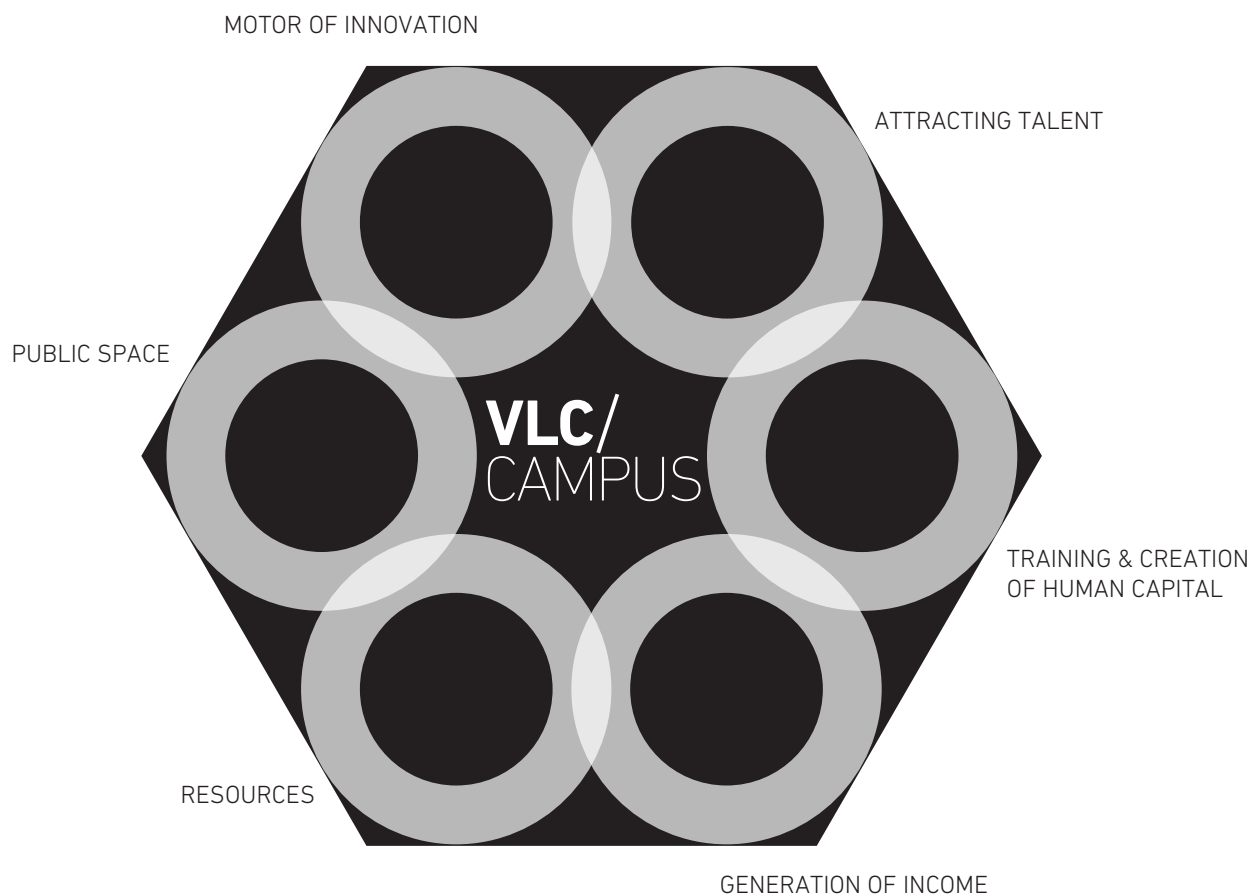
1. The institutions participating in VLC/CAMPUS have proven capacity to offer **higher education services in all the branches of knowledge** that have been decisive in substantially improving the human capital in the Region of Valencia in the last decades (S1).
 - However, part of this human capital is underused (W1) due to the lack of equilibrium between educational supply and demand. The offer must be improved to increase university graduates' contribution to the economy and the region.
 - VLC/CAMPUS now has the opportunity to impel a selective and realistic reinforcement of the universities' teaching capacity by redirecting the offer towards higher standards in those in which they are most competitive and most in demand, in such a way as to improve their Spanish and international reputation and give them an advantage in attracting talent (O1.1).
 - VLC/CAMPUS now has the opportunity to transform the profiles and qualifications of professionals and entrepreneurs in the area and in this way to make possible the changes that industry needs to intensify its use of knowledge (O1.2).

2. The institutions participating in VLC/CAMPUS are highly placed in Europe in their **capacity to attract Erasmus students** and are beginning to draw post-graduate students (both Master and Ph.D) in higher numbers, especially from South America (S2).
 - However, up to the present time their capacity is limited in the field that is decisive in their international visibility and future prospects: the capacity to compete in producing Ph.Ds in the fields in which their researchers stand out (W2).
 - VLC/CAMPUS has the opportunity to develop a selective option of producing international quality post-graduate students (O2) that will enable it to compete in attracting young talent to Valencia to reinforce its internationally recognised research groups.
3. The institutions participating in VLC/CAMPUS have a long tradition as **producers of research and technological capital** both in science and technology. They are the leaders of R&D&I in the area with the highest concentration of expenditure and human resources in this field. Some of its research units have managed to create links with industry that have grown in the last decade (S3).
 - However, although their weight and resources stand out in the regional context, they cannot place too much reliance on the type of industry prevalent in the area, which is not highly knowledge oriented and is mostly made up of small and medium sized companies (W3).
 - VLC/CAMPUS has the opportunity to propose a method to improve the industrial capacity of the region by a joint strategy of intensifying the use of science and technology by industry and businesses (O3).
4. The institutions participating in VLC/CAMPUS have a large number of research groups of excellence with **proven competitive capacity and international prestige** (S4).
 - However, many of these are not based on platforms that would allow them to use all of their potential and are struggling to survive in a demanding environment in which other institutions are continually being reinforced (W4).
 - VLC/CAMPUS is an opportunity to selectively raise the quality of research in its participating institutions to reinforce centres with the greatest scientific and knowledge transfer potential, so as to make them more productive and give them the capacity to provide feedback for the knowledge generation process and its funding (O4).

5. The size and nature of the participating institutions give them a notable capacity to **influence the surrounding territory**, due to both the number of people they attract and retain and their social and economic profiles, decisive in giving Valencia the quality of being a knowledge hub (S5).
- However, the ability to take advantage of the interuniversity synergies and the institutional and social environments in Valencia's towns and cities is limited by the lack of a well-defined joint strategy and the low number of cooperation activities (W5).
 - VLC/CAMPUS offers the opportunity to identify and put into action a metropolitan cooperation strategy designed around the proposed transformations in universities and research centres and involving other institutions in the offer of services that will attract talented people and knowledge-based activities to Valencia (O5).
6. The governing bodies of the participating institutions have demonstrated their **willingness to lead a new institutional strategy**. To the increasing interaction between researchers and lecturers in the form of combined research and Master courses is added the leadership of the governing bodies (S6). This strength opens many new opportunities for cooperation.
- The existence of different organisational systems in the participating institutions which VLC/CAMPUS will have to combine and harmonise. These different systems, which arose throughout the history of the institutions when competition among higher education centres was the norm, are probably now unsuitable but still exist (W6).
 - This harmonisation will generate new regional and international visibility for the activities and results of the institutions (O6.1).
 - It will reinforce specialisation in the research and courses offered by the Valencia universities (O6.2).
 - It will generate better international visibility for scientific production through joint publications based on research (O6.3).
 - It will improve efficiency in the use of resources, in the offer of services and in the involvement with the region (O6.4).
 - It will increase the social and cultural leadership of the universities (O6.5).

THREATS	STRENGTHS	WEAKNESSES	OPPORTUNITIES OF VLC/ CAMPUS
Reduced activity of an industrial sector with little requirements for qualified staff (T1)	Offer of services in all knowledge branches (S1)	Insufficient use of human capital due to weak demand. (W1)	Selective reinforcement of best teaching capacities. (O1.1) Contribution to transformation of teaching profiles and standards. (O1.2)
Imbalance between supply and demand for graduates (T2)	High capacity to attract European Erasmus and Master and Ph.D students from South America. (S2)	Limited capacity to produce Ph.Ds in the fields in which its research is leader. (W2)	Option to develop a selective system of producing international excellence quality post-graduate students. (O2)
Lack of regional strategic vision and creative environment (T3)	High capacity for research and technological capital. Principal actor in the region. (S3)	Difficulties to provide services to local industry. (W3)	Development of a joint proposal to renovate existing industrial capacity. (O3)
Budget restrictions of public administration due to crisis (T4)	Existence of many research groups of international prestige. (S4)	Insufficient resources to support international projection of these groups. (W4)	Reinforcement of research quality and results. (O4)
No joint strategies to create regional knowledge poles (T5)	Strong influence on local towns and cities, due to size. (S5)	Lack of joint strategies and activities. (W5)	Opportunity to identify a local and regional cooperation strategy with local towns. (O5)
Global offer; international competition (T6).	Universities willing to lead new university policy. (F6)	Existence of different organisational systems. (W6)	New regional and international visibility for the results of the participating institutions. (O6.1) Promote specialisation. (O6.2) Greater international diffusion of research results. (O6.3) More efficient use of resources and services. (O6.4) More social and cultural leadership. (O6.5)

Table 1. Synthesis of SWOT analysis



1.2.3. SOCIAL AND ECONOMIC IMPACT OF VLC/CAMPUS

Those who have studied the contribution of the universities to regional or global development⁴ have underlined the importance of adopting a wide perspective. Universities may be innovation engines and talent attractors but they also perform other important social roles, without doubt the most important being the production of human capital and acting as public spaces for the production of new ideas (social innovation).

The universities – although in a globally-mobile world are physically rooted in a certain location – are key components of the social infrastructure and capital. They add to the stock of knowledge in the form of publications, patents, etc., improve the region's capacity to solve scientific problems, provide intellectual, cultural, aesthetic, architectural and artistic resources, for health and healthy living and contribute to social mobility and family unity.

In 2009 the Valencia public universities published the results of a study of their contribution to the social and economic sectors in the region, carried out by the Valencia Institute for Economic Research. The report included an objective evaluation of their contributions, such as the **formation of human and technological capital** and their impact on the economy, employment and public income. The results obtained indicate that, apart from the room for improvement in the functioning of the universities, **their net contribution is of great importance and clearly positive.**

⁴ See the LIS project of the Industrial Performance Center (MIT) and the Universities, Innovation and Competitiveness of Local Economies (Lester, 2005) or the study coordinated by Richard Florida

In this situation, when dealing with the social and economic benefits that could arise from the setting up of VLC/CAMPUS, we also consider it necessary to take the wide view that includes the need to be globally competitive in order to cooperate satisfactorily in the local setting.

VLC/CAMPUS is:

- An innovation engine (technology transfer, patents portfolio, science parks, creation of technology-based business companies).
- A talent attractor (attraction and retention).
- A producer of human capital (graduates, Masters and Ph.Ds).
- A public space for social and cultural innovation.
- A generator of income, employment and public revenue.
- A creator of resources for society, health care and cultural and sporting interests.

The VLC/CAMPUS project has shown that it already has indicators that prove its importance. The evolution of the project in the next five years will give it a considerably greater social and economic impact. In this regard, it is worth considering some of its most important indicators, which can reasonably be expected to show notable improvements as the project advances.

INDICATORS	2009
Number of undergraduate and graduate students	99,057
Number of researchers	8,098
Institutions attached to VLC/CAMPUS located in Valencia and its metropolitan area:	
1. Public Administration and IPSF:	32
2. Research Centres:	29
3. Socio-economic agents:	27
4. Firms	28
Business companies created with university assistance	60
Number of ISI publications	4,227
Students participating in Work Experience Schemes in companies	30%
Science and Technology Parks	2
Number of companies in Science Parks	83
Number of patents currently in force	482
Spin-offs in last 4 years	28
University Clinics	7
Congresses	50
Participants in Congresses	4,000
Cost generated by the Congress activity	4,000,000€
Research and technical support contracts	8,178 €
Returns for R&D&i licensing	424,660 €
Annual Research Budget	138,938,279€
Institutional and corporate Chairs	68
Contribution of the activity of promoting public universities VLC/CAMPUS in its your environment:	
1. Impact of income (% of GDP in the CV)	1.22%
2. Impact of employment (% on jobs in the CV)	1.57%

1.3. SUMMARY OF CONSORTIUMS AND GOALS

VLC/CAMPUS, as a reference of excellence of knowledge, is materialised by a strategic consortium made up of the Universitat de Valencia, the Universidad Politécnica de Valencia and the National Research Council.

This consortium is based on **structural and functional complementary** activities of the member institutions and organisations both in the educational and in the scientific and technological areas.

VLC/CAMPUS, by integrating the best educational, scientific-technological and innovation resources of the three institutions, aims to eventually become the **main engine to dynamize its environment**, and play a role in the international context, through a full internationalisation of its activities, that allows significant contributions to solving **global problems**.

1.3.1. MAIN CONSORTIUM: PRINCIPLES AND GOALS

RANKINGS	UV	UPV
Ranking de Shanghai Jiao Tong (ARWU)	[201-300]/501	[301-400]/501
ARWU Química	--	[76-100]
ARWU Física	[76-100]	--
The Times Higher Education	[401-500]/600	+500/600
ISI Web of Knowledge	277/4.122	672/4.122
SCLmago Institutions Rankings (SIR)	238/2.124	406/2.124
Cybermetrics Lab	205/500	325/500
Ranking nacional de patentes	15/63	2/63

An approach to the aforementioned issues -to help solve global problems while acting as an engine for regional development- today it is only feasible through the establishment of **lasting liaisons** between diverse knowledge areas, different institutions and organisations that are convinced that complexity and uncertainty can only be addressed through **strategic collaboration** and **open innovation**. By the same token, VLC/CAMPUS has been promoted and is composed of the three most important regional institutions in the production of knowledge: the *Universidad Politécnica de Valencia*, the *Universitat de Valencia* and the National Research Council. But at the same time, VLC/CAMPUS has incorporated a wide range of institutions and organisations devoted either to the production of scientific knowledge and innovation or to the economic and sociocultural dynamisation, providing additional strength and scope to the project (see Section 2.5).

As a result of this process of cooperation between the three sponsor institutions, VLC/CAMPUS is integrated by 32 schools, 63 research institutes, 135 university departments, 46 libraries and learning resource centres, two scientific parks and the services and resources of the three institutions required to support their activities. These centres and services occupy a built-up area of 1,123,951 m².

About 6201 researchers and instructors and 4212 administration staff work in these centres, and every day about 79 485 undergraduates, 7345 master students and 5257 doctoral students attend classes in the VLC/CAMPUS classrooms.

The **rationale** and **principles** of the consortium are based on the following criteria:

- The **complementary nature of the academic offer** of the promoting universities provides a catalogue of graduate and postgraduate degrees that virtually **covers all areas of knowledge** and consequently, VLC/CAMPUS becomes the most complete educational offer in the Valencian Community and its immediate environment, with an essential role in the production model.

- The **ability of Valencia to attract international exchange students positions this city as the first European city hosting Erasmus students**, and the stakes for the creation of an International Postgraduate Centre and Doctoral School and the special attention paid to doctoral studies as the most emblematic degree awarded by European universities, places VLC/CAMPUS in a leading position of advanced higher education advance both in research and highly qualified training.
- The **scientific and technological complementary nature** of the research groups and the number of leaderships in international projects made possible by the development of joint platforms and micro clusters, acts **as a booster of scientific production and transfer**; on the other hand, interdisciplinary and inter-institutional collaboration provides better chances to successfully address global problems.
- Geographical proximity facilitates the efficient development of joint projects, produces efficient synergies in service delivery and promotes the creation of a **scientific niche that relies on cutting-edge resources for research**;
- the improved coordination and complementarity of research centres and scientific parks allows the development of **platforms and clusters able to lead innovation strategies**;
- the location of the VLC/CAMPUS centres and institutes in the urban hinterland and its territorial expansion positions VLC/CAMPUS as the **first Spanish metropolitan campus with international projection**;
- the **direct involvement of the 10 research institutes of the CSIC in Valencia**, most of which are located in the VLC/CAMPUS facilities and are already of a mixed nature.
- The inclusion of organisations sponsored by both universities and that have **with legal personality**, such as Foundations, Singular Scientific Centres and Scientific Parks, whose role is key in the transfer of knowledge and innovation.

The **transversal goals** of VLC/CAMPUS can be summarised as follows:

- To act as the dynamic scientific and academic motor of the local environment, by offering training and transfer of research results of excellence.
- To position VLC/CAMPUS as one of the main poles of knowledge of excellence in the Euro-Mediterranean area, for its academic and scientific contribution to the solution of global issues.
- To transform the city of Valencia and its metropolitan area in terms of knowledge society by clustering all actors involved in the production of knowledge and interested in the quality of life and the new European social model.

1.3.2. SUPPLEMENTARY CONSORTIUMS

To achieve these goals, the sponsoring institutions have recruited (and will recruit) outstanding institutions, organisations and entities of the immediate environment, that participate in the project to a different extent. Section 2.5 presents a detailed list of the new members that have joined **VLC/CAMPUS** project classified as Public Administration, Research Centres, Companies and Socio-economic Actors.

At present, **VLC/CAMPUS** has the explicit support and commitment of the Regional Government, The Valencian Courts and the city councils where the project has already been implemented: City of Valencia, Burjassot, Paterna, Gandia, Alcoy and Ontinyent.

Other institutions that have joined **VLC/CAMPUS** project are research centres such as Principe Felipe Research Centre, the Centre for Advanced Research in Public Health, all medical research foundations, the Biomechanics Institute of Valencia, the Electrical Technology Institute, Institute of Computer Technology and many other centres, networks and organisations that are described later in this report.

VLC/CAMPUS has the support of key organisations and socio-economic actors: the Chamber of Commerce, the leading business organisations and trade unions and many large companies, some of them closely related to scientific parks and others interested in participating in a project like **VLC/CAMPUS** that specialises in the areas of health, information / communication and sustainability.

INDICATORS		2009
TEACHING	Number of undergraduate students	79.485
	Number of students in official Masters	7.345
	Number of doctoral students	5.257
	Number of students in UPV masters	6.970
	Number of Erasmus and Exchange students	5.801
	Number of international students in official masters and doctoral courses	2.313
	% students participating in company training programmes	30%
	Libraries and learning resource centres	46
	University Departments	135
	Schools	32
	Graduate degrees	113
	Number of joint degrees	15
	Official Master Degrees	122
	Number of international masters	10
	Number of "Erasmus Mundus" Masters	4
	Number of Doctorate programmes with Quality Mention	54
RESEARCH	Number of researchers	8.098
	Number of Research Centres	63
	Impact Publications (ISI-ESI)	4.227
	Number of Predoctoral Fellows	686
	Number of theses conducted in the last four years	2.190
	European and international joint projects	19
	Annual research budget (M €)	138,94
	Patent portfolio in 2009	482
	Companies created with the help of the university in 2009	60
	Number of enterprises in the scientific parks	83
	Spin-offs created in the last four years	28
	INTERNATIONALISATION	Number of joint degrees with other institutions
Number of groups that are taught in English		628
Number of Masters taught in English		6
Number of international doctoral programmes		7
Number of inter-university doctoral programmes		37
SIZE AND IMPACT IN THE REGION(*)	Number of teaching and research staff	6.201
	Number of administration staff	4.212
	Annual Budget (M €)	914,59
	Built area (ha)	112,4
	Impact on income (% of GDP in the Valencian Community)	1,22%
	Impact on Employment (% of employed workers in the Valencian Community)	1,57%

Table 2. Most representative indicators of VLC/CAMPUS consortium

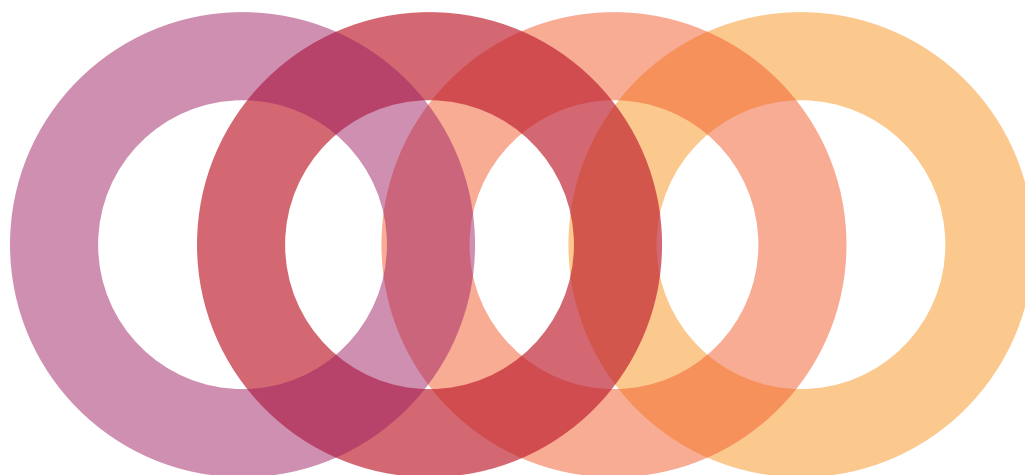
(*) Source: Sponsoring universities

INTERNATIONAL REFERENTE OF
POSTGRADUATE & DOCTORAL STUDIES

01

INTEGRATION OF
DEGREES IN THE EHEA

03



02

SPECIALIZE
ACADEMIC OFFER

04

STRENGTHENING
INTERNATIONAL POSITIONING

2. PRESENTATION OF PROJECT PER AREAS ASSESSED

2.1. EDUCATIONAL IMPROVEMENTS AND ADAPTATION TO EHEA

With regard to educational improvements and adaptation to the EHEA, VLC/CAMPUSS proposes 4 strategic objectives:

- To make the VLC/CAMPUS postgraduate and doctoral study courses an international reference in Health, Communications and Sustainability.
- To coordinate and specialise all the courses on offer, optimising the available resources to raise the employment prospects and business initiative of our graduates.
- To develop a policy for the full integration of all VLC/CAMPUS degrees and postgraduate qualifications, to include, among other aspects, the adaptation of infrastructures, improvements in teaching and the provision of services.
- To reinforce the international position of VLC/CAMPUS in Europe and the world.

In order to reach these 4 objectives, starting from the situation described below, we intend to carry out specific actions as described in this document.

2.1.1. STARTING POINT

VLC/CAMPUS has at the present time a total of **79,485 students** studying **113 degree courses that cover practically all knowledge fields**. This situation enables us to approach the specialisation of VLC/CAMPUS with a solid base (see Section 2.4) by selective reinforcement of the educational capacities of the participating universities. The SWOT analysis carried out by VLC/CAMPUS (see Section 1.2) underlines the fact that “The institutions participating in VLC/CAMPUS possess a proven capacity to offer higher educational services in all branches of learning.” And also, “This situation was decisive in achieving a substantial improvement of the human capital in the Region of Valencia in recent decades.”

In postgraduate studies VLC/CAMPUS offers **122 long-standing qualifications**, many in the VLC/CAMPUS areas (Health, Communications and Sustainability). Of the Official PhD. Programmes and Master’s Degree courses, 15 are taught jointly by the UV-UPV-CSIC, such as the Master’s Degree in Environmental Engineering or Biomedical Engineering. VLC/CAMPUS is thus an important centre of postgraduate studies and at the present time has a total of 19,572 postgraduate students (7,345 official Master and 6,970 of masters and 5,257 studying for a Ph.D).

In the **international dimension**, VLC/CAMPUS offers a total of 10 international master programmes, of which 4 have been awarded the *Erasmus Mundus Master distinction*. At the basic degree level, 628 groups receive classes entirely in English, which makes it possible to establish reciprocal relations with other institutions from non Spanish-speaking countries regarding student and teacher exchanges.

Employability in VLC/CAMPUS is another strong point, as evidenced by the fact that, with the assistance of the job-placement services, graduates of many degree courses achieve an 85% success rate in obtaining jobs within 6 months of graduating. This success is partly due to the emphasis on learning for students and researchers, studies carried out on business innovation and the policy of creating technology-based businesses. VLC/CAMPUS’s achievements in this area were recently rewarded with the prestigious European Enterprise Award from the European Commission.

Given the 4 strategic objectives outlined and the situation from which we start the project, VLC/CAMPUS foresees 4 strategic groups of actions to be carried out before 2015 and shown in *Figure 2*. The most representative indicators of VLC/CAMPUS’s present position are in the area of educational improvements and adaptation to the EHEA (*Table 3*).

CREATION OF THE VALENCIA INTERNATIONAL SCHOOL OF POSTGRADUATE AND DOCTORAL STUDIES (EIPDV)	TEACHING EXCELLENCE PROGRAMME	ACADEMIC MOBILITY AND INTERNATIONALIZATION PLAN	ADAPTATION TO THE EHEA PROGRAMME
Constitution of the EIPDV	Academic Degrees Strategic Map (META 2015)	Inter-University Unit for International Exchange Students	Singular teaching infrastructure and equipment
Implementation of shared governance structure	Feasibility study of joint degrees	Point of Reception and International Info	Teaching classrooms campus-Vera Tarongers
Online VLC/CAMPUS platform	Feasibility study for a joint degree of support for junior faculty	VLC / CAMPUS general mobility Programme	Adaptation of: <ul style="list-style-type: none"> · Interfaculty hall Burjassot campus · aeronautics hall · Faculty of Fine Arts · School of Civil Engineers · School of Telecommunications Engineers
EIPDV Strategic Plan	Monitoring the quality of qualifications	Program to attract foreign students	Center for Applied Psychological and speech therapy
Definition of requirements and criteria for training programs	Groups of high academic achievement (ARA)	Map of the campus international network	Dental skills Classroom
Pre-doctoral funding of excellence programme		Incentive program to increase the offer of qualifications and groups in English	Legal Clinic
Communication and international marketing scheme			Forensic Chemistry Laboratory
Specific program of stays for lecturers and researchers			Molecular Chemistry Laboratory and Nuclear Engineering
			Digital University Program
			Management software and teaching innovation
			Multivector classroom equipment
			Creation of 2.0 Classrooms
			Resource Centers for Learning and Research
			Adequacy of facilities and spaces
			Subscriptions to electronic journals and data bases
			Participation in European and international platforms of interlibrary cooperation
			Inter-University Centre of Life and Student Involvement
			Entrepreneurship program
			Job placement program

Figure 2. Breakdown of actions foreseen in educational improvements and adaptation to the EHEA

INDICATOR	VALUE
N° of first degree students	79,485
Official Master's degree students	7,345
N° of first degree students	6,970
N° of Ph.D students	5,257
Foreign students in official master's and doctoral studies	2,313
N°of international Masters	10
N° of doctoral theses presented in last 4 years	2,190
Percentage of students participating in internships	30%
Percentage of lecture halls adapted to the EHEA	100%
Percentage of lecture halls with Internet connection	100%
Percentage of lecture halls with video	100%
Percentage of spaces with wifi cover	100%
Percentage of subjects with virtual teaching	100%
N° of special rooms for small groups	563
Percentage of campus signposted in English	10%
Libraries and other centers of learning resources	46
Simultaneous reading points	7,697
Number of books available in libraries	2,308,882
Subscriptions to electronic journals and data bases	37,976
Library opening days per year	300
Queries to the library catalog	5,676,858
Queries to the library catalog	6,925,387
Number of book loans	1,518,406

Table 3. The most representative indicators of educational improvements and adaptation to the EHEA

2.1.2. CREATION OF THE VALENCIA INTERNATIONAL POSTGRADUATE AND DOCTORAL SCHOOL (EIPDV)

VLC/CAMPUS has started the process of creating a joint International School to coordinate International Excellence Master and Doctoral studies. The Master courses are internationally recognised and also by Erasmus Mundus. Doctorates will have a Mention of Quality. These courses are closely related to the VLC/CAMPUS specialist areas of Health, Communications and Sustainability.

The courses given by the School will have a strong emphasis on research and innovation, contributing to the establishment of a virtuous circle according to the principles laid down in the **campus model**. The learning-teaching processes will be supported by appropriate technological resources and by the services of the VLC/CAMPUS **Resource Centres for Learning and Research**. Special importance will be given to using English as the language of communication and the development of multilingual and intercultural competences.

In the near future VLC/CAMPUS will draw up a **special Doctorate strategy** within the framework of new Spanish regulations pending approval and especially within the context of the consolidation of the European Higher Education Area and the European Research Area. VLC/CAMPUS considers that a considerable effort should be made to **converge** the three fields of higher studies, research and the application of knowledge. This strategy, which could involve the setting up of specialised **Doctoral Schools**, will be based on the 10 Salzburg Principles (2005) (multidiscipline study programme, attraction of highly qualified Ph.Ds, post-doctoral follow-up, etc.) and on the European Charter for Researchers.

The Valencia International Postgraduate and Doctoral School will be located in the VLC/CAMPUS **Pórtico Building** (see Sections 2.3 and 2.5) and will be equipped with the necessary human and technical resources to carry out its activities.

2.1.2.1. STRUCTURE OF THE JOINT MANAGEMENT, STRATEGIC PLAN AND CRITERIA

The creation of the EIPDV will involve the **setting up of a joint management structure**, common to all members of VLC/CAMPUS, to permit the planning and organisation of the different units that will interact with the school, its resources and study programs. This

structure will provide support for the **definition of academic, financial and utilisation criteria**, which, together with the **EIPDV strategic plan**, will be used as a guide for the school's operations.

2.1.2.2. STUDENTS AND EXCELLENCE SCHOLARSHIP PROGRAMME

Students of the Valencia International Postgraduate and Doctoral School will form a select group and will be chosen from candidates with the most outstanding academic records in the three fields of the Campus's operations. The selection will be made from the **high performance academic groups**, created within the **Educational Excellence Programme** (see section 2.1.3) and from international candidates with outstanding academic records. Both of these groups will be eligible to compete on the basis of academic merit for

scholarships from the **Excellence Scholarships Programme**, which will provide assistance or pay the course fees of undergraduates, Master and doctoral students.

The aim of the **Valencia International Postgraduate and Doctoral School** is to form leaders capable of producing considerable social benefits on a world-wide scale by working in R&D laboratories, directing companies or institutions, or, with the support of the **learning and job placement programme**, founding new technology-based business companies.

2.1.2.3. INTERNATIONAL COMMUNICATION AND PROMOTION PLAN

The EIPDV, in line with its international policy, will promote participation in postgraduate **Erasmus Mundus programmes** and in awarding **double or joint degrees** in cooperation with other European or international universities. The centre's technical staff will provide support for the preparation of the corresponding candidatures.

The School will have an **international communications and promotion plan** responsible for publicising the VLC/CAMPUS excellence studies on offer with the objective of attracting European and international students with outstanding academic records. This plan will be coordinated with the **scientific diffusion plan (see section 2.2.5)**.

The VIPDS postgraduate program-

me students, with the support of the **Interuniversity Unit for International Exchange Students**, will take part in international collaboration schemes with students and teachers of foreign universities with which agreements have been reached.

The study courses will have links with R&D units and business companies by means of practice programmes with VLC/CAMPUS research projects. Students will also receive training in knowledge management, intellectual property and business enterprise to fully prepare them for future innovation processes. In this way, intrinsic links will be formed among the diverse VLC/CAMPUS programmes, especially with the **Evaluation Programme**.

2.1.2.4. VISITS BY LECTURERS TO INTERNATIONAL UNIVERSITIES

Lectures in the VIPDS will be given by staff from the participating institutions, preferably by lecturers from the Health, Communications and Sustainability areas. Lecturers and researchers of note from foreign universities will also be invited to spend periods in VLC/CAMPUS or to give specific parts of certain courses. In order to promote this cooperation and attract international excellence lecturers,

VLC/CAMPUS will establish a **special visiting programme** for lecturers and researchers.

This participation of excellence lecturers will be supplemented by the participation of researchers from the **VLC/CAMPUS talent recruitment programme**, who will give classes based on the research on which they are engaged in the School postgraduate programmes.

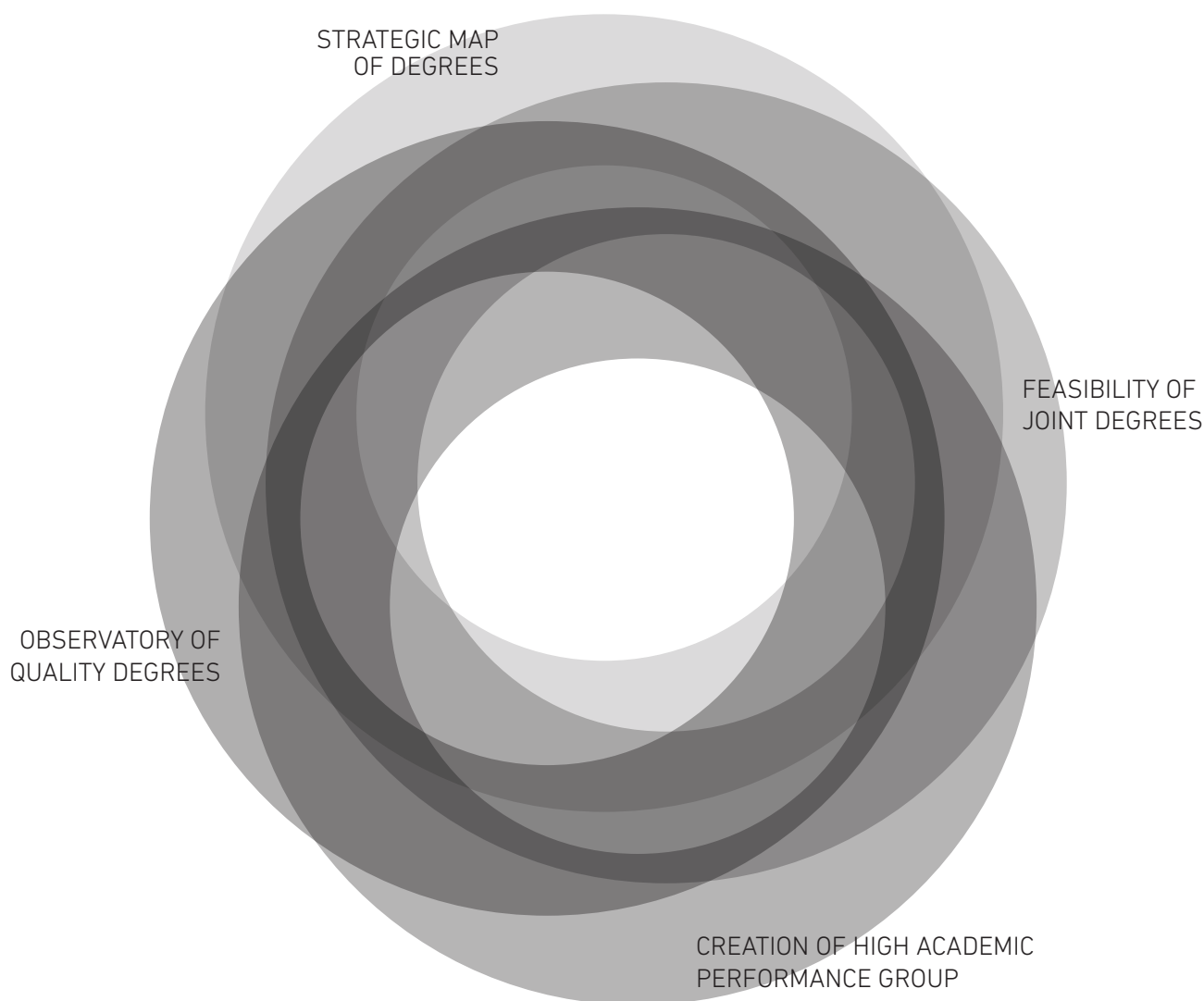
2.1.2.5. VLC/CAMPUS ONLINE PROGRAMME

VLC/CAMPUS will provide its students and lecturers with an **online VLC/CAMPUS platform** service compatible with the educational platforms of the participating institutions. The current online contents will be develo-

ped as interconnection mechanisms and services will include **access to digital archives** containing information on the VLC/CAMPUS scientific production.

Master in Work, Organization and Personal Psychology (*) Erasmus Mundus Master Course		<i>-Psychology of Human Resources</i>	
Universitat de València Universitat de Barcelona (España)	Université René Descartes Paris 5 (Francia) Alma Mater Studiorum-Università di Bologna (Italy)	Universidade de Coimbra (Portugal)	
Master in Theoretical Chemistry and Computational Modelling (*) Erasmus Mundus Master Course (**) European Master given by a consortium that has been granted the "Euromaster Label" of the ECTNA		<i>-Chemistry -Theoretical Chemistry and Computational Modelling</i>	
Université Claude Bernard LYON 1 (Francia) Université de Bordeaux I (Francia) Université d'Evry-Val-d'Essonne (Francia) Université Denis-Diderot, Paris 7 (Francia) Université Henri Poincaré Nancy 1 (Francia) Université Joseph Fourier Grenoble I (Fr.) Université Louis Pasteur- Strasbourg I (Fr.) Université de Marne La Vallée (Francia) Université de Montpellier 2 (Francia) Université de Paris-Sud-11 (Francia) Université de Pau et Pays de l'Adour (Francia) Université Paul Cézanne (Aix-Marseille 3) (Fr.) Université Paul Sabatier Toulouse III (Francia) Université Pierre et Marie Curie, Paris VI (Fr.) Université de Provence (Francia)	Università degli studi della Calabria (Italia) Università degli studi di Perugia (Italia) Università di Pisa (Italia) Università degli studi di Trieste (Italia) Uniwersytet Warszawski (Polonia) Universidade de Lisboa (Portugal) Universidade de Porto (Portugal) Universidad Autónoma de Barcelona (España) Universidad Autónoma de Madrid (España) Universidad de Barcelona (España) Universidad de Cantabria (España) Universidad de Extremadura (España) Universidad de Girona (España) Universidad de Granada (España)	Universidad Jaume I (España) Universidad de Murcia (España) Universidad de Oviedo (España) Universidad del País Vasco (España) Universidad Rovira i Virgili (España) Universidad de Salamanca (España) Universidad de Santiago de Compostela (Esp.) Universidad de Sevilla (España) Universitat de València (España) Universidad de Valladolid (España) Universidad de Vigo (España) University of Örebro (Suecia) University of Groningen (Holanda) Universidad de las Islas Baleares (España)	
Master in Viticulture, Enology and Winery Management (*) Erasmus Mundus Master Course		<i>-Science, Technology and Food Management</i>	
Università di Bologna (Italy) University Corvinus- Bupa Campus - Budapest (Hungria) Universidad Politécnica de Valencia (Spain)	Tei of Athens (Greece) University Of Agronomic Sciences And Veterinary Medicine De Bucarest (Rumania) Università Cattolica del Sacro Cuore - Piacenza (It.)	Ecole Supérieure d'Agriculture of Angers (Fr.) Universidade of Trás-Os-Assemble e Alto Douro - Vila Real (Portugal)	
Master in Materials and Sensing Systems for Environmental Technologies (*) Erasmus Mundus Master Course		<i>-Materials and Sensing Systems Technological Applications</i>	
Università di Bologna (Italia)	Kungl Tekniska Högskolan (Suecia)	Universidad Politécnica de Valencia (España)	
Master in Performance Analysis of Sport		<i>-Facultat de Ciències de l'Activitat Física i l'Eport</i>	
Otto-Von-Guericke Universität Magdeburg (DE)	Nottingham Trent University (Reino Unido)	Universitat de València (España)	
International Master In Business Administration		<i>-Faculty of Economics</i>	
Universitat de València (España) University of Applied Sciences- Bremen Hochschule (Alemania)	Red IBSA (Intern. Business School Alliance) Academy of National Economy Moscow -Institute of Business Studies, Moscow (Rusia)	Univ. of North Carolina at Wilmington (EEUU) University of Hertfordshire (Reino Unido) Universiti Tun Abdul Razak (Malasia)	
Master in Human Rights, Peace and Sustainable Development		<i>-Law, Political Science and Criminology -Human Rights, Peace and Sustainable Development</i>	
Universitat de València Universitat Jaume I	Universidad Politécnica de Valencia Universidad Miguel Hernández de Elche	Università degli Studi di Palermo	
Master in Food Management and Safety		<i>-Science, Technology and Food Management</i>	
Institut National Polytechnique de Lorraine (Fr.)	Universidad Politécnica de Valencia (España)	London South Bank University (Reino Unido)	
Master in Business, Product and Service Management		<i>-Business Administration and Management</i>	
Hochschule Für Angewandte Wissenschaften - Fachhochschule Ansbach (Alemania)		Universidad Politécnica de Valencia (España)	
Master in Nanoscience and Molecular Nanotechnology		<i>-Institute of Molecular Science, Universitat de València</i>	
Universitat de València Universidad de Alicante Universidad de La Laguna	Universitat Jaume I Universidad de Valladolid Instituto Europeo de Magnetismo Molecular (EIMM)	Universidad Autónoma de Madrid Universidad de Castilla La Mancha	

Table 4. Initial offer of the Valencia International Postgraduate and Doctoral School



2.1.3. VLC/CAMPUS EDUCATIONAL EXCELLENCE PROGRAMME

The creation of VLC/CAMPUS allows the three participating institutions to offer both joint courses of study and to set joint educational quality standards. This is expected to generate considerable synergy between the three institutions.

2.1.3.1. STRATEGIC DEGREE MAP (META 2015)

VLC/CAMPUS will draw up a **strategic degree map in the campus's specialist areas** to contribute to the coordination, rationalisation and consensus of the undergraduate and postgraduate study courses of the

Valencia public universities. This map will be used as the basis for prestigious studies with sufficient critical mass to project the Public University Space of the City of Valencia on the international scene.

2.1.3.2. VIABILITY OF JOINT STUDIES

As mentioned before, VLC/CAMPUS can offer 15 UV-UPV-CSIC interuniversity degrees. In order to increase this number, the UV, the UPV and the CSIC will carry out a joint viability **study of undergraduate and postgraduate degrees** to share the VLC/CAMPUS infrastructures and resources.

The first test will consist of a **viability study on a joint course for new lecturers** in the form of an official **Master's degree in teacher training**. This course will be given in the **Valencia International Postgraduate and Doctoral School** and will include subjects such as teaching, research and services to the academic community.

2.1.3.3. DEGREE QUALITY OBSERVATORY

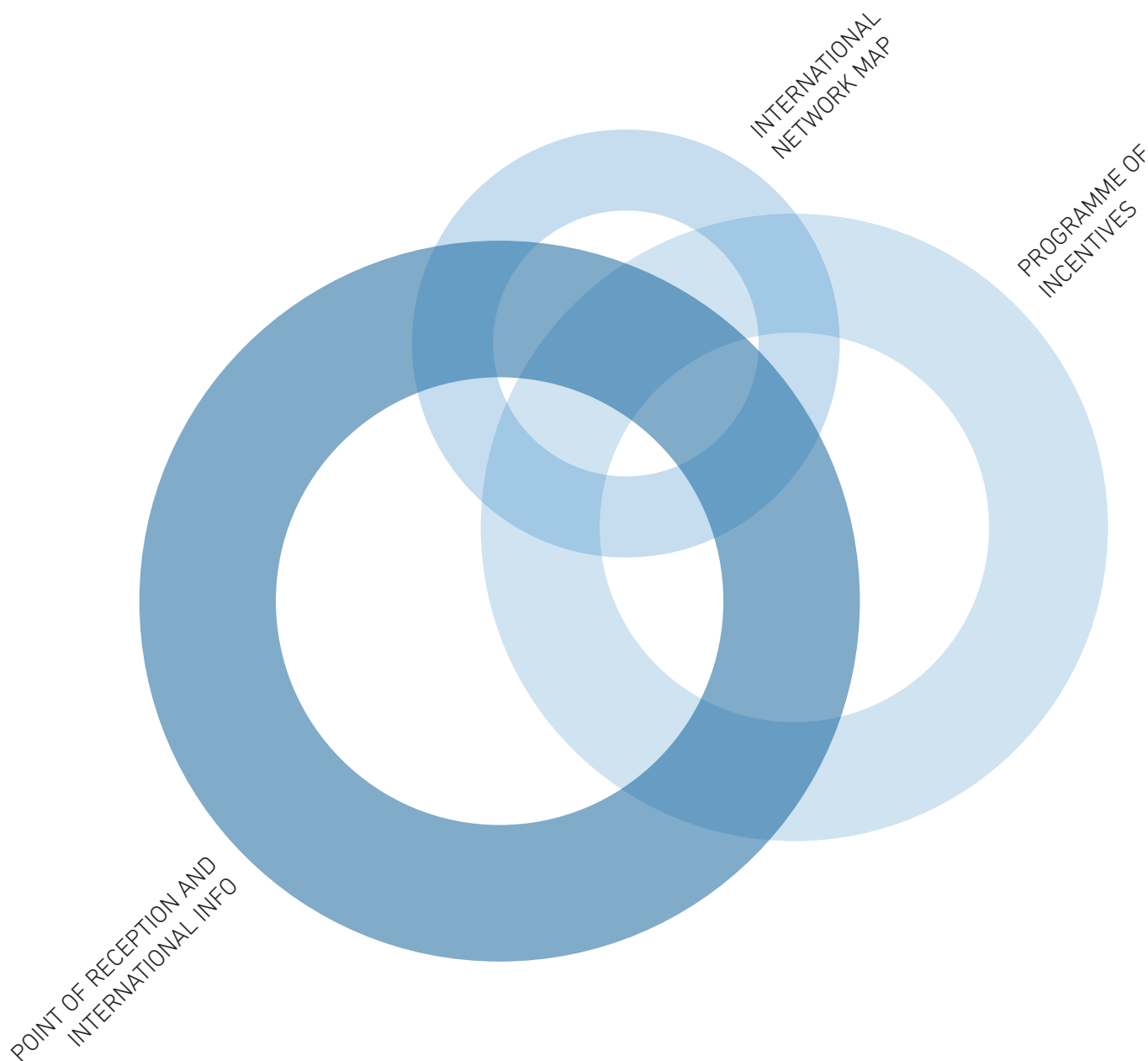
To determine the characteristics, needs and expectations of the region and guarantee the suitability of the offer to these needs, a **Degree Quality Observatory** will be created. Its first task will be to determine the region's needs and, given the present situation of international mobility, considera-

tion will also be given to international needs. A series of quality indicators will be established in harmony with the criteria established by the National Agency for Quality Evaluation and Accreditation (ANECA) for the internal degree quality guarantee systems (SIG) and the annual follow-up reports.

2.1.3.4. CREATION OF HIGH ACADEMIC PERFORMANCE GROUPS (HAP GROUPS)

VLC/CAMPUS will also deal with the excellence of the teaching-learning processes in degree courses by the creation of **high academic performance groups (HAP Groups)**, with the aim of reinforcing the potential of the most outstanding students, including

undergraduates, and promote the attraction of intellectual talent within the framework of the **Valencia International Postgraduate and Doctoral School** and the **excellence scholarships programme**.



2.1.4. INTERNATIONAL ACADEMIC MOBILITY PLAN

VLC/CAMPUS will create a knowledge excellence pole in order to contribute to the training of international leaders. For this, besides the creation of the VIPDS, and among the project's most important actions, the **Interuniversity Unit for International Exchange Students** will be created and the **presence of VLC/CAMPUS will be promoted in European and international networks.**

2.1.4.1. INTERUNIVERSITY UNIT FOR INTERNATIONAL EXCHANGE STUDENTS

The creation of VLC/CAMPUS will convert the City of Valencia in the leading European destination of ERASMUS exchange students. The participating universities also send many of their students to foreign universities, mostly European, for part of their degree courses. At the present time, around 20% of postgraduate students are foreign nationals and many undergraduate degree courses, especially those of the Erasmus Mundus, also have a high proportion of foreign students.

This situation – the importance of the interchange and mobility of students – merits the right policy for its own sake, but the aim of VLC/CAMPUS is to give it high priority. It therefore proposes to create the **Interuniversity Unit for International Exchange Students**, which, in cooperation with the **Valencia International Postgraduate and Doctorate School** and its **international promotion plan**, will be in charge of VLC/CAMPUS's international mobility actions. This unit, jointly with the **VLC/CAMPUS international attention and reception point**, will serve as a meeting point both for students who come to Valencia and the local students who choose to go abroad.

The promotion of international exchange activities will be carried out in two areas; from VLC/CAMPUS to other universities and from foreign universities to VLC/CAMPUS. The general lines of this policy have been drawn up in a series of specific objectives in harmony with the European Commission's Lifelong Learning Programme:

- To allow students to benefit – educationally, linguistically and culturally – from the learning experience in other countries, mainly in the European Union.
- To promote cooperation between institutions and to enrich the educational environment of VLC/CAMPUS as the leading European destination of Erasmus students.
- To contribute to the development of young open-minded graduates with international experience in the evolution of the knowledge society.

The promotion of the mobility of the students enrolled in the participating universities will form part of the **general mobility programme** of VLC/CAMPUS, will be designed as required by the specialist areas, will be directed by the **Interuniversity Unit for International Exchange Students** and its fundamental mission will be to promote the visits of undergraduates to the best foreign universities.

One part of this programme will define a mobility strategy for the different groups in the campus, such as lecturers, students and administration and services personnel.

The reception of foreign students will be within the **foreign student recruitment programme**, which will publicise the undergraduate courses on offer among prestigious European universities and will coordinate the services necessary for full participation in the activities of VLC/CAMPUS.

2.1.4.2. CAMPUS MAP OF INTERNATIONAL NETWORKS

In recent decades the EU has created many work networks to promote the interchange of experiences among institutions and individuals in Europe and abroad. These networks have shown themselves to be effective mechanisms for improving the international position of the institutions that participate in them. The university institutions participating in VLC/CAMPUS have maintained a significant presence in the most important European and international networks for some time (see Section 2.8).

In order to establish a common international strategy within VLC/CAMPUS, a campus **map of international networks** will be drawn up. This will identify potential synergies from the international activities of its members, will permit resources to be concentrated on those that strengthen the Campus's international position, and will contribute to forming a common international strategy.

2.1.4.3. INCENTIVE PROGRAMME TO PROGRESSIVELY EXPAND THE DEGREE COURSES ON OFFER AND THE COURSES GIVEN IN ENGLISH

To supplement the preceding actions, promote multilingual competences and encourage VLC/CAMPUS students to take part in international activities, steps will be taken to **increase the number of courses at present given in English**, which will require the support of both students and teachers. The participating universities, among other resources, currently have available appropriately equipped language centres.

This action will be carried out within the activities of the EuroCLIC⁵ network and will be based on the principles of the EU's Content and Language Integrated Learning Programme (CLIL⁶), adapting its objectives to the needs of VLC/CAMPUS:

- To contribute to the construction of knowledge and intercultural understanding.

- To develop the habits of intercultural communication.
- To increase linguistic competence especially in oral communication.
- To awake interest and certain positive attitudes in multilingual abilities.
- To encourage the diversity of perspectives when dealing with contents.
- To give students greater contact with the target language.
- To complement other disciplines instead of considering them as rivals.
- To diversify teaching methods and class practices.
- To increase students' motivation and confidence both in the subject and in the language in question.

⁵ <http://www.eurocllic.net/>

⁶ http://ec.europa.eu/education/languages/language-teaching/doc236_es.htm

2.1.5. EHEA ADAPTATION PROGRAMME

The intention of VLC/CAMPUS is to culminate in the near future the intensive and extensive work that both the UV and the UPV have put into adapting their undergraduate and postgraduate degree courses to the requirements of the European Higher Education Area. For this an ambitious 4-part plan has been programmed: singular teaching equipment and infrastructures, educational innovation and new technologies, transformation of libraries into Resource Centres for Learning and Research (RCLRs), and the social dimension of the EHEA.

2.1.5.1. SINGULAR TEACHING INFRASTRUCTURES AND EQUIPMENT

The active conception of the teaching-learning processes of the EHEA and its emphasis on the learn to learn method necessitate the creation of new types of teaching equipment. In this area, VLC/CAMPUS foresees the following actions:

- Co-financing in 2011 and 2012 of a **new building in the Tarongers Campus** consisting of 50 classrooms with a capacity for 40/50 students.
- A **Psychological Applications and Speech Therapy Centre** will be integrated in the Fundació Lluís Alcanyis, to provide psychological services for the community, with the objective of improving the provision of psychology services and the quality of the studies of Psychology and Speech Therapy undergraduate and postgraduate students. The Centre will also be used for external consultations.
- **Dental Skills Classroom** for the faculty of Medicine and Dentistry: An Advanced Preclinical Skills Classroom for Dentistry will be set up with 34 workplaces (30 for students and 4 for staff) consisting of work tables, complete clinical equipment with life-size model of a patient, multimedia system with screen and audio for student-instructor communications, visualisation of demonstrations and student self-correction.
- **Judicial Clinic** for the Law Faculty: Teaching model based on a Judicial Clinic to link the teaching of Law with judicial reality by giving students the opportunity to participate in actual law cases. Interactive methods will be used to teach the necessary skills for judicial practice. Students will have the opportunity to work with real clients. Their activities will

be supervised by expert lawyers in a structured system. In this way students learn from experience in a learning-by-doing method. This project will require the setting up of a special space in the Faculty of Law with different offices equipped with computers, a meeting room and a minimum of administration staff.

- **Forensic Chemistry Laboratory** for the Chemistry Faculty: Conceived as a consequence of the implantation of the VLC/CAMPUS official Master (soon to appear in the CHE Excellence Ranking 2010) to respond to the local, national and international demand for chemistry professionals. There is at present a strong demand for forensic chemists as a result of the application of chemistry to legal

processes in general and to crime-solving in particular. Chemical laboratories play a fundamental part in procuring evidence in many types of crime investigation. A fully equipped 500 m² laboratory will be built for this purpose.

- Re-siting and equipping of the **molecular chemistry and nuclear engineering laboratories** in a new building.
- Modification of lecture rooms at the **Inter-Faculty Building** on the Burjassot campus (16 lecture rooms with capacity for 40/50 students).
- Modification of teaching facilities and buildings for Aeronautics, Faculty of Fine Arts, School of Civil Engineering and School of Telecommunications Engineering.

2.1.5.2. EDUCATIONAL INNOVATION AND “DIGITAL UNIVERSITY” NEW TECHNOLOGIES

VLC/CAMPUS considers that the teaching-learning processes designed to produce excellence, like any social process, require the appropriate permanent reinforcement, specific research and innovation. This is especially true in the context of the rapidly-changing digital systems, increasingly used in education. VLC/CAMPUS has centres and units dedicated to developing experimental programmes to assist teachers and students but also believes in the constant need to modernise. The following actions are planned:

- **Software for teaching and supporting activities.**
- Equipping **multi-use lecture rooms** with digital blackboards and projectors.

- **Creation of Classrooms 2.0** (Cooperative Classrooms) for a teaching-learning environment that facilitates collaboration instead of the traditional teacher-controlled learning system. This envisages the installing of audiovisual and computer equipment and latest-generation technologies to make it possible to use new teaching methods, with a combination of pre-sential and virtual participation in an eminently cooperative environment. VLC/CAMPUS's centres have recently reinforced their disc storage capacity with the aim of providing support to these developments, and have virtual teaching applications with peak use over virtual universities.



2.1.5.3. RESOURCE CENTRES FOR LEARNING AND RESEARCH (CRAI)

VLC/CAMPUS is at the present time equipped with some of the best bibliographical resources in Spain. Presential services are provided for more than 300 days a year at a total of 46 libraries and auxiliary centres, consisting of 7,697 reading places for students, 2,308,882 volumes, 37,976 subscriptions to data bases and journals and a total of 1,518,406 annual book loans.

In the digital era, the functions of university libraries have been significantly transformed into Resource Centres for Learning and Research.

The policy of VLC/CAMPUS is to promote the modernisation of its libra-

ries and the coordinated expansion of their resources and services to teaching, innovation and research. The following actions are proposed:

- Fitting out **spaces for work in small groups**, computer rooms and technologically equipped desks.
- **Special equipment and furniture for libraries.**
- Subscription to **data bases and journals** in the specialist areas of VLC/CAMPUS.
- Participation of VLC/CAMPUS in **European and international platforms for inter-library cooperation.**



2.1.5.4. SOCIAL DIMENSION OF THE EUROPEAN HIGHER EDUCATION AREA

VLC/CAMPUS proposes the creation of the **Interuniversity Observatory of Student Life and Participation** similar to the existing patterns in other European countries (such as the French OVE and Eurostudent) and the crea-

tion of integrated auxiliary services. This aspect is closely related to other VLC/CAMPUS actions designed to foment the entrepreneurial spirit and learning and improve graduates' job prospects.

2.1.5.5. ENTREPRENEURIAL SUPPORT PROGRAMME

In the International Campus of Excellence several actions will be carried out related to business initiative in the institutions participating in VLC/CAMPUS. The **Entrepreneurial Support Programme** is specifically designed to add the entrepreneurial culture to the teaching syllabus as part of the policy of adaptation to the European Higher Education Area.

The basic lines of the Programme will begin by **reinforcing and coordinating**

the actions that have already been applied. VLC/CAMPUS already fosters the business spirit in its students with the idea of producing graduates who understand the world of the 21st century, able not only to seek jobs but also to create them. The most important actions, such as the Institute for the Development of New Businesses (IDEAS), the Professional Placement and Job Advisory Observatory and the University Entrepreneurial Pro-

gramme (ANTENA UNIVERSITARIA) have made VLC/CAMPUS leader in the Spanish university system in founding business firms.

This Programme, in coordination with the different undergraduate and postgraduate programmes, will add the business dimension to the study courses and thus improve graduates' employment prospects.

The activities will include the creation of a **Business Advisory Unit**, from which any VLC/CAMPUS students or lecturers interested in starting a business can obtain the necessary support and advice for the successful materialisation of their business project.

Apart from the undergraduate and postgraduate programmes, in collaboration with the **Lifelong Training Centre**, a series of presential and vir-

tual extracurricular activities will be offered related to the business aspect and the development of self-employment skills for students. In addition, the activities of the Cameral Institute Foundation for Business Creation and Development (INCYDE) will be brought to the attention of students.

Computer-based instruction on business initiatives will have the support of a set of **multimedia materials** for specific training in starting up business and cooperative projects. For this, existing VLC/CAMPUS technological infrastructures will be used, such as the Centre of Educational Resources and Multimedia Learning (CREAM) and Polimedia, which recently won an award from the International Forum on Digital Content organised by the Spanish Ministry for Industry.

2.1.5.6. JOB PLACEMENT PROGRAMME

An important function of VLC/CAMPUS will be to help graduates find their first jobs. Excellent results have already been achieved in many degree courses, in which a high proportion of graduates have obtained employment within six months of graduating. This success is partially due to the good work of the existing VLC/CAMPUS job placement units: the Professional Placement and Job Advisory Observatory, the Integrated Employment Service and the EDEIT University-Business Foundation.

The principal added value of VLC/CAMPUS in this area will be to coordinate the operations of these services to improve graduates' possibilities of finding work. The **job placement programme** will be provided with resources to improve their efficiency,

an example being the **job placement observatory** which will monitor the placement success rate of graduates of different VLC/CAMPUS disciplines. The results achieved by this permanent observatory will permit the creation of an **information system on job placement** which will be put at the disposal of undergraduates and postgraduate students

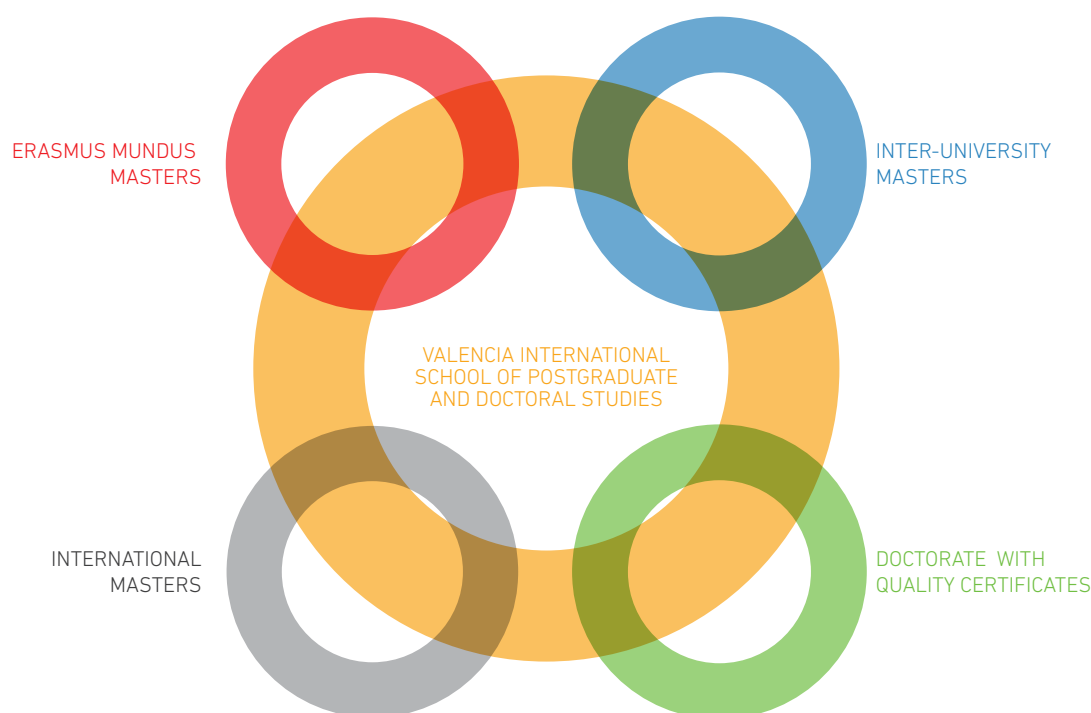
To supplement the activities of the job placement observatory, a system will be established to **make students aware of job offers** appropriate to their qualifications in as short a time as possible. In line with VLC/CAMPUS's collaborative policy, initiatives will be taken to **improve students' job prospects by work practice agreements** with town councils, professional organisations and business companies.

2.1.6. RESULTS IN 2015

Table 5 gives the quantitative indicators in this area and the value they are expected to reach in 2015.

Indicator	Current Value	2015 VALUE
Formal joint training programs (undergraduate and postgraduate) of VLC/CAMPUS	15	20
Joint new lecturer support qualification	0%	100%
Number of degrees of VLC/CAMPUS with Groups in the high academic achievement programme (ARA) in English	11	22
Percentage of accredited qualifications	78%	100%
Creation of the Valencia International School of Postgraduate and Doctoral Studies	0%	100%
Nº of Erasmus Mundus master degree courses	4	6
VIPDS master and doctorate study programmes	0	20
Percentage of graduate and doctoral international students	20%	35%
Groups taught in English	628	750
Nº of international master and doctorate degree courses	15	20
Percentage of Master's degree courses given in English	6	10
Implementation of infrastructure programs and singular educational facilities	20%	100%
Implementation of the Classroom 2.0 programme	20%	100%
Implementation of the programme transformation of libraries in RCLR	80%	100%
Number of ERASMUS students and other international mobility programmes	5,801	7,000

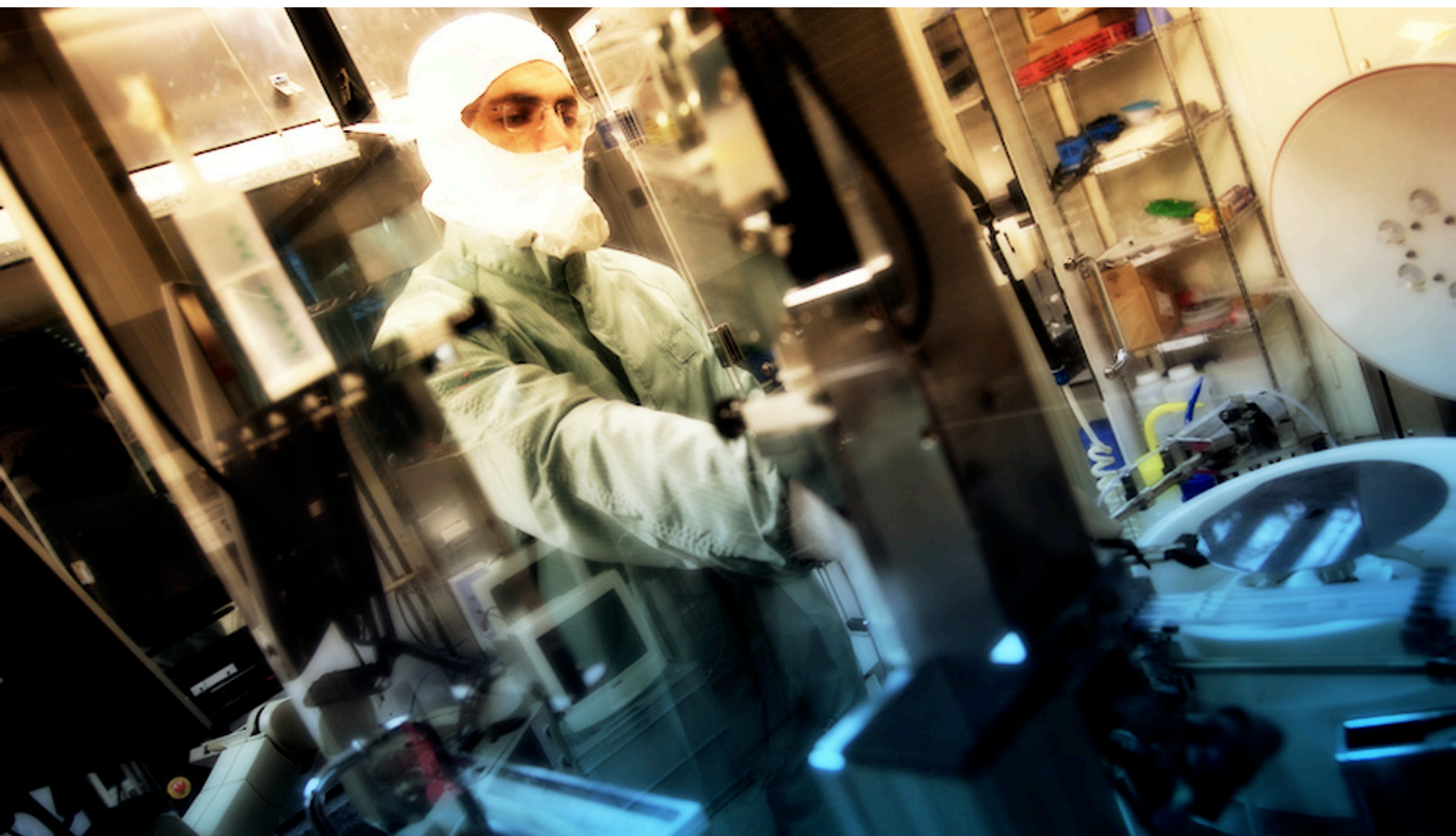
Table 5. Indicators for educational improvements and adaptation to the EHEA



2.2. SCIENTIFIC IMPROVEMENT AND KNOWLEDGE TRANSFER

In this area VLC/CAMPUS seeks to enhance the quality and quantity of its scientific production and improve knowledge transfer to its socio-economic environment via the following strategic objectives:

- **Specialisation:** identify and promote R&D&I projects that are designed to meet society's health, information/communication and sustainability needs, thus enhancing its ability to solve problems scientifically from a technological standpoint, and which foster joint research between universities and business.
- **Coordination:** increase the critical mass of VLC/CAMPUS in R&D&I, coordinating all scientific and technical activities and promoting joint development of infrastructure and support services.
- **Internationalisation:** increase VLC/CAMPUS researchers' participation in regular networks and alliances, open innovation initiatives and European/international research projects.
- **Human resources:** train, attract and retain both young and experienced highly qualified researchers and also pay special attention to the leaders in their fields.
- **Valorisation:** drive the valorisation and use of research results achieved by VLC/CAMPUS by establishing mechanisms for identification and transfer to the socio-economic environment and setting up technology-based companies.
- **Scientific communication:** increase the visibility of VLC/CAMPUS R&D&I results by publicising them in general interest media and in health, information/communication and sustainability trade publications.



2.2.1. STARTING POINT

The contribution made by the VLC/CAMPUS consortium institutions to basic research, knowledge transfer and innovation is tremendously important. It reflects the quantity and quality of the human resources devoted to research and the structures and services that support them, which are the outcome of a resolute **policy of modernisation** and the **pursuit of scientific excellence**.

The commitment to the specialised areas – health, information/communication and sustainability – that defines this project is founded on outstanding basic research, identification of the preeminent groups in the three institutions and a firm policy of support for emerging groups and researchers.

At the time of its foundation, VLC/CAMPUS has 8,098 researchers and 686 pre-doctoral interns who have produced 4,227 ISI-indexed publications, while in 2010 they have coordinated 19 European projects and generated 482 valid patents. In order to ensure the continuity and renewal of these human resources and in particular to increase the productive capacity of the consortium institutions, the latter have been developing their own talent recruitment and training programmes. These include the researcher training programme, which awarded 42 contracts in 2008-2009, and taking part in mobility and recruitment initiatives – 91 doctors in 2009 – such as the Ramón y Cajal, Juan de la Cierva and Marie Curie programmes designed to attract top PhDs. This has led to the retaining of 77 post-doctoral researchers.

The significant growth in research activities at VLC/CAMPUS consortium universities and their social and economic impact is connected with a major upgrading of **research support structures**: setting up new institutes, strengthening central services and especially founding two science parks that are home to 83 technology-based companies and 34 research institutes. This has enabled a significant part of R&D to be conducted in research centres that have adequate critical mass, larger capacity facilities, an effective and efficient specialist internal organisation and better human resource support. As a result VLC/CAMPUS already has 63 university research institutes and other unique research structures which generate a great deal of VLC/CAMPUS scientific production. Management and support units include the Innovation, Research and Technology Transfer Support Centre, the Polytechnic City of Innovation Foundation, the Central Experimental Research Support Service, the Science Park Foundation and the Research Results Transfer Office. Furthermore, the research potential of this project has been greatly expanded since the Spanish National Research Council (CSIC) joined the VLC/CAMPUS. The annual research budget of the three consortium institutions comes to more than €138 million.

Another aspect of this process of modernising research activity centres on encouraging **partnerships and alliances with other institutions** through cooperation agreements and setting up joint structures that enhance research output and generate new channels for knowledge transfer and valorisation. Of the 63 research institutes and centres, 12 are joint centres based on alliances with other research organisations, primarily the CSIC, hospital foundations and business associations in the software, energy, transport and information and communication technology sectors. These institutions have joined VLC/CAMPUS as associate members.

Special mention should be made of the **Science Parks**, which have had a significant impact on transfer and innovation. *Table 6* provides a summary of the key aspects of the two science parks and their contribution to the launch of VLC/CAMPUS.

PARAMETERS	SCIENCE PARKS VLC/CAMPUS		
	CPI(*)	PCUV(**)	TOTAL VLC/CAMPUS
Size (m2)	140,000 m ²	200,000 m ²	340,000 m ²
Institutes	27	7	34
Companies in the Park	32	50	83

Table 6. Most significant aspects of the VLC/CAMPUS science parks

In order to enhance their relations with their socio-economic environment, the parks are heavily involved in a number of associations, including the Valencian Association of Innovative Enterprises (AVANT i+e), the Valencian Community Business Angel Network (CVBAN), the Computer Technology Institute Association, the Bioengineering Technology Institute Association, the Energy Technology Institute Association and the "Paterna Innova 5" Economic Interest Grouping (EIG) which brings together a thousand firms.

These actions have actively linked the universities with their environment, generating a very significant cultural change both inside the universities and between socio-economic actors.

(*) CPI: Polytechnic City of Innovation

(**) PCUV: University of Valencia Science Park

Likewise, the VLC/CAMPUS consortium actively takes part in and implements scientific outreach and communication programmes. This is because it is convinced that helping society to focus on social problems and needs from a scientific and technological standpoint is one of its fundamental tasks and greatest contributions to progress. It does this through the Scientific Outreach Chair, the magazine *MÈTODE* (published in three EU languages), the UV's EXPOCIENCIA programme and various TV and radio programmes on media outlets UPV-TV, UPV-Radio and Media Uni (UV-TV). As a result of the CIE programme's 2009 call for proposals, VLC/CAMPUS already supports the activities of its scientific culture units through appropriate programmes.

The alliance forged with the founding of VLC/CAMPUS will result in a significant increase in the stock of codified knowledge (publications, patents, etc.), more active research work that will raise more funds and greater participation in projects in the major European research programmes.

Table 7 shows the main VLC/CAMPUS indicators for scientific improvement and knowledge transfer.

Having established this starting point, Figure 3 briefly sets out the chief VLC/CAMPUS actions in the field of scientific improvement: creating joint resources for research and innovation, attracting talent, transfer by fostering science parks and scientific outreach.

INDICATOR	VALUE
No. of researchers	8.098
No. of research sections	5.602
No. of pre-doctoral interns	686
No. of post-doctorate contracts (Ramón y Cajal y Juan de la Cierva)	91
No. of stable post-doctorate researchers (Ramón y Cajal y Juan de la Cierva)	77
No. of publications indexed in ISI-ESI	4.227
No. of publications in the first quartile	1.747
Share of the total scientific production of Spain (SCOPUS)	6,48%
No. of projects of excellence (European, CONSOLIDER, AVANZA, CENIT and PROMETEO)	117
No. of coordinated European projects	19
No. of researchers who do stays abroad	176
No. of researchers from other institutions	168
Creation of spin-off companies in the last 4 years	28
No. of broadcast technology offers	40
No. of transfer agreements	2,842
No. of contracts with firms	3,044
No. of transfer actions with international companies	105
No. of agreements and licenses	47
Returns on licensing agreements	424,660€
Research and technical support contracts/full-time lecturer-researcher	8,178€
Joint publications in SCI journals.	756
Number of patents currently in force	482
No. of service requests	1,064
Number of trained energizing	73
Number of investees	4
No. of firms created with university assistance	60
Number of firms in science parks	83

Table 7. Most representative scientific improvement and knowledge transfer indicators. 2009

CREATION OF JOINT RESOURCES FOR RESEARCH AND INNOVATION	ATTRACTING TALENT	VALORISATION PROGRAMME	SCIENTIFIC OUTREACH PROGRAM	STRENGTHENING VLC/CAMPUS SCIENCE PARKS
Joint Innovation Platforms	Pre-doctoral funding of excellence programme.	Inter-University Evaluation Unit	Inter-institution unit of Scientific Culture	Coordinated strategy of excellence for VLC/CAMPUS science parks
Research Micro-Clusters	Programme of stays in of researchers of renown.	Innovation, knowledge and development Programme	Comprehensive Plan of scientific communication	Consolidation of the Network of Science Parks in Valencia
Equipment platforms.	Stabilisation programme of research staff.	Dynamic program of innovation and entrepreneurship	Scientific documentation Archive	Venture Accelerator
Incorporation of doctors by means of stays	Program learns to investigate	Socio-Cultural Innovation Network	Plans to raise awareness and scientific communication	Business Incubators in the areas of specialization of the campus
Valorisation projects.	Lluís Vives Residence for researchers	Technology Watch Reports		Popular dissemination of parks
Strengthening of inter-agency structures		Management Training Program and protection of research results		Internationalization of VLC/ CAMPUS science parks.
Number of research support personnel		Training program in international transfer		Talent recruitment programme
Monitoring inter-disciplinary scientific and inter-institutional production		Technical and economic Dossier		Common use of infrastructure programme
Enhancements and new capabilities in scientific technical services		Employment promotion program based on R+D+i activities		
Articulation and coordination of ICTS and SCCT				
Certification Program of the quality of research units				

Figure 3. Expected results in scientific improvement and knowledge transfer



2.2.2. CREATION OF JOINT RESOURCES FOR RESEARCH AND INNOVATION

VLC/CAMPUS intends to make a quantum leap in scientific improvement and knowledge transfer by developing a **coordinated and clear-cut institutional policy** for research, transfer and innovation. This policy consists of the creation of various resources, infrastructures and joint services.

2.2.2.1. JOINT INNOVATION PLATFORMS

The key lever for the implementation of this policy lies in setting up three joint innovation platforms, one for each of the VLC/CAMPUS specialised areas: health, sustainability and information/communication.

- **Health Science and Technology Platform (CTSalud).** This brings together the major research teams that use the basic sciences (biology, physics and chemistry), food science and technology and health sciences, health technologies, social sciences

and humanities to implement activities geared towards personal health and independence, in a historical context in which dependence and disability are growing. It includes leading research centres in the fields of agri-food, biomedical engineering, biomedicine and public health and hospital foundations.

- **Information and Communication Technology Platform (ICT).** This brings together the various groups and projects in the consortium institutions,

including basic research (pattern recognition, solid state and molecular physics), supercomputing, robotics, building communication and data networks, setting up inclusion and personal independence services and content creation.

- **Sustainability Innovation Platform (CTSostenibilidad).** This is a training and research resource which operates in areas such as energy and climate change, production diversification, environmental and natural heritage protection, local development and environmental education.

These platforms consist mainly of resources based on scientific and technological equipment, designed to provide research and innovation support services and to facilitate interaction with similar international structures. They have the following functions:

- Foster interinstitutional and interdisciplinary coordination, designed to promote cooperative work, and maximise the efficient use of resources.
- Promote the integration of VLC/CAMPUS platform research groups in national and international networks and platforms.
- Generate the physical resources and

equipment needed by high-level research groups.

- Bring together human resources to provide administrative, valorisation, intellectual property management and marketing support to project management.
- Provide services including market research, identification of emerging needs, mapping out specific courses of action and exchange of best practice.
- Foster incentives to ensure emerging research is based on institutional strategies derived from situational analysis.
- Help to generate an impact on the local environment to stimulate private sector investment in R&D&I.
- Nurture the competitiveness, quality and sustainability of VLC/CAMPUS groups and the international visibility of their scientific production.

As part of the Spanish Ministry of Science and Innovation's Innocampus call for proposals, there has been a more widespread rollout of these platforms at VLC/CAMPUS. A **Platform Development Plan** is to be implemented which is described in greater detail in the Innocampus Report.



- HEALTH
- SUSTAINABILITY
- COMMUNICATION

2.2.2.2. RESEARCH MICROCLUSTERS

Given its nature and characteristics, a platform will generally be made up of smaller operational research groups or networks. Hence, there are **Research Microclusters** (RM) which are structures based on a discrete interdisciplinary and interuniversity research group organised around a specific project, but whose membership of the platform gives them a broader

framework of reference, reach and guidance. The 18 microclusters set out in *Table 8* have been initially identified as part of the Innocampus programme. However, VLC/CAMPUS intends to foster new microclusters based on the identification of emerging research groups and promote interdisciplinarity and interinstitutionality.

NO.	MICROCLUSTER
1	Functional nanomaterials and nanodevices
2	Biomedical physics, technology and engineering
3	Regenerative medicine
4	Drug development and identification of therapeutic targets
5	Sensors and rapid analytical techniques
6	Personal independence, dependence and serious mental disorders
7	Pathophysiology of rare diseases
8	Food safety and functionality
9	Synthetic biology
10	Adaptation of plants to environmental stress conditions
11	Energy sustainability
12	Technologies for sustainable water management
13	Presence and mixed reality (virtual and augmented)
14	Computer architecture and advanced communications
15	Multimodal interaction in pattern recognition and image analysis
16	Intelligent, safe and sustainable transport
17	Economics and law of transfer and innovation
18	Human capital and occupational health in a sustainable economy

Table 8. Research Microclusters initially identified using science quality and excellence criteria to take part in the Innocampus programme

Figure 4 shows how these micro-clusters are connected with the VLC/CAMPUS specialised areas (health, information/communication and sustainability), based on their greatest degree of affinity. Nonetheless, it is important to note that each micro-cluster is linked to all three areas and some are cross-cutting as they contribute to all three; this is the case, for instance, with functional nanomaterials and nanodevices, Synthetic Biology, and economics and law of transfer and innovation.

18 equipment networks will be set up linked to the research microclusters and at least **20 PhDs** will join the RMs on medium or long-term stays.

In addition **8 valorisation projects** will be developed as part of the INNOCASH showcase, half of them taking part in private investment forums and with a defined business plan.

The microclusters will be rolled out as part of the Innocampus call for proposals through:

- the creation of **equipment networks or platforms**, in order to facilitate the common use of equipment and resource optimisation
- a **research and transfer programme** to fund RM research, innovation and infrastructure and encourage emerging and multidisciplinary projects

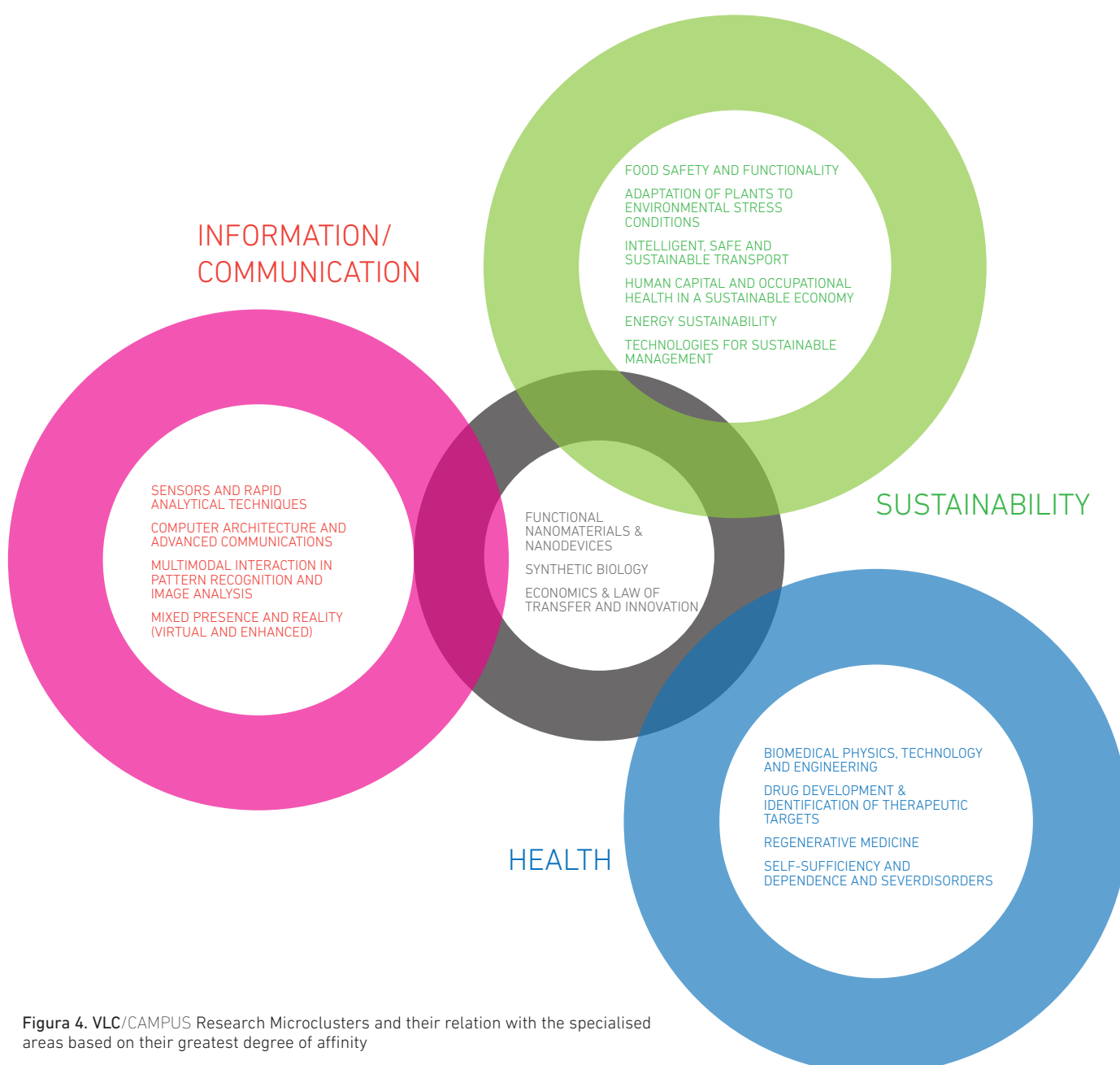


Figure 4. VLC/CAMPUS Research Microclusters and their relation with the specialised areas based on their greatest degree of affinity

2.2.2.3. STRENGTHENING INTERINSTITUTIONAL STRUCTURES

In addition, as part of this coordination policy VLC/CAMPUS seeks to strengthen and consolidate, inter alia, the following **interinstitutional structures**:

- Two Unique Technical Science Facilities (ICTS) in the Ministry of Science and Innovation's ICTS map:
 - Institute of Medical Physics (IFIMED)
 - Comprehensive Centre for Energy and Environmental Improvement of Transportation Systems (CiMET)
- VLC/CAMPUS has one of the 8 nodes in the Spanish Supercomputing Network, the Tirant supercomputer, providing enormous calculating power for the campus's specialised areas.
- **Joint Molecular Recognition and Technological Development Centre (IDM)** in which the UV and UPV take part, whose purpose is research, teaching and transfer in fields such as human health, safety, food and the environment. Specifically, it works on the development of chemical sensors (optical, electrochemical and biosensors), pharmacodynamic studies, new materials for controlled release, analytical methodologies and microelectronic equipment.
- **Valencia Space Consortium (VSC)**, a consortium formed by the UPV, the UV, the Valencian Regional Government and Valencia City Council, which is developing a technical scientific project with the European Space Agency (ESA). The consortium has signed an agreement with the ESA for the commissioning and operation of a high power radiofrequency laboratory for space applications to be fitted with ESA, UPV and UV equipment and sited in Valencia.
- **Interuniversity Bioengineering and Human-Centred Technology Research Institute (I3BH)**, an international pioneer in the use of new information and communication technologies in the design and development of human-machine interfaces in the field of health. The group has developed and tested various customisable applications based on virtual reality and augmented reality.
- **Landscape Monitoring Centre in coordination with the Valencian Regional Government.** This interuniversity project is the result of a cooperation agreement with the Regional Ministry of the Environment, and based on similar European monitoring centres its purpose is to monitor and evaluate the Valencian Region's natural heritage. The Interuniversity Institute for Local Development (IIDL) also takes part in it.
- **iGEM (International Genetically Engineered Machine Competition)** Consortium, designed to attract students from various disciplines and get them working together on a synthetic biology research project, which will then be entered in the Massachusetts Institute of Technology's international synthetic biology competition.
- Research network on psychosocial care for people with severe mental disorders (TMG Group) linked to the Spanish Ministry of Health and Social Policy's State Reference Centre (SRC) through IMSERSO, the Spanish government's agency for the elderly. This is a research network that has been set up with the launch of the Psychosocial Care SRC. Its goals are to:
 - Generate knowledge to increase personal independence and recovery for people with some degree of dependence;
 - Build this knowledge into care;
 - Transfer the knowledge to society and ensure full engagement in any activity by users, relatives, professionals, contributors or patrons, the general public and their representatives.

2.2.2.4. RESEARCH SUPPORT SERVICES

The VLC/CAMPUS international excellence project includes a series of support actions coordinated with the activities presented in the INNOCAMPUS interministerial modernisation sub-programme:

- Setting up the **Interdisciplinary and Interinstitutional Scientific Production Monitoring Centre** to analyse the degree of improvement in scientific and technological production and to see if there are new niches for interinstitutional research that might usefully be included in the platforms. This monitoring centre is to work in coordination with the **Valorisation Programme** and will contribute to the development of the **VLC/CAMPUS technical and economic report**.
- Introducing **improvements and new features in scientific and technical services**, such as the Central Support Unit for Research in the Social Sciences and Humanities (UCRESH) and the scientific hardware and software virtualisation system in the Information and Communications Systems Area (ICSA).
- Programme for the **organisation and coordination of STI** (Scientific and Technical Infrastructures) **and STCS** (Science and Technology Central Services), which will make better use of available facilities at VLC/CAMPUS. The creation of an **online catalogue of scientific services** available in the consortium will be one of the first Innocampus platform support actions to be organised.
- Setting up an Interuniversity Strategic Projects Unit to foster the participation of VLC/CAMPUS platform researchers in international projects and networks. This unit will also support the presence of VLC/CAMPUS in large international projects.
- In order to ensure the quality of the results obtained by each of the platforms, a **programme for certifying the quality of the research units and the STCS** will be set up.

2.2.3. ATTRACTING TALENT

International excellence in knowledge generation involves the development of active policies for scientific improvement that increase the research potential of existing groups. These policies take the shape of attracting talent and the renewal and availability of highly qualified human resources for research.

In this respect, VLC/CAMPUS will put in place a series of measures to **lead strategic research lines** in the campus's three areas. Its specific goal is to recruit **six top researchers**, two for each of the campus's areas. This programme will be implemented jointly with the Valencia International Postgraduate and Doctorate School and will therefore also entail teaching by the researchers at the School.

Thus, VLC/CAMPUS can capitalise on its training, research and transfer base and hopes to achieve excellent results in postgraduate training, participation in key projects and return on knowledge transfer. It will involve mapping out improvements organised into four complementary pathways – recruitment, training, mobility and retention – and the implementation of specific programmes and improvements.

There are a number of options to attract talent, ranging from the direct **provision of funding** for the recruitment of researchers, with a **first-rate pre-doctoral grants** programme, to the allocation of funding for staff or equipment costs associated with the establishment of the researcher in question, in line with Innocampus platform support actions.

The **exceptional working environment** generated by the VLC/CAMPUS project will be presented as a pull factor to attract researchers. Living and working conditions and involvement and participation in a project achieving excellence and international visibility will be a key argument in attracting top researchers. These efforts will come under the umbrella of the **Visiting Prestigious Researchers programme and Research Staff Retention programme** which will be run by the **VLC/CAMPUS Foundation**.

The selection process for VLC/CAMPUS research staff will not only consider the scientific quality of candidates' CVs but will also assess in particular **the interest of the research lines** to be covered and their relationship with the VLC/CAMPUS specialised areas. These lines must have a favourable scientific outlook, dovetail with the masters or doctoral programmes at the Valencia International Postgraduate and Doctorate School and offer outstanding **potential for generating technology transfer** under the campus's **valorisation programme**. Similarly, when allocating funding under the Programme, consideration will be given to the continuity and retention of researchers when this funding has ended. In order to attract young researchers, training activities will be organised as part of the **Learn to Research programme**.

The specific conditions of the programme will be determined by the VLC/CAMPUS Board of Directors, which will also decide on the awarding of grants. In 2014, the Programme will be assessed externally. The assessment criteria will be consistent with VLC/CAMPUS goals in teaching, scientific and transfer improvement.

The Programme will be supplemented by funds from the consortium institutions' own research and innovation support programmes, which will be able to provide researchers with grants, infrastructure or valorisation actions associated with the start-up of their research work. This additional funding will come from institutional grant programmes, such as the Spanish Ministry of Education and Science's Support Technicians Programme and the science and technology parks' activities programme. The consortium will promote joint sponsorship of activities, either by the member institutions of the Board of Directors or by inviting other organisations to sponsor these activities.

Policies for seeking out and retaining talent need to be especially painstaking at the post-doctoral stage. A number of pathways will be set up for this stage in the **post-doctoral talent programme** in conjunction with the **Valencia International Postgraduate and Doctorate School** and the **Interuniversity International Exchange Student Unit** that provide for:

- Stays abroad (as research support)
- Including PhD holders in different research teams to nurture a multidisciplinary approach.
- Building interdisciplinary training topics into the **joint new lecturer support qualification**, such as research team management and the use of new technology.

These policies call for facilities that enable lecturers and researchers to live on campus. It is planned to enhance the quality and increase the number of rooms in the **Lluís Vives University Hall of Residence** for lecturers and researchers who come to visit VLC/CAMPUS.

2.2.4. VALORISATION PROGRAMME

VLC/CAMPUS is to enhance the knowledge transfer capability of existing services (the Innovation, Research and Technology Transfer Support Centre at the UPV and the Research Results Transfer Office at the UV) through the implementation of a programme for **business valorisation and development**, which provides for setting up the **Interuniversity Valorisation Unit** as an essential instrument.

2.2.4.1. VLC/CAMPUS PROCESSES FOR IDENTIFYING RESEARCH RESULTS, ENVISAGING AND USING IDEAS AND PROTECTING KNOWLEDGE

The valorisation programme will identify transferable research results, envisaging ideas for their subsequent use, protecting any rights to such knowledge, drawing up

- **Innovation, Knowledge and Development (IKD) Programme** that identifies key improvement and development areas in the socio-economic environment and delivers technical assistance and advice to companies as a means of driving improvement processes.
- **Innovation and entrepreneurship promotion programme**, which gives priority to cases which may impact on international technology transfers or the generation of local socio-economic opportunities with high growth potential.

- **Setting up the Social and Cultural Innovation Network** to boost knowledge transfer in campus areas related to the humanities and social sciences.

The Interuniversity Valorisation Unit will provide research centres with technology watch, technology status and economic and market information reports that may be useful in drawing up R&D projects, in the exploration of research areas or even in finding partners.

Supervision of research projects and theses, analysis of scientific production and frequent interaction with R&D managers will be used to identify transferable results. In the case of strategic research projects, the valorisation programme will coordinate with the appropriate project monitoring instrument.

2.2.4.2. TRAINING IN KNOWLEDGE TRANSFER

The identification of options for using research results will be a key resource in the **Valorisation Programme**. Accordingly, VLC/CAMPUS will run **knowledge transfer training** in the consortium's R&D units. It will also get involved in innovation and knowledge transfer training for students at the **Valencia International Postgraduate and Doctorate School**, who it can invite to take part in the unit's own valo-

risation work. In addition, a **research results management and protection training programme** will be run, supplemented by an **international transfer training programme**.

The unit will have access to economic and technological intelligence sources in order to check technology and market status in the topics to be prioritised.

2.2.4.3. SAFEGUARDING RESEARCH RESULTS

The consortium members' resources will be used to determine and allocate rights through appropriate transfer or joint ownership instruments to pro-

tect research results. Resources will also be used for patentability analysis and drawing up protection files.

2.2.4.4. VLC/CAMPUS TECHNICAL AND ECONOMIC REPORT

Actions taken by VLC/CAMPUS to exploit ideas will entail drawing up a technical and economic report that not only includes information about the technology (description, advantages, development status) and freedom of operation (strength of protection, patents in the industry, determining factors), but will also identify market trends, value chains, main competitors and their positioning and the regulatory position. The path to market will define the steps to be taken prior to

actual implementation, including proof of concept if necessary. Thus it will be possible to forecast the economic value of technology and the income statement which can be expected. The **technical and economic report** is the tool that will enable the valorisation programme to identify potential licensees, define objectives and tactics for the transfer and establish commercial contact, communicate the technology and carry out any negotiations.

2.2.4.5. INNOVATION AND ENTREPRENEURSHIP PROMOTION PROGRAMME

In the event that the existence of an entrepreneurial team and the innovative potential of the technology point to founding a new company, VLC/CAMPUS will use its **innovation and entrepreneurship promotion programme** to put together and develop the business idea and gain access to public or private funding.

Likewise, VLC/CAMPUS will put in place agreements with other similar units to establish representatives or offices in the United States and Asia. This will involve taking advantage of Spain's Research Results Transfer Office (RedOTRI) university network initiatives. These bureaus will help with marketing the technology abroad.

2.2.4.6. INTERUNIVERSITY VALORISATION UNIT

The 10-year plus partnership between the VLC/CAMPUS valorisation units, the Research Results Transfer Office and the Innovation, Research and Technology Transfer Support Centre has enabled joint ownership patents and joint T-TRIP and RedValor projects to be managed.

This situation has enabled the campus to acquire valorisation methodo-

logy and resources, making it into an excellent foundation on which to build the valorisation programme and the **Interuniversity Valorisation Unit**⁷. This structure will have a strong base as its starting point in the results from the VLC/CAMPUS units which perform valorisation tasks and other projects and programmes⁸.

2.2.4.7. JOB PROMOTION PROGRAMME BASED ON R&D&I ACTIVITIES

As part of its valorisation policy, VLC/CAMPUS is to set up a **job promotion programme based on R&D&I activities** that take advantage of research results to create jobs. This program-

me will be partnered, inter alia, by the Valencian Region's Technology Institutes Network (REDIT) and the VLC/CAMPUS Science Parks.

⁷ Set up after the 2009 Campus of International Excellence call for proposal

⁸ Staff hired for valorisation in the PETRA programme funded by the Ministry of Science and Innovation and Innova Programme resources for proof of concept

2.2.5. SCIENTIFIC OUTREACH PROGRAMME

The promotion and dissemination of science and technology are an important part of the rationale behind a project like VLC/CAMPUS, which seeks to contribute to finding the best solutions to the problems of our society and globalised world. Awakenning a passion for research in young people, using everyday language to explain the research carried out in its laboratories, showing the impact of scientific technological innovations on our environment, etc., are essential aspects of VLC/CAMPUS scientific policy. The following measures and instruments are used to carry out this task.

2.2.5.1. INTERINSTITUTIONAL SCIENTIFIC CULTURE UNIT

VLC/CAMPUS is to set up an **Interinstitutional Scientific Culture Unit** in order to publicise project results and objectives. To do this it will maintain close ties with the media, other campuses of excellence, government agencies, etc. and will take actions that lead to beneficial alliances. The Unit will design, run and implement a **Comprehensive VLC/CAMPUS Scientific Communication Plan** to manage internal flows to consortium members and external flows to its immediate environment and abroad. It will also:

- Map out the VLC/CAMPUS science dissemination project and agree it with the consortium's governing bodies.
- Promote the activities of the Science Outreach Chair in the campus's specialised areas.
- Boost the international visibility of the VLC/CAMPUS scientific and technical programme.
- Annually publish in three EU languages an issue of the journal MÉTODE about scientific production for health, communication and sustainability.

- Run EXPOCIENCIA and the other activities in the science parks outreach programme in the campus's specialised areas.
- Publicise VLC/CAMPUS activities in the university community, among CSIC staff and the other members of the Strategic Consortium
- Facilitate the flow of information and ideas between VLC/CAMPUS and its environment.
- Convey a powerful image to stakeholders (students, companies, institutions, universities, society in general, etc.) so that they perceive it in the desired way in accordance with its vision and objectives.
- Manage the scientific reputation of VLC/CAMPUS.

These scientific communication goals will pay particular attention to the European and international visibility of VLC/CAMPUS.

The **Interinstitutional Scientific Culture Unit** will seek to ensure the adequacy and effectiveness of actions taken and a common message and consistent discourse in information supplied.

2.2.5.2. SCIENTIFIC DOCUMENTS ARCHIVE

VLC/CAMPUS will document the main achievements in the action plans related to improving research and knowledge transfer and will set up a **scientific documents archive** for the campus. Once drawn up, this in-

formation will be distributed in the most appropriate way to consortium members, thus helping to maintain coherence and a sense of belonging to the campus structure for consortium members.

2.2.5.3. SCIENTIFIC AWARENESS AND COMMUNICATION PLANS

The Unit will seek to raise awareness in the immediate environment of VLC/CAMPUS through the implementation of a **Regional Awareness Plan**, designed to engage society in scientific and technological developments. It will promote effective dialogue between the campus and its environment that will further training for the commu-

nity with education in values and understanding and respect for knowledge generation as a tool for progress. In this respect, the main achievements of VLC/CAMPUS will be publicised with stress placed on their social utility.



2.2.6. STRENGTHENING THE VLC/CAMPUS SCIENCE PARKS

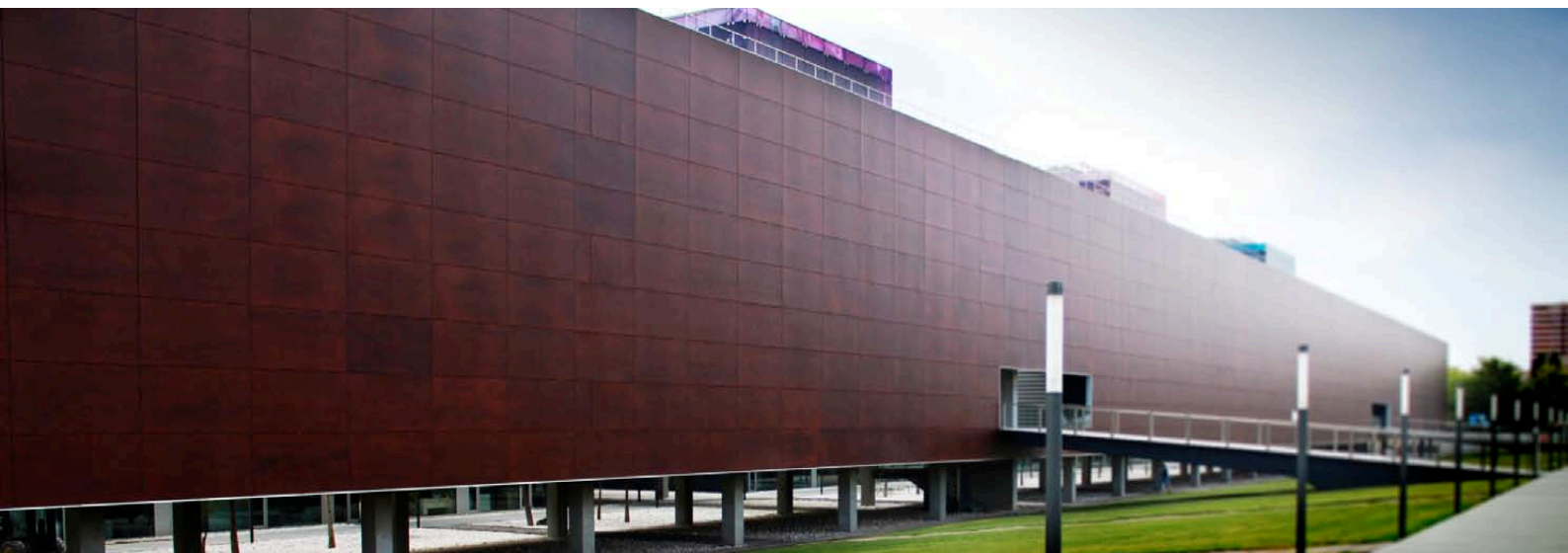
VLC/CAMPUS has two science parks in its facilities: the University of Valencia Science Park and the Polytechnic City of Innovation at the Universidad Politécnica de Valencia. Both parks are members of the Spanish Association of Science and Technology Parks (APTE) and the International Association of Science Parks (IASP). VLC/CAMPUS seeks to implement a coordinated process of strengthening and specialisation of its science parks as tools that connect science, technology, business and the market. Thus, VLC/CAMPUS is to create the **largest area for joint research** between universities and business in the Valencian Region and one of the largest in Spain.

2.2.6.1. COORDINATED STRATEGY OF EXCELLENCE FOR VLC/CAMPUS SCIENCE PARKS

VLC/CAMPUS is to map out a **coordinated strategy of excellence** for the University of Valencia Science Park and the Polytechnic City of Innovation at the Universidad Politécnica de Valencia to turn them into a meeting point for all science and technology agents in the Valencian Region and thereby encourage and support diversification and the growth of a new, premium quality and differentiated business and industrial community. In addition, and bearing in mind that the parks are located in the city, this strategy will entail involvement in the development of their urban area and visibility for Valencia as an international scientific and technological hub.

The VLC/CAMPUS parks strategy is based on **networking and open innovation**. VLC/CAMPUS will be involved in the genesis and consolidation of the **Valencian Science Parks Network** (rePCV) as a key instrument in the coordination of Valencia's R&D&I resources.

VLC/CAMPUS will map out the structures required to help the firms in its science parks to **grow quickly**. There will be a **Venture Accelerator** which will deliver the knowledge, capital, talent and access to networks and specialised markets that allows them to be truly competitive internationally.



The division of VLC/CAMPUS into three specialised areas (health, information/communication and sustainability), with three joint innovation platforms, will entail promoting these three areas as specialised areas in its science parks. Amongst other things, **specific business incubators** will be set up for each of the campus's specialised areas.

The science parks are an important component that shows society the work done in research and university research results transfer and their support for the founding of businesses based on innovative knowledge. In this respect there will be **coordinated dissemination of science and technology which will complement the VLC/CAMPUS scientific outreach programme.**

2.2.6.2. INTERNATIONALISATION OF THE VLC/CAMPUS SCIENCE PARKS

VLC/CAMPUS will promote international partnerships among its science parks with the following objectives:

- International projections and participation in European projects facilitating the relationship and contact with other actors and sectors, especially the financial sector (venture capital).
- Building strategic alliances and joint venture agreements between businesses, usually located in science parks themselves, or between firms and technological innovation platforms VLC/CAMPUS.
- A sufficiently large consolidated spin-off in order to promote alliances, mergers and acquisitions that

lead to a more powerful technology-based entrepreneurial and internationally competitive.

- Establishment of a marketing strategy, drawing on the international image of the science park, promote the attraction of technology companies.
- Access to international networks of seed capital and venture capital, intellectual property experts and legal issues.

The science parks' specialisation and concentration of resources in the VLC/CAMPUS areas will improve their international visibility and outreach. It will also be a boost to the **talent recruitment and scientific outreach programmes.**

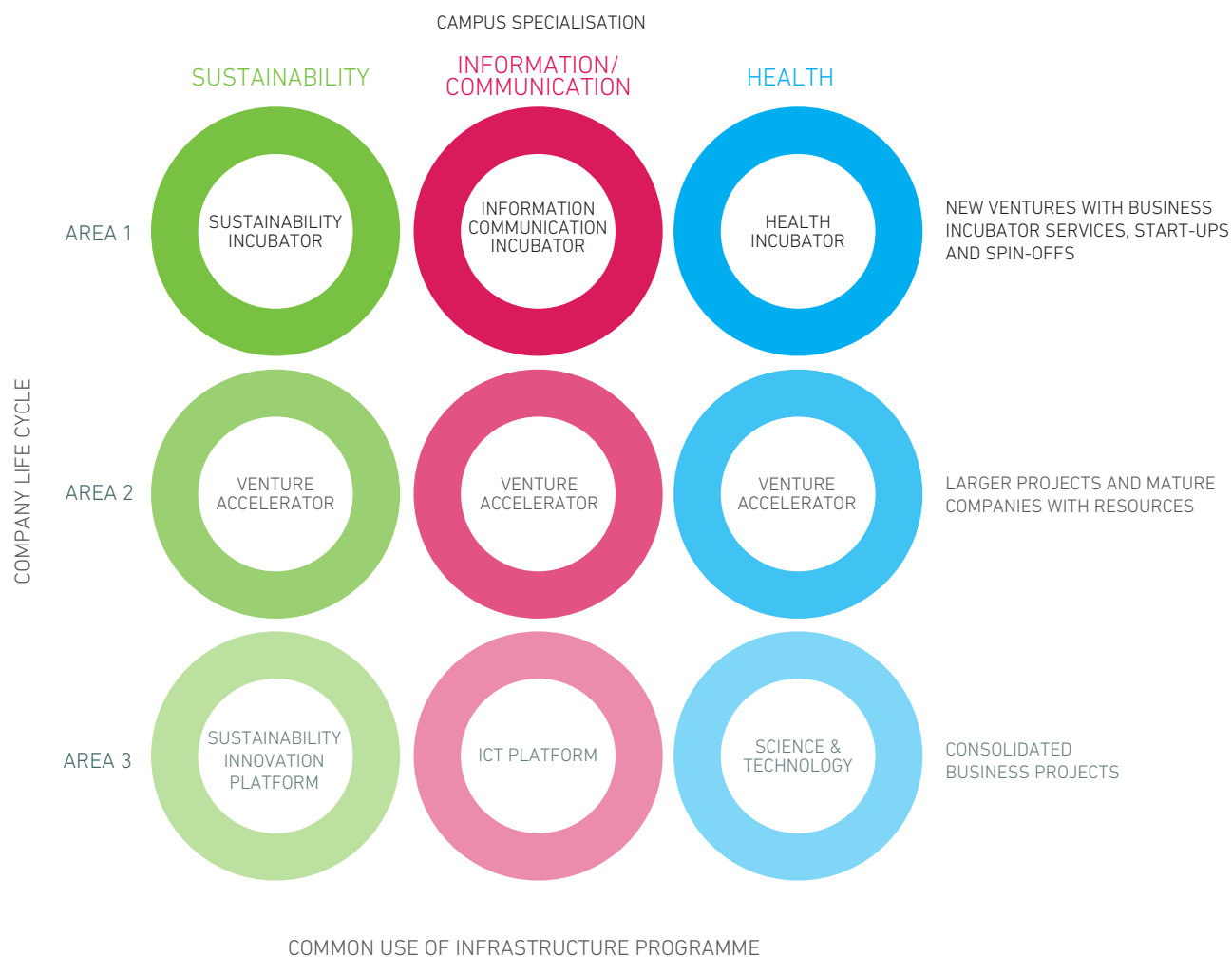


Figure 5. Specialisation of the campus and its science parks and the services to be supplied based on the life cycle of the company

2.2.6.3. RESTRUCTURING OF THE SCIENCE PARKS' CAPACITY

Restructuring the parks around VLC/CAMPUS firstly involves **increasing available resources**. This will entail **expanding facilities** at the University of Valencia Science Park and **buying additional land** for the Polytechnic City of Innovation at the Universidad Politécnica de Valencia.

Technology-based companies require different services depending on where they are in their lifecycle. All of them will have available the services offered by the **programme for common use of VLC/CAMPUS infrastructure**, although specific services will be set up based on the level of maturity of the companies, in line with the Surrey

Research Park model in the UK. There will be a **specific area for new ventures**, where primacy will be given to business incubator services, programmes for start-ups and the creation of university spin-offs (in cooperation with VLC/CAMPUS entrepreneurship programmes). There will also be a second **venture acceleration area** for larger projects or ones with a greater degree of maturity. All this is complemented by a third **consolidated ventures' area** which will make heavy use of the **Joint Innovation Platforms** and the **Central Science and Technology Services**. These services are outlined in *Figure 5*.

2.2.7. RESULTS IN 2015

Table 9 features quantitative indicators in this area and the forecast for 2015.

INDICATOR	CURRENT VALUE	2015 VALUE
No. of coordinated European projects	19	22
No. of publications indexed in ISI-ESI	4,227	5,000
ISI publications/full-time lecturer-researcher	0.8	1.1
No. of joint publications in SCI *	756	975
No. of researchers from other institutions	168	200
No. of spin-off companies in the last 4 years	28	35
No. of patents currently in force	482	550
European funds/full-time lecturer-researcher	2,182 €	2,814 €
Research and technical support contracts/ full-time lecturer-researcher	8,178€	10,000€
No. of firms in science parks	83	100
Attracting talent to VLC/CAMPUS:		
1. Pre-doctoral grants	0	10
2. Programme of stays in of researchers of renown	0	6
3. 3. Post-doctoral stabilization Programme	0	12

Table 9. 2015 indicators for scientific improvement and knowledge transfer
(*) Publications signed by researchers of at least two of the institutions



2.3. TRANSFORMATION OF THE CAMPUS FOR THE DEVELOPMENT OF AN INTEGRAL SOCIAL MODEL

VLC/CAMPUS, in line with its outlook, proposes transforming the campus in a public area in which university life is promoted, citizen participation and the social dimension of further education, as the basis for establishing a focal point of creativity, innovation and tolerance. This entails a **new outlook** on the ecological enclaves of this knowledge centre, an outlook that leads us to see them not only as functional areas (for teaching and research), but also as **vital areas**, attached to the city, in a way that if they are attractive for the people who learn, work, teach and research there, they will also be so for the inhabitants of the city.

There are three strategic objectives that comprise this outlook:

- To create an integrated university campus that works as an ecosystem of knowledge, covering the different dimensions thereof and oriented towards university values through global logic.
- To promote a coherent model of interaction with the environment based on open innovation capable of integrating the diversity of its players and dimensions.
- To drive the **innovative, structuring nature** of VLC/CAMPUS, with regards to the territory.

2.3.1. STARTING POINT



Figure 6. Student VLC/CAMPUS collecting prize Sports Council

AWARDS TO VLC/CAMPUS ATHLETES

Sugoi Uriarte Marcos

Award-winning university athletes Sports Council

Maurice Far Eckhard Tió

Honorable Mention awards for university athletes Sports Council

Ana Torrijos Caparrós

Fourth place awards in the Sports Council and the Women's Institute

In this transformation process of the campus model, there are many initiatives and actions that have improved the university area and which are contributing to the attainment of the strategic objectives put forward.

An Environmental Management Scheme has been implemented and a scheme of continuous improvement in environmental practices has been established. As a result of this effort, VLC/CAMPUS is the first campus, and the largest in Europe, that has achieved **EMAS Environmental Certification** (Eco-Management and Audit Scheme), the voluntary standard in the European Union that recognizes those organisations which have implemented an Environmental Management Scheme and which have undertaken a commitment to continuous improvement, through independent audits.

Likewise, **universal accessibility certification** at the campus has been obtained in the main facilities and it is the first campus to be awarded this certificate in accordance with the UNE 170001-2:2007 standard. For that purpose, the special action plan concerning universal accessibility was drawn up with a study/diagnosis of integral accessibility through a detailed evaluation of the buildings and roadways in the areas comprising VLC/CAMPUS. This project arose as the result of the signing of a cooperation agreement with the Ministry of Work and Social Affairs and the ONCE Foundation (Spanish Society for the Blind) for Cooperation and Social Integration of Differently Abled People, with financial cooperation by the European Regional Development Fund.

In the field of sports, the promoters of VLC/CAMPUS are positioned among the Spanish universities which have most strongly driven university sport, as is evident from the 176,299.69 m² assigned to sports facilities that provide a special infrastructure for 72 different sporting specialities. This major investment in sports facilities has been strongly backed by the university community, as can be seen by the fact that over 36,814 students are involved in some kind of sporting activity, and 11,632 have participated in competitions. Thanks to the support programmes for top level sportspeople on the campus itself, we have one of the **highest number of elite sportspeople** that can be found at a national level in a university environment.

Establishing a coordinated sports policy has already led to significant results at VLC/CAMPUS, such as the winning of the **Joaquin Blume National Sports Prize**, awarded by the **Higher Sports Council** to educational centres which stand out because of their Sports Promotion and Development work which we have held since 2000.

In 2009 it won the third prize in the Sports Council, Women's Institute for the promotion of women's sports. In the same year the Sports Council has awarded two athletes from VLC/CAMPUS as the best athletes at the national level, receiving the first and second prize at the institutional level UPV received third prize in the Women's Institute and in addition to this acknowledgement, some very relevant sporting achievements have been reached. Among said achievements the conquering of major mountain peaks such as **Everest, Kilimanjaro and Elbruz** are particularly noteworthy that were climbed in the ambitious **7 Summits Project**. VLC/CAMPUS organised the 1st Latin American University Sports Meeting in which the best representatives of university sport from 29 Latin American countries were accredited, in addition to representatives from Portugal, Italy, the United States and Canada. VLC/CAMPUS sportspeople have won several medals, and diplomas in competitions both nationally and internationally, with an outstanding participation in the **Beijing Olympic Games, World Championships, European Championships, the Tour of Italy and the Paralympic Games**.

As for sports management, the Sports Services were recently awarded the **AE-NOR certificate No. ER-0921/2010** that endorses conformity of their management practices to the UNE-EN ISO 9001:2008 standards.

VLC/CAMPUS is an aggregate that combines the wealth of institutions that jointly have over 500 years of history with the dynamism provided by other more recently established ones. The combination of a long history, correct conservation policy and wide cultural activity means VLC/CAMPUS has a **valuable monumental, architectural, artistic and documental heritage**. Some examples of this are the historic building in Calle de la Nave (University headquarters since 1499), the Rector Peset Hall of Residence, the Palau de Cerveró, the Jardí Botànic (Botanical Gardens), the Rector's Building and the Faculty of Medicine and Dentistry in the Blasco Ibañez Campus, the Luis Vives Hall of Residence and the wealth of its historical libraries (Somni, Els nostres tresors, Europea Regia).

VLC/CAMPUS is established in an urban environment with a deep university tradition, and consequently can be considered a deeply-rooted **centre of knowledge with citizen-based vocation**. From the historical roots a major **architectural and cultural wealth** has grown which the academic and scientific community feels proud of and which is the subject for attention by VLC/CAMPUS⁹. Stemming from its citizen-based vocation, **dissemination through the metropolitan area** is evident, resulting from its growth in parallel to that of the city and its hinterland. This urban capillarity process has made it an open, permeable university, dispersed and immersed in the city: in the Vera and Tarongers Campus, in Blasco Ibañez and in the Burjassot/Paterna Campus. **VLC/CAMPUS is integrated in the city** providing and offering areas of dissemination, spaces for cultural and artistic conventions, for debate and creation of new ideas, social care services, and a wide conjunct of establishments for **tertiary use** (banking offices, shops, restaurants, etc.). Because of that VLC/CAMPUS is a knowledge centre that tries to integrate its urban and architectural development, its metropolitan permeability, its creativity and dissemination capacity in line with urban growth, and its roots and legacy of heritage.

The **commitment to the educational system** in general and to Higher Occupational Training, in particular, is a well-seated and consolidated reality. In addition to regular contacts with secondary schools and Higher Occupational Training Schools (OTC), the practical education carried out by students at research centres on VLC/CAMPUS through the Grants Scheme for Training of Personnel for Technical Research Support (FPATI) must be emphasised. The collaboration in training and undertaking of practical education by dentistry students at the Faculty of Medicine and Dentistry since the early 90's is also worthy of a special mention.

In accordance with this starting point, VLC/CAMPUS proposes jointly undertaking action to further transform the campus model as illustrated in *Figure 7*.

⁹ See culture and heritage action

VLC/CAMPUS PORTICO BUILDING	IMPROVE SERVICES AND LIVING CONDITIONS	MEJORA EN LA COMUNICACIÓN INTERNA	IMPROVE INTERNAL COMMUNICATION	SOCIAL RESPONSIBILITY AND CITIZENSHIP
VLC/CAMPUS Foundation	Programme of universal accessibility and integration	International Plan of wireless communication	Equality Plan	Center of Lifelong learning
Construction of VLC/CAMPUS Portico Building.	Improve the offer of languages	Master Plan of sustainable mobility and transportation	Master Plan of health and sustainable energy	Voluntary and solidarity programme
Development of government bodies	New Headquarters of the Confucius Institute		Bringing VLC/CAMPUS to the Spanish Network of Healthy Universities (REUS)	Knowledge-Based Activities Observatory (ABACO)
EIPDV headquarters	Employability and employment programme			University Center for Early Intervention for Children with Disabilities or at risk
Headquarters of Interuniversity International Exchange /Headquarters of Innovation and Strategy Centre	Programme of prevention of occupational hazards			Participation in the State Reference Center of geriatric care for people with severe mental disorder
CULTURE AND HERITAGE	PROGRAMME FOR THE PROMOTION OF SPORTS AND PHYSICAL ACTIVITY	CAMPUS-CITY LINKS	COMMITMENT TO LOCAL DEVELOPMENT	
Heritage Conservation	Study of the forms of relationship between universities and the Vocational Training College (FPGS) in neighboring countries	Restructuring of the campus.	Territorial compromise with local councils.	
Natural History Museum	Report of FPGS in the metropolitan area of campus	Construction of new infrastructure	Promotion of the International Centre Gandia	
Conservation and dissemination activities of the Botanical Garden	Programme of cooperation in the fields of information and guidance between FPGS and the University		Open Knowledge Network	
Culture development program	Scholarship program for the training of technical support for research (FPATI)		Restructuring 1931 Public School of Ontinyent	
VLC/CAMPUS sponsorship programme	Feasibility study of FPGS Integrated Centres			
Alfons Roig Hall				
Josep Renau Exhibition Hall				

Figure 7. Transformation of the campus for the development of an integral, social model

INDICATOR	VALUE
No. of student meeting points	108
No. of sports facility users	36,814
No. of participants in sports competitions	11,632
Surface area assigned to practicing sports	198,299.69m ²
No. of e-administration procedures	18,876
No. of attendees to cultural activities	286,983
Percentage of the campus without architectural barriers	80%
Percentage of the campus with the adapted emergency plan	82%
Percentage of the surface area with water monitoring	100%
Percentage of the surface area with gas monitoring	100%
Percentage of the surface area with electricity monitoring	100%
No. of clean points	1,296
No. of student employment offers	1,393
No. of participants in voluntary, aid and cooperation schemes in which the university takes part	2,029
Hazardous waste collection (Kg)	80,590
Sorted paper and cardboard collection (Kg)	560,604
% average of women holding professorships at the University versus the average of Spanish universities	17'71% / 15'36%

Table 10. The most significant transformation indicators in the campus for the development of an integral, social model



2.3.2. VLC/CAMPUS PORTICO BUILDING

VLC/CAMPUS will build an emblematic, functional building, a symbol of identification for this project and permanent headquarters for its governing bodies. This building, designed in accordance with sustainability and energy efficiency criterion, based on the post-crisis architectural vision, which centres on the human dimension in habitable areas and on the concept of educational campus, will be located at the main entrance to VLC/CAMPUS, at the entrance to the city of Valencia from the Barcelona highway, and in an environment (in front of the building is the Higher Public Health Research Centre), where not only the articulating axes of the project physically converge, but also symbolically (health, information/communication and sustainability) and opens the gate to the Tarongers-Vera Campus.

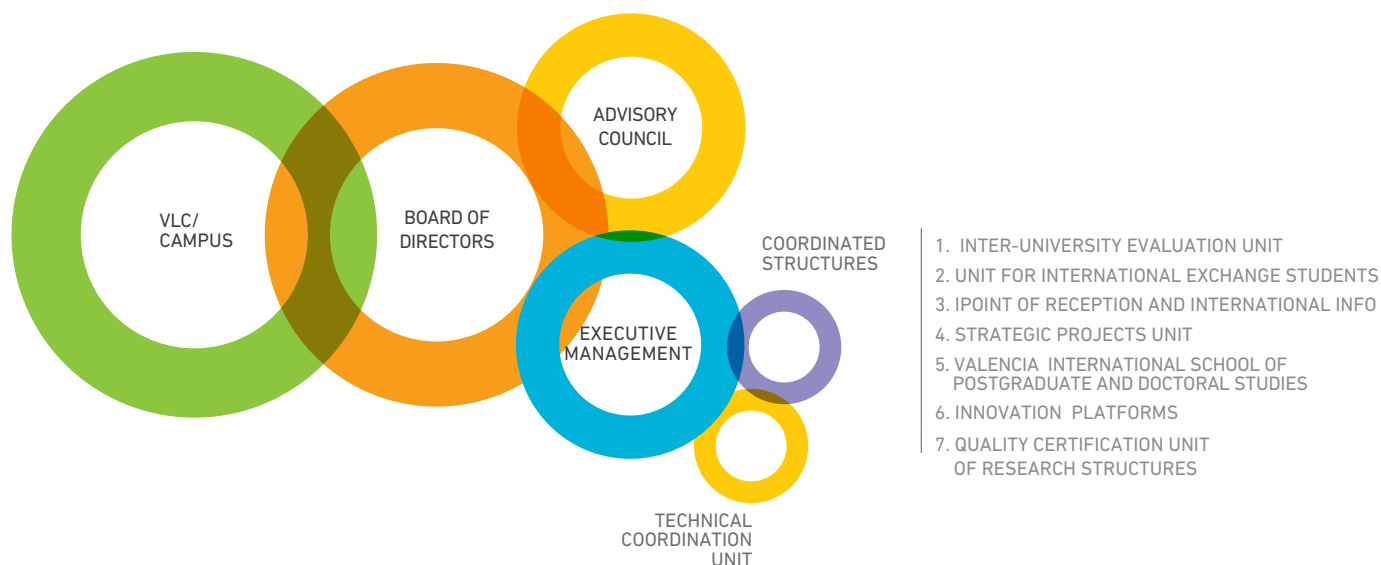
The building will be constructed on a surface area covering 5000 m² and will house the main VLC/CAMPUS services as well as playing a symbolic role as an area to unite the promoter and associate institutions of the projection of VLC/CAMPUS in the environment and its contribution to social and territorial improvement.

From a functional point of view the Portico VLC/CAMPUS building will centralise a major part of its services, thereby avoiding the dysfunctions that arise through the dispersion of centres and work areas around the campus on the one hand, and on the other, excessive human and material resources that are unnecessarily costly and not very efficient.

Through its name "**Portico VLC/CAMPUS Building**", the concept of "campus gate to the territory" is developed (see later the **campus/city coordination** action); which will house the Interuniversity Unit for International Exchange Students, the headquarters of the International Postgraduate and Doctorate School of Valencia, the Innovation and Strategy Centre and the Knowledge-Based Activities Observatory (ABACO). Furthermore, a number of multifunctional areas will be fitted out and the principle support services for VLC/CAMPUS will be established there.

The **VLC/CAMPUS Foundation** will be established which, among other matters, will be in charge of construction and management of the building.

In accordance with the **universal accessibility and integration scheme**, the design and execution of the construction work will be supported by specialised consultancy services provided by the ONCE Foundation (Spanish National Society for the Blind).



2.3.2.1. VLC/CAMPUS GOVERNING BODIES

The VLC/CAMPUS Portico Building will be the headquarters of the governing bodies: **VLC/CAMPUS Foundation and Administration Council, Consultancy Council, Executive Management and Technical Coordination Unit.**

Furthermore, the promoters of the **Joint Innovation Platform** will have their appropriate space.

2.3.2.2. HEADQUARTERS OF THE INTERNATIONAL POSTGRADUATE AND DOCTORATE SCHOOL OF VALENCIA

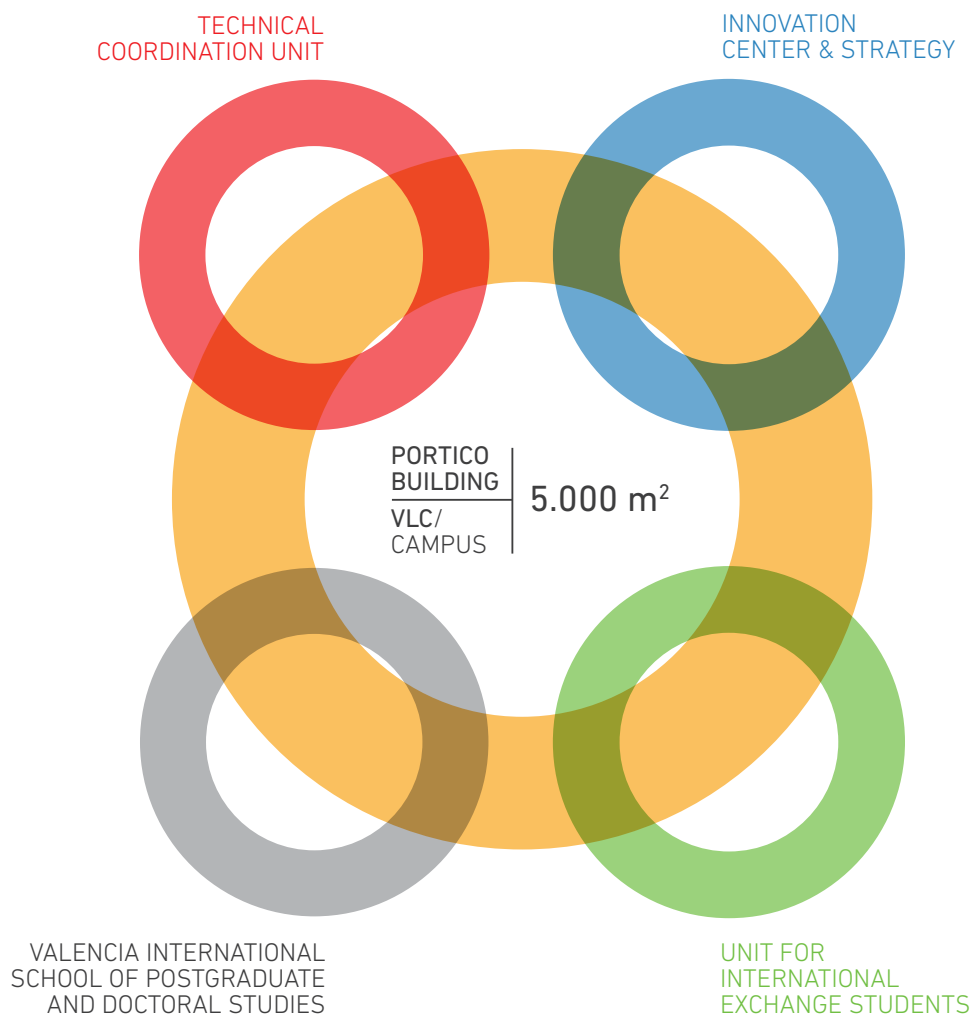
The Portico VLC/CAMPUS Building will house the Headquarters of the International Postgraduate and Doctorate

School of Valencia, with the necessary space for its operations.

2.3.2.3. INTER-UNIVERSITY UNIT FOR INTERNATIONAL EXCHANGE STUDENTS

The entrance gate and the welcome area to this building concord well with the function of attending and providing support to international Exchange students. Therefore, the Portico Building will have offices and services as required for the Inter-University Unit

for International Exchange Students. Furthermore, the adjoining International Postgraduate and Doctorate School will enhance efficiency in providing services to those who require complementary attention.



2.3.2.4. INNOVATION AND STRATEGY CENTRE

This centre consists of an organisational structure designed to promote open, permanent debate among the different social players involved in socio-

economic development. Its presence in the Portico Building will contribute to making VLC/CAMPUS's commitment to the territory more visible.

2.3.2.5. KNOWLEDGE-BASED ACTIVITIES OBSERVATORY (ABACO)

This observatory, established in close collaboration with the Innovation and Strategy Centre and led by the **Valencian Institute for Economic Research**

(IVIE) has the objective of producing rigorous, reliable information at a national level about the trends followed by knowledge-based activities.

2.3.2.6. MULTI-FUNCTIONAL AREAS VLC/CAMPUS

The Portico VLC/CAMPUS Building will have **multi-functional** areas to

support activities related to campus representation.

2.3.3. IMPROVEMENT OF SERVICES AND LIVING CONDITIONS IN THE CAMPUS

The reforms put forward by the EHEA increasingly emphasise the importance of the social dimension, and within that dimension the need to pay attention to the living conditions of people who study and work on the campus. VLC/CAMPUS will improve the full range of complementary services to favour a successful university trajectory through policies and programmes relating to universal accessibility, choice of languages, integration, employability and occupation.

2.3.3.1. UNIVERSAL ACCESSIBILITY AND INTEGRATION SCHEM

The **Universal Accessibility and Integration Scheme** takes its starting point from the recommendations defined in the **ONCE Foundation Reports** about **info-accessibility and accessibility** in the environment and in services and processes, in accordance with the 2009 Campus of International Excellence convention and the **universal accessibility certification** already obtained for many of the buildings on the campus. The objective is to guarantee that everybody, regardless of their physical condition, is able to actively take part in all the VLC/CAMPUS programmes and schemes.

As a key component to the universal accessibility and integration scheme, a **Global Accessibility Management System** will be implemented through the UNE 17001, 1-2 certification processes, **widening the scope of certi-**

fication of universal accessibility quality to all the areas on VLC/CAMPUS. Specific action will be taken with the campus **furniture** based on accessible design, special **signs** will be implemented for people with impaired vision or hearing, improvements will be made to building access on the campus, promoting elimination of existing architectural barriers.

Technical support will be studied that could promote a higher degree of autonomy by means of a number of measures aimed at **socio-labour integration** of differently abled people.

Within the framework of the **sports promotion scheme and physical activity** (See point 1.1.3.5) and with the objective of facilitating sports to differently abled people, an **accessible sports scheme** will be implemented.



2.3.3.2. IMPROVEMENT IN THE CHOICE OF LANGUAGES

VLC/CAMPUS intends to strengthen the multilingual competences of the members of the campus from two different aspects: the teaching structure and unaccredited training. The first has been dealt with in the **academic mobility and internationalisation plan** (see section 2.1 of improved teaching), by means of English groups in the different graduate and post-graduate qualifications. The second will promote a wide range of languages available to members of the campus depending on their specific needs.

Different services, distributed around the whole campus will provide complementary training opportunities: *Centro de Idiomas SL* (Language Centre), Self-learning Language Classes and the *Centro de Lenguas* (Language Centre) provide support for profes-

sors, language courses, preparation for official exams or translation and proofreading of scientific articles.

Furthermore, VLC/CAMPUS is home to an **Instituto Confucio (Confucius Institute)**. In 1987 this institute was founded whose main mission is to promote and strengthen cooperation relations in the field of education and to promote teaching of Chinese in the whole world. The Confucius Institute Centre in the city of Valencia is one of the four currently existing in Spain and in 2008 was rated among the best 20 in the world. Through this institute VLC/CAMPUS backs its internationalisation and welcomes all cultures from around the planet, offering its resources and mobility programmes and boosting cultural intermediation with Asian countries.

2.3.3.3. EMPLOYABILITY AND OCCUPATION SCHEME

This scheme aims at complementing the training of VLC/CAMPUS students through providing them with their first work experience within the university environment where they are carrying out their studies. Students may gain access to remunerated tasks, which will provide them with work experience and training at the same time hence making them more **employable**.

Students involved in the framework of this scheme will be able to carry out activities such as support for sporting and cultural events, conferences and workshops, organised on or around VLC/CAMPUS, or collecting data and field work for specific campus management activities.

2.3.3.4. OCCUPATIONAL RISK PREVENTION SCHEME

VLC/CAMPUS undertakes diverse, coordinate schemes in terms of **occupational risk prevention** (Social Action, Occupational Risk Plans, Training and Specific Awareness Programmes, Promoting Applied Research) aimed at minimising the hazardous effects

entailed in occupational activity. The scheme will deal with all activities on the campus and will pay special attention to those that represent high risks, such as those in laboratories where work is carried out with products that require additional safety measures.

2.3.3.5. SPORTS PROMOTION AND PHYSICAL ACTIVITY SCHEME

VLC/CAMPUS considers sport in its widest most complex sense covering competition, leisure, recreation, physical activity and health, as an indissoluble part of university activity at a Campus of International Excellence and taking into account the recent agreement between the Ministry of Education and the Higher Sports Council, which sees sport as a key element in the definition of excellence of the new campus model. In this sense, VLC/CAMPUS proposes a **sports promotion** scheme to boost physical and sports activity within the educational project at VLC/CAMPUS.

VLC/CAMPUS already has high level **sports infrastructures** which, within the framework of the Campus of International Excellence programme, we intend to **improve, modernise and make more accessible** to differently abled people. In conjunction with the **universal accessibility and integration scheme** we will adapt the insta-

llations as necessary in order to facilitate sport to differently abled people. In order to position VLC/CAMPUS as an international reference in university sport, we will promote participation of VLC/CAMPUS members in **national and international sport competitions**, we will further our **support programme for top level sportspeople** increasing the number of elite sportspeople who combine their sport with university education at the highest level.

VLC/CAMPUS's commitment to sport is reflected in an **annual investment of 1% of the budget** in programmes to promote sporting activity and federated university sport.

The sports promotion programmes are **complemented** through teaching and research activities that are carried out in areas of specialisation on VLC/CAMPUS (health, information/communication and sustainability).

2.3.4. IMPROVEMENTS IN INTERNAL COMMUNICATION

An aggregation project such as VLC/CAMPUS inevitably generates needs in terms of physical and virtual communication. In this sense, the two improvements put forward try to cover both these dimensions of communication. Improved communication will also help VLC/CAMPUS to promote new, more efficient methods of working that do not depend on the physical location of the people involved. All this will positively benefit internal communication on the campus and it will also be a complement to the **campus / city links** action in that it will improve integration of the campus with the metropolitan area.

2.3.4.1. INTERNATIONAL WIRELESS COMMUNICATION PLAN

Today, VLC/CAMPUS provides wireless connectivity in practically 100% of the university areas, permitting all members of VLC/CAMPUS (students, administration staff, researchers and professors) to make use of wireless resources that provide them with access to the internet or scientific and management applications regardless of their physical location. The communication plan **will extend common wireless connectivity services to other non-university areas** linked to VLC/CAMPUS where there is strong collaboration.

The international side to wireless communication at VLC/CAMPUS is articulated through better **implication in the world eduroam connectivity project**. This project has established

a secure world mobility service developed for the academic and research community. The service enables students, researchers and staff in the institutions participating in eduroam to have internet connectivity in their own campus and when they visit other participating institutions. Increasing awareness of the advantages of using the eduroam network among the members of VLC/CAMPUS is an important tool that will facilitate **international mobility**.

The campus will actively contribute to **extending the eduroam network** among its aggregates and those international reaching institutions who we participate with and who are not yet members of this initiative.

2.3.4.2. MOBILITY AND SUSTAINABLE TRANSPORT DIRECTOR PLAN

VLC/CAMPUS has **four urban campuses** and different facilities spread mostly around towns in the Valencian Community (Valencia, Burjassot, Paterna, Gandía, Alcoi and Onteniente).

The VLC/CAMPUS area is a living ecosystem where around 100,000 people come together every day, from different parts of the metropolitan area around the campus and in doing so create the need for mobility, both outside and inside the different campus. The impact of so many people travelling must be managed correctly to avoid disproportionate growth in the use of private transport and to promote sustainable transport.

The campus will act as a mobility model for the rest of the city, appointing

a **mobility and sustainable transport director** with special emphasis being placed on finding alternatives that are able to reduce the need to travel in private cars. We will encourage a culture in which **the use of alternative modes**, such as public transport or bicycles, will be the preferred choice by members of VLC/CAMPUS. In this sense, it will be necessary to collaborate with Town and City Halls in the different areas where the campuses are located. In order to do so, **specific agreements** will be signed with local authorities to promote the creation and improvement of their infrastructures and provide the resources necessary to establish a **Campus – City Sustainable Mobility System**.

2.3.5. PROMOTING UNIVERSITY VALUES

VLC/CAMPUS will encourage a **campus of values**, increasing awareness and introducing improvements in the different schemes that are being carried out. This action will centre on promoting equality and establishing a **Campus Health and Sustainability Director Plan**.

2.3.5.1. EQUALITY PLAN

VLC/CAMPUS proposes providing suitable means for the specific organisational structures and developing of effective equality policies to achieve the integral social campus model and to generate the corresponding cultural change in the society. The objective is to gradually make progress towards establishing a campus where effective equality between women and men is ingrained in all dimensions and functions of university activity.

Among the action envisaged, are the following items:

- Action aimed at promoting specific organisational structures and their action plans, such as the case of the

Equality Units, the Equality Observatory, updating of diagnosis reports, reviewing equality plans, etc.

- Action aimed at increasing awareness and training in the University Community and the society (training and awareness workshops, sexual harassment prevention campaigns, positive discrimination, etc.).
- Action aimed at specialist, advanced training in the subject of effective equality (postgraduates, research projects and grants).

2.3.5.2. HEALTH AND SUSTAINABLE ENERGY DIRECTOR PLAN

The Health and Energy Sustainability Director Plan will promote renewable energy and action involving energy efficiency. An **Environmental Quality Plan** will be drawn up, and in conjunction with the **Mobility Director Plan**, will include the environmental ethics for all activities carried out on the campus, promoting its exemplary and educational function for the university community and society.

- **Promotion of renewable energy** will strengthen the currently existing facilities (**urban solar energy farms** on rooftops and a **cogeneration station** at the Tarongers Campus).
- In order to promote sustainable behaviour, **Curricular Sustainability**

will be promoted, i.e., complementary training for all the university community, especially for students.

VLC/CAMPUS will be included in the **Spanish Network of Healthy Universities (REUS)** comprising a dozen universities and health institutions in six autonomous communities and the Health Ministry with the objective of developing optimum spaces for personal and social development both physically, psychologically and socially. The objectives of this network will be adapted to the particularities that are identified during the undertaking of the Health and Energy Sustainability Director Plan.

2.3.6. SOCIAL RESPONSIBILITY AND CIVIC RESPONSIBILITY

Training for personal development and for civic responsibility represent actions that widen the traditional educational function of a University. VLC/CAMPUS brings together the currently existing offers relating to social commitment and civic responsibility in one plan to create new programmes that enhance the metropolitan campus status, providing community services and close links to society.

The different initiatives presented here are specific tools that will channel a number of services developed at VLC/CAMPUS towards society in order to improve the quality of life of people involved in the fields of teaching, research and care.

2.3.6.1. LIFETIME TRAINING CENTRE

In a society where knowledge is the key to social inclusion and personal development, and where individuals are immersed in a process of continuous learning, it is necessary to establish instruments beyond informal learning in which these demands are accommodated for. Therefore, VLC/CAMPUS proposes, based on its successful services relating to lifetime training, **to create a centre** that coordinates, channels and makes itself visible to society in all training-related activities throughout their lives carried out on VLC/CAMPUS.

This centre, which will have a **newly constructed building on the campus**, will meet the new training demands.

These activities will be developed around three fields of specialisation at VLC/CAMPUS: health, information/communication and sustainability.

A knowledgeable society entails innumerable advantages, but it is also associated with risks of social exclusion of certain social groups, owing to assorted reasons, who have not been able to acquire the knowledge necessary to become fully integrated in society. VLC/CAMPUS, will develop a number of training activities with the objective of reducing those risks. The first effort will centre on the elderly social group with wanting educations or with the need to update important knowledge. For this purpose the exis-

ting programmes that have been underway in recent years at **La Nau Gran and Universidad Senior** will be coordinated and further developed.

As for **improving and updating knowledge**, the Lifetime Training Centre will further develop the service that both universities provide to their socio-economic environments in the Valencian Community. It will centre on coordinating their **own inter-university qualifications**, harmonising the choice of short-term training and boosting the services of scientific/technical conferences.

Conferences have become a powerful educational tool based on exchanging experiences and knowledge through a strong social component. They are also a key item in the international exposure of cities and institutions. The Lifetime Training Centre **will coordinate the conference services** for both universities, with the objective of **making VLC/CAMPUS the main scientific / technical conference centre in Southern Europe**.

2.3.6.2. VOLUNTEER AND SOLIDARITY PROGRAMME

UV (Valencia University) and UPV (Valencia Polytechnic University) have been developing different volunteer and international cooperation programmes, through which the members of the respective academic communities are able to express their vision of solidarity in a practical way. **VLC/CAMPUS**

intends to coordinate these programmes and jointly promote involvement in them by most of their members in this specific social commitment, by participating in university associations, civic associations and social movements.

2.3.6.3. INNOVATION AND STRATEGY CENTRE

Being an area of innovation, **VLC/CAMPUS** requires permanent connection with the environment to accelerate its innovation processes. With the Innovation and Strategy Centre a tool will be created that will coordinate and materialise this kind of interaction around an **open innovation model**, through flexible methodology that deliberately uses the flow and feedback of knowledge to accelerate innovation processes.

The Innovation and Strategy Centre will work as a think-tank to approach

development strategies in the Valencian Community promoting open debate about social opportunities and economic growth guidelines, in which experts and social agents committed to social welfare, quality of life and the European social model will take part.

The Centre will work in close collaboration with the **Knowledge-Based Activities Observatory** and with the **Valencian Economic Research Institute (IVIE)**.

2.3.6.4. UNIVERSITY CENTRE FOR EARLY CARE FOR DIFFERENTLY ABLED CHILDREN OR THOSE IN RISK OF SUFFERING (CUDAP) AND SCHOOL PSYCHOLOGICAL CARE SERVICE (SAPE)

VLC/CAMPUS will work, in conjunction with the Valencian Regional Government, to develop two complementary services for treating differently abled children: the University centre for early care for differently abled children or those in risk of suffering (CUDAP) and the School Psychological Care Service (SAPE).

This Centre, in addition to carrying out care work, will promote training and research programmes specifically aimed at the subject of disabilities in children and treatment thereof and will provide the necessary psychological care for their full integration in society.

2.3.6.5. PARTICIPATION AT THE STATE REFERRAL CENTRE FOR SOCIO-HEALTH CARE FOR PEOPLE WITH SERIOUS MENTAL DISORDERS OF VALENCIA

The purpose of the State Referral Centre is **to promote improvement of socio-health care and the quality of life for people with Serious Mental Disorders and their families through the whole territory of the state**. The referral services at this centre are presented as a state resource, specialising in research, study and dissemination of the best social and health care models for people with serious mental disorders.

The activities are organised following three main lines: care, training and research. In the training and research lines VLC/CAMPUS will develop programmes related to higher training, research and transfer of knowledge in socio-health care for people with serious mental disorders.



2.3.7. CULTURE AND HERITAGE

The action proposed by VLC/CAMPUS concerning this subject is to guarantee correct conservation of our heritage today, to promote cultural activities and to increase capillarity that these initiatives should have with society.

2.3.7.1. CONSERVATION OF HERITAGE

The provision of an important historical and cultural heritage of the promoter institutions lead to obligations towards its conservation and value, which involve special economic investment. VLC/CAMPUS aims at preserving and offering society this rich heritage for its knowledge and enjoyment.

VLC/CAMPUS is participating in the **Europeana Regia** project, distinguished in 2009 with an Erasmus Award. Its main objective is to create the **first digitalised corpus of manuscripts**.

As part of the conservation activities, and in coordination with the **scientific dissemination programme** at VLC/CAMPUS, the **Natural History**

Museum will be created next to the Botanical Gardens, where the collection of over 80,000 specimens from around the world will be conserved. Through an agreement with the Valencia City Hall, access will be permitted to some plots next to the Botanical Gardens to allow this project to be constructed, which will further enhance the excellent cultural university choice of the city of Valencia. Furthermore, the conservation and dissemination activities of Valencia University's **Botanical Gardens** will be promoted.

2.3.7.2. CULTURE PROMOTION SCHEME

The campus will promote its own exhibition and museum projects as well as co-producing projects with other institutions. In order to achieve better results in these matters, a VLC/CAMPUS **sponsorship programme** will be established to attract resources for the co-financing of the different initiatives that are carried out.

VLC/CAMPUS will build the **Salón de Actos Alfons Roig** (Alfons Roig Hall) with capacity for over 300 people de-

signed for theatre and music performances and conferences. This hall will be included in the **Network of Scenic Arts Facilities in the Valencian Community**.

As part of this programme a great exhibition hall will be opened to the public, namely the **Josep Renau Exhibition Hall**, which will comprise the largest university exhibition area open to the city and will become a reference in cultural exposure of the campus.

2.3.8. COOPERATION WITH THE EDUCATIONAL SYSTEM

VLC/CAMPUS presents action to develop an **integral relationship model** between the campus and the Higher Occupational Training Qualification (HOTC). This action is based on the fact that we are convinced that **more and better interaction** between the different training scopes will improve the efficacy and efficiency of them both, thereby contributing to reducing failure and drop-out rates, and to creating **human resources with suitable levels of training** for the needs of the production fabric in the Valencian Community today.

Developing this model will be carried out systematically, taking advantage of the successful experiences in neighbouring countries. Depending on the results, we will also assess the viability of **establishing Occupational Training Centres (OTC)** on the Campus itself.

2.3.8.1. STUDY OF THE DIFFERENT MODES OF RELATIONS BETWEEN UNIVERSITIES AND OCCUPATIONAL TRAINING CENTRES (OTC) IN NEIGHBOURING COUNTRIES

In spite of the importance of relations between Valencian universities and Occupational Training Centres, it is obvious that they are insufficient in view of the models followed by other European countries, particularly, taking into account the inefficiency produced in the working of the educational sys-

tem in Spain. VLC/CAMPUS will carry out a **study on the different modes of relations** between Universities and Occupational Training Centres (OTC) in neighbouring countries. This study will be used as a basis for developing a **VLC/CAMPUS relationship model** with Occupational Training Centres.

2.3.8.2. REPORT ABOUT THE OTC SITUATION IN THE METROPOLITAN AREA TO BE IMPLEMENTED ON VLC/CAMPUS

This report is the result of a study of the possibilities for developing integral relations between the Campus and the City. It is expected for specific collaboration agreements to materialise between VLC/CAMPUS and Occupational Training Centres in the metropolitan area to be implemented on the campus. There will be three different levels of inclusion:

- Those in the metropolitan area of Valencia.
- Those located in close proximity to VLC/CAMPUS.
- Those integrated centres that could be built on the campus, within the framework of this project.

2.3.8.3. COOPERATION PROGRAMME IN THE FIELDS OF INFORMATION AND ORIENTATION OTC-UNIVERSITY

This programme will coordinate the Occupational Training Centres and Universities in order to guarantee effective bidirectional orientation and to study formulas for endorsing knowledge acquired (credits) in those cases when students transfer their studies from one to the other. This cooperation programme will materialise as an **integrated relationship model** between educational levels which will:

- Contribute to specialist training in training subjects related to the subject scopes at VLC/CAMPUS.
- Permit securing well-trained professionals for VLC/CAMPUS centres and laboratories.
- Offer the opportunity of providing OTC's with added value.

2.3.8.4. GRANTS SCHEME FOR TRAINING OF PERSONNEL FOR TECHNICAL RESEARCH SUPPORT (FPATI)

The FPATI grants scheme will annually offer vacancies for carrying out work experience in laboratories and university centres for students from study matters related to the specialisation areas of the campus (health, information / communication and sustainability).

These grants will last for one year and may be extended for a second year. They will be offered to OTC graduates who will join the research tasks they are assigned under the supervision of a tutor.

2.3.8.5. VIABILITY STUDY FOR INTEGRATED OCCUPATIONAL TRAINING CENTRES

One of the alternatives that will be assessed as this model develops will be the possibility of implementing Occupational Training Centres on the campus itself. Initially, four subject families are put forward for this purpose:

- Health and Dentistry
- Physical and Sporting Activity
- Environment
- Information Technologies

2.3.9. CAMPUS / CITY LINKS

The strong metropolitan implementation of the institutions comprising VLC/CAMPUS, represent a unique opportunity to renew and strengthen links between the campus and the cities/towns where VLC/CAMPUS centres are located. The intention is to restructure the currently existing campuses under a new urban and architectural concept, and **to create and improve the infrastructures and equipment from a health, information/communication and sustainability point of view, to improve the quality of the services provided.**

2.3.9.1. RESTRUCTURING THE CAMPUS

VLC/CAMPUS, as a whole, covers action that affects the different campuses where activity is carried out, both in Valencia (Blasco Ibañez, Vera and Tarongers) and in the towns of Burjassot, Paterna, Alcoi, Gandia, and Onteniente. By **restructuring the campuses** the aim is to recompose and rationalise the current Campus, developing new areas in accordance with the implementation of the European Higher Education Area (see section on teaching improvement and adaptation to EHEA), in order to improve the Campus – City relations and to further relations between the Campus and the

immediate vicinity.

The objective is to change from **Campus-Island** to **Campus-Gate to the Territory**, from autistic architecture to full dialogue with the city architecture, from the autonomous public area to the coordinated public area, with a clear definition of axes, arguments, routes, events and relations between the City – Campus – Environment.

Moreover, a **balanced, coordinated layout for uses and areas** on the VLC/CAMPUS will be promoted, and the spatial layout of the **sustainable urban and territorial edge** under the idea of VLC/CAMPUS as a **metropoli-**

tan campus committed to its physical and social environment where it has grown through time. Restructuring will entail new challenges, such as including **areas for use by citizens between the sea, the city and the arable land**, favouring integration and links with the items comprising the landscape of the most relevant, immediate territory. Therefore, we will try to promote the quality and quantity of free areas for public use, where vegetation will play a leading role and will be the main coordinator of the **joint urban image**, both inside the campus and in its immediate urban vicinity.

The current campus at **Tarongers** and **Vera** (located within the city of Valencia) will be subject to important action. The **Tarongers Campus** will be completed, opening up services to the city, and will also be remodelled, developing a new garden area that will add to the green areas which already

account for 15% of the current surface area of the campus and including protection necessary to guarantee appropriate use of the infrastructures by citizens. The restructuring and extension of the **Vera Campus**, known as **Vera 2**, will comprise an **urban threshold onto the arable land** that will be an example of insertion of open spaces and or the relation between the urban area and the protected arable land, defined as an **open model** of urban intervention that will also bring about areas of relations between the different strategic aggregations of the future campus.

In addition to these actions, the need to integrate the Campus with the new urban by-passes built in the city of Valencia to improve road communications of VLC/CAMPUS with the territory will be discussed so that the new infrastructure network will lead to creating an area that is accessible to everybody.

2.3.9.2. CONSTRUCTION OF NEW INFRASTRUCTURES

Restructuring the campus as described in the previous point is closely related to the construction of new infrastructures as mentioned throughout this report, such as the new Language Centre, the Lifetime Training Centre, the Innovation and Strategy Centre and the Confucius Institute.

The construction of the **VLC/CAMPUS Portico Building** (described in point 1.1.2), is worthy of a special mention, since it will be the headquarters for important campus services and

will contribute to coordinating the campus's relations with the city by redesigning it to make it a **campus that is a gate to the territory**.

In Gandia, in collaboration with the Town Hall, the **Espai Innova** will be built, which will become a place of reference in the La Safor region, for development and extension of the Information Society and to boost processes of innovation and modernisation of economic, social and institutional agents in the territory.

2.3.10. COMMITMENT TO LOCAL DEVELOPMENT

Agreeing to carry out joint projects between the municipal administration institutions and VLC/CAMPUS will contribute to enhancing the transition towards a sustainable economy through interaction between local political players, social agents, the civil society and the University.

2.3.10.1. TERRITORIAL COMMITMENT WITH TOWN / CITY HALLS

The design itself of the strategic VLC/CAMPUS aggregate proves its commitment to local development, since all the City / Town Halls where the VLC/CAMPUS is implemented are involved. This excellent collaboration framework through the Campus of International Excellence will materialise as a **territorial development commitment** with the different authorities and in projects related to the **Sustainable Economy Law**.

Another of the actions at VLC/CAMPUS, more specifically in Gandia, is moving the **Centro Español de Humedales** (CE-HUM) [Spanish Wetlands Centre] to the Gandia campus in order to allow shared management of the Nature Classroom which is to become a centre for disseminating knowledge about wetlands. For the Town Hall, this collabo-

ration will provide them with the capacity to be able to explain and heighten awareness among the citizens about the advantages of preserving the wetlands in their surrounding area such as the Gandia – Xeresa marsh.

In the town of Alcoi, VLC/CAMPUS has established its fundamental objective as that of refurbishing the Ferrandiz and Carbonell old textile factories in the city and their reuse as innovation-promoting areas. Those factories are emblematic in the town, because of their positions, sizes, role as node in the urban structure of the town and, particularly because of their architectural quality, a true reflection of the industrial level that the city achieved. This action accounts for a significant contribution to the **recovery of industrial heritage in Spain**.

2.3.10.2. DRIVING OF THE GANDIA INTERNATIONAL CENTRE

The strong presence of promoter institutions in the town of Gandia will be complemented by the driving of the **Gandia International Centre** where a choice of relevant postgraduate qualifications will be designed, relevant and adapted to the environment. At this centre, an inter-disciplinary re-

search team will be consolidated related to the subject of local / territorial development.

An **Espaço de Cultura Brasileira** [Brazilian Culture Area] will be implemented and an **enterprise incubator** will be created in collaboration with the Chamber of Commerce of Gandia.

2.3.10.3. OPEN NETWORK OF KNOWLEDGE

This network will coordinate the wide range of currently existing institutional and business chairs in the fields of

specialisation on the campus (health, information / communication and sustainability).

2.3.10.4. RESTORATION OF PUBLIC SCHOOL ONTINYENT 1931

According to the City Council, it will start the restoration of this building considered historic heritage and will

serve to house the university educational facilities in this city.

2.3.11. RESULTS IN 2015

Table 11 shows the quantitative and qualitative indicators of the field and their value for 2015.

INDICATOR	CURRENT VALUE	2015 VALUE
Student participation in official sports competitions	11%	20%
Percentage of the university community involved in sports	35%	45%
Number of scholarships aimed at graduates FPATI Higher Level FP incorporated into the VLC/CAMPUS	0	10
Joining the Sustainable Universities Network	0	100%
% Of campus with no barriers	80%	100%
Implementation of e-administration for greater efficiency in resource use	20%	100%
VLC/CAMPUS Portico Building	0	100%
Campus governing bodies	0	100%
Implementation of the Global Management System Accessibility (UNE 170 001, 1-2)	20%	100%
Extending eduroam wifi coverage to all the consortium	80%	100%
Increase own interuniversity degrees	-	20%
Implementation of the Programme for the Promotion of Culture	0%	100%

Table 11. Indicators 2015

2.4. VLC/CAMPUS SPECIALISED AREAS

VLC/CAMPUS specialisation can be summarised in three catalytic concepts: **health, information/communication and sustainability**. They not only bring together and cover training, research, transfer and innovation, in which the VLC/CAMPUS consortium institutions deliver outstanding results, but they also identify the areas in which these institutions seek to be recognised for their international excellence and their special contribution to the quality of life in society. There follows a description of the procedure used to identify these concepts and set up the innovation platforms connected with them as a core tool in optimising resources, leveraging our strengths and enhancing opportunities in Europe and the rest of the world. This is followed by an account of our understanding of these concepts as part of our commitment to our environment and a summarised representation of the VLC/CAMPUS resources connected with these areas.

2.4.1. PROCEDURE USED TO IDENTIFY VLC/CAMPUS FOCUS AREAS

The VLC/CAMPUS core specialised areas have been identified through three interlinked processes:

- analysis of the current strengths of the consortium organisations
- diagnosis of the needs of the socio-economic environment
- identification of emerging opportunities for the areas of knowledge involved

The **current strengths** of the consortium organisations have been analysed by studying the international relevance of their scientific output and their training programmes which, given the different profile of the universities involved, complement each other.

Their **internationally relevant research production profile** has been analysed by studying the position of the different areas of knowledge in the consortium institutions in recognised reference bases, such as the Web of Knowledge, and in international rankings. This suggests that there are four main areas in which the organisations already have prominent positions individually, and that adding their existing strengths together will significantly increase their contribution to these areas. We have selected three of them as specialised areas for VLC/CAMPUS, taking into account contemporary world challenges, and we view the fourth – Basic Science – as providing cross-cutting support for them all.

Furthermore, the UV and UPV's postgraduate training, in which the CSIC is already involved, offers a large number of degree programmes which are much in demand. They focus on issues related to Health, Sustainability and Communications, such as for instance Biomedical Engineering, Aquaculture and Cultural Management.

The **needs assessment** for the socioeconomic environment has been based on recent research carried out by specialised institutions such as the Valencia Institute for Economic Research (IVIE), reports published by organisations representing socio-economic agents and more directly on workshops held with their officials. Six points should be highlighted as the outcome of this assessment:

- the **ecological challenge** (climate change, environmental and social sustainability) which in our local setting has its own peculiarities derived from the importance of tourism and its complex impact on the region and society
- the challenges of **demographic ageing** with the correlative problem of dependence/personal independence
- the growing importance of **global competitiveness** and the role of advanced knowledge, specialised training and innovation in achieving success in this context
- the strategic orientation of the new social model toward people's **quality of life**
- the importance of **technological, biotechnological and social and cultural innovation** in social transformation processes
- the importance of employability, entrepreneurship and job placement at the various levels of higher education

In this framework of strengths and needs there are **emerging opportunities** for the consortium organisations in research and knowledge transfer and also in training:

- interaction between researchers and scientists from diverse areas of knowledge provides an approach to new social demands which has a flexible, interdisciplinary and global focus.
- the complementary nature and breadth of training programmes available makes it possible to tackle the multidimensional needs that have been identified and address health, information/communication and sustainability from a holistic perspective.

2.4.2. JOINT INNOVATION PLATFORMS

The VLC/CAMPUS consortium has leading research teams which are developing innovative projects and activities of international excellence with significant socioeconomic impact in various fields.

The joint participation of researchers from consortium members is common in many cases. However, a coordinated institutional policy for research, transfer and innovation has yet to be mapped out. This is the quantum leap put forward by VLC/CAMPUS whose consortium policy is reflected in:

- basic and applied research
- knowledge and innovation transfer
- valorisation and entrepreneurship
- creation of interuniversity support resources which can be used by all VLC/CAMPUS consortium members

The key lever for the implementation of this policy lies in setting up three joint innovation platforms, one for each of the VLC/CAMPUS specialised areas: health, sustainability and information/communication. These platforms consist mainly of resources based on scientific and technological equipment, designed to provide research and innovation support services and to facilitate interaction with similar international structures. They have the following functions:

- Foster inter-institutional and interdisciplinary coordination, designed to promote cooperative work, and maximise the efficient use of resources.
- Promote the integration of VLC/CAMPUS platform research groups in national and international networks and platforms.
- Generate the physical resources and equipment needed by high-level research groups.
- Bring together human resources to provide administrative, valorisation, intellectual property management and marketing support to project management.
- Provide services including market research, identification of emerging needs, mapping out specific courses of action and exchange of best practice.
- Foster incentives to ensure emerging research is based on institutional strategies derived from situational analysis.
- Help to generate an impact on the local environment to stimulate private sector investment in R&D&I.
- Nurture the competitiveness, quality and sustainability of VLC/CAMPUS groups and the international visibility of their scientific production.

Given its nature and characteristics, a platform will generally be made up of smaller operational research groups or networks. Hence there are **Research Microclusters** (RM) which are structures based on a discrete interdisciplinary and interuniversity research group organised around a specific project, but whose membership of the platform gives them a broader framework of reference, reach and guidance.

Health Science and Technology Platform (CTSalud). This brings together the major research teams that use the basic sciences (biology, physics and chemistry), food science and technology and health sciences, health technologies, social sciences and humanities to implement activities geared towards personal health and independence, in a historical context in which dependence and disability are growing. It includes leading research centres in the fields of agri-food, biomedical engineering, biomedicine and public health and hospital foundations.

Information and Communication Technology Platform (ICT). This brings together the various groups and projects in the consortium institutions, including basic research (pattern recognition, solid state and molecular physics), super-computing, robotics, building communication and data networks, setting up inclusion and personal independence services and content creation.

Sustainability Innovation Platform (CTSostenibilidad). This is a training and research resource which operates in areas such as energy and climate change, production diversification, environmental and natural heritage protection, local development and environmental education.

The Joint Innovation Platforms bring together a range of technologies and resource streamlining that will be suitably promoted. Each platform will have an innovation facilitator that will be responsible for running it and providing support for its development.

2.4.3. THE WAY VLC/CAMPUS UNDERSTANDS HEALTH, SUSTAINABILITY AND INFORMATION/COMMUNICATION

The three central concepts of VLC/CAMPUS are also key dimensions and cores around which activities are structured in all university functions (teaching, research, transfer and innovation, and service provision to the academic community and society), while taking into account the different types of physical, economic, organisational and human resources required for their correct operation. As a result, the representation that summarises the scope of the project contains two graphic images for each core: the first focuses on its functions and the second on the resources available for its implementation.

2.4.4. THE HEALTH CORE

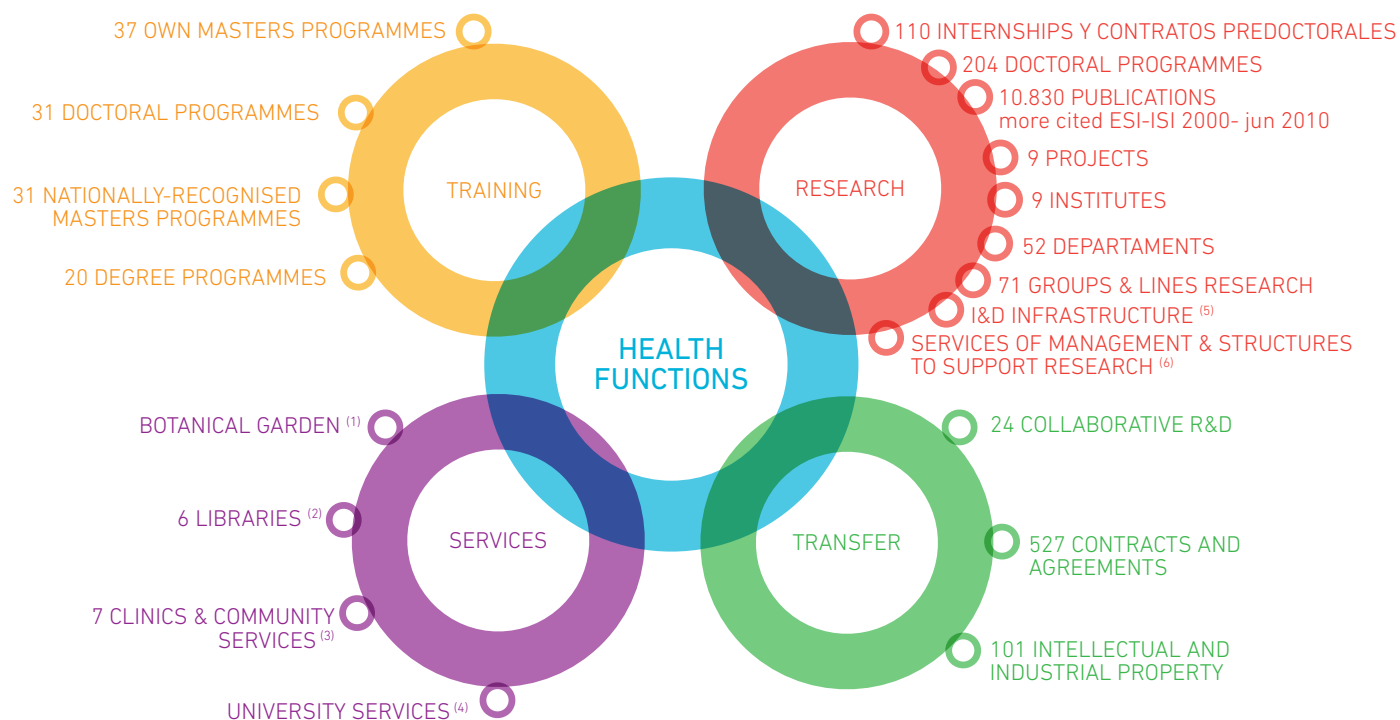
The creation of suitable conditions so that people can lead a healthy life calls for the participation and the complex interplay of knowledge and technology from all branches of understanding, including both the health sciences and also the basic sciences, which provide critical knowledge about the functioning of living organisms and whose application makes it possible to develop appropriate and efficient technologies. In addition, in today's modern society, technology also includes **social technologies** (social health information systems, systems for risk identification, organisational networks and structures that enable cure and care services, and healthcare and public health policies). Furthermore, ensuring the quality of a healthy lifestyle calls for appropriate socialisation and awareness raising activities in order to build healthy lifestyles (doing sports, nutrition, etc.). The intrinsic connection between health and welfare and quality of life is based not only on empirical evidence but is also the central priority of Spanish and European public policy. This is reflected in the **Spanish government's Quality Plan for the National Health System**, the European Union's Second programme of Community action in the field of health (2008-2013) and in the **Seventh Framework Programme**, in which health is the number one priority.

We therefore believe that the HEALTH core makes it possible to:

- a) Articulate all the capabilities and potential of the three consortium institutions that are complementary and multidisciplinary.
- b) Map out a project for excellence in the international arena, because the three consortium institutions have top specialists in basic science, health sciences, social science and economics, and in the technology and engineering required to create appropriate and efficient systems and services.
- c) Establish a commitment to its region in which there are two especially significant factors:
 - A growing specialisation in the Valencian Region in the services and tourism sectors (and in particular in health tourism and tourism for seniors who choose to reside in the Valencian Region and spend a very significant stage of their lives there).
 - Demographic aging with the consequent demand for social health and cultural care

It should be stressed in this connection that HEALTH is closely linked to PERSONAL INDEPENDENCE and that this presupposes the establishment of appropriate social, economic, medical, health, psychological and cultural conditions (**Spain's Personal Independence and Care for Dependent Persons Act, 2006**).

With this vision in mind, *Figure 8* gives an overview of the activities, programmes and services available to VLC/CAMPUS in connection with this HEALTH core. The chart has been divided into four sections that reflect the University's four functions:



(1) SEPLAN Interuniversity Research Group in medicinal plants. (2) Library of the Faculty of Pharmacy, Library of Health Sciences "Pelegri Casanova 'Historical-Medical Library' Vicent Peset Llorca' Central Library UPV; Library Alcoi; Library Gandía. (3) Foot Clinic, Dental Clinic, University Center for Early Diagnosis and Treatment (CUDAP), Clinical Nutrition, Optometry Clinic, School Counselling Service External (SAPE). (4) Servei d'Educació i Esports Physics (UV), Servei de Seguretat, Salut i Qualitat Environmental (UV) Central Service for Support to Experimental Research (SCSI) (UV) Security Service (UPV); Environment Area (UPV) CEDAT Foundation (UPV) Sports Service (UPV); Service prevention and occupational health (UPV), Occupational Health Centre (UPV). (5) Institute of Medical Physics (UV), 34 km of dark fiber network (UV). (6) Central Support Services to Experimental Research (UV) Central Research Unit of Medicine (UV), ERI Research Center "Polibenestar (UV) Technology Transfer Centre CTT (UPV).

Figure 8. VLC/CAMPUS functions seen from the HEALTH core perspective

- Teaching and training, including undergraduate and master's degree teaching, leading to nationally-recognised and the university's own qualifications, and doctorate programmes which are directly related to this aspect.
- Research. This section of the chart features summarised information about the most relevant programmes and activities.
- Transfer and innovation. This section provides an overview and summary of contracts and agreements, collaborative R&D, industrial and intellectual property, etc.
- Provision of services to the academic community and society. This section includes general university services (health, safety and environmental quality, the integration of the disabled, physical activity and sports, etc.), together with the specialised services delivered by clinics and special classes that have multiple dimensions: a) venues for student internships, b) carrying out research projects, c) providing services to the university community and society.

2.4.5. THE INFORMATION/ COMMUNICATION CORE

The information/communication concept in the VLC/CAMPUS project synthesises the entire complex field resulting from the **technological paradigm shift** produced by the revolution in information and communication technology (ICT). This is having a crucial impact on the way we produce knowledge and communicate based on the **new digital information system** and increasingly takes the form of **digital convergence**.

This specialised core brings together the various groups and projects in the consortium institutions involved in teaching, research and knowledge transfer, working on the cutting-edge of the digital revolution. In line with the strategic framework set by the European Commission¹⁰, VLC/CAMPUS is also based on the conviction that ICT can foster an open and competitive digital economy as a driving force for inclusion and quality of life.

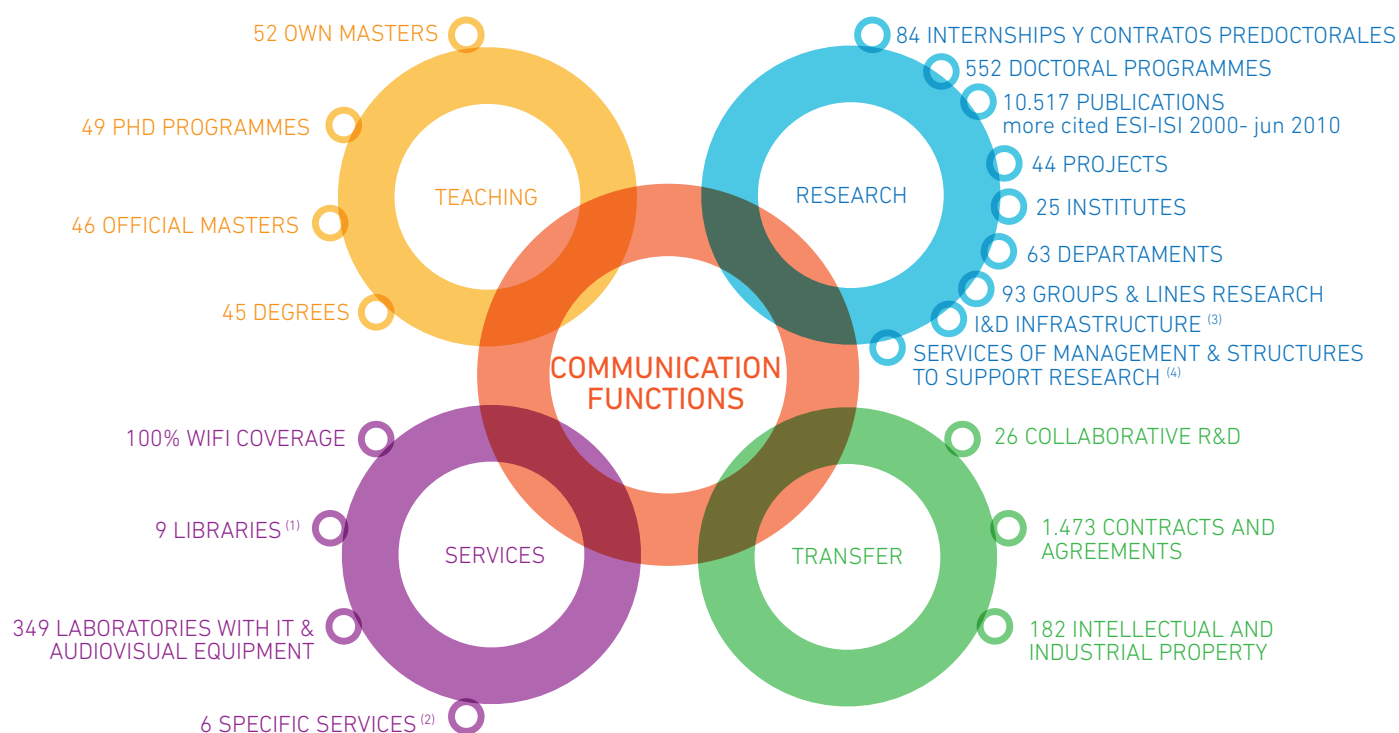
As a result, INFORMATION/COMMUNICATION is used as a multidimensional, cross-cutting and interactive concept.

- It is multidimensional, inasmuch as it ranges from purely technical aspects and basic research to supercomputing and robotics and building communications and data networks, while it also involves the production of services for inclusion and personal independence, accessibility, the nurturing of e-skills and content creation.

- It is cross-cutting since the coming together of the strengths of the three consortium institutions creates a continuum of resources covering the aforementioned multidimensionality, with groups of experts in fields as diverse as pattern recognition, solid state and molecular physics and intellectual property rights.

- It is interactive because there is a close relationship between the impact of the digital revolution and the health and sustainability cores. Such is the case, for example, with research into ICTs that enable the changeover to a highly energy-efficient economy or make it possible to create telemedicine services and systems.

Figure 9 gives an overview of VLC/CAMPUS activities, programmes and services with respect to this INFORMATION/COMMUNICATION core.



(1) Humanities Library "Joan Reglà (UV) Central Library (UPV), Library of Alcoy (UPV); Library Gandia (UPV), Library and Documentation Infor-matics" Enric Valor "(UPV); Library of Construction Engineering (UPV) Design Library (UPV), Library of Civil Works (UPV), Library of industrial engineering (UPV). (2) Computer Service (UV) Audiovisual workshop (UV) Learning Resource Center Media (CREAM) (UV) information and communications systems (UPV) Communication area (UPV); information Area (UPV).. (3) 34 km of dark fiber network (UV); Supercomputer Tirant (UV). (4) Central Service for Research Support Experimental (SCSI) (UV); ERI Center for Molecular Recognition and Technological Development (ERIS UV-UPV), CTT (UPV).

Figure 9. VLC/CAMPUS functions seen from the INFORMATION/COMMUNICATION core perspective

2.4.6. THE SUSTAINABILITY CORE

The health, welfare and quality of life of our societies are increasingly dependent on the sustainability of development and consequently on a substantial shift in our production model. The recent world crisis is making people aware of this situation and that the quality of life of modern society and the survival of future generations are at stake.

As a result, for some time now numerous research groups in the consortium institutions have been carrying out cutting-edge work on sustainability: clean energy, climate change, environmental impact, etc. The emphasis on the desirability of setting up a training syllabus that can raise awareness among the entire university community about global environmental challenges not only appears in university byelaws and the respective strategic plans but also features in numerous education and awareness initiatives. Likewise, the UV and UPV have put in place various strategies and plans to move towards a sustainable academic community. One of the hallmark examples of this is the setting up of a large solar farm on the UV buildings' roofs, the biggest among Spanish universities and the largest urban solar farm in Europe.

Nonetheless, these actions and initiatives are not enough. The **VLC/CAMPUS** project seeks to integrate them by adding together their strengths and streamlining resources, but above all by linking them to each other and to the various social agents in the environment so as to jointly tackle new challenges.

To that end, advances that have taken place in the *European Union Sustainable Development Strategy* (SDS)¹¹ and the launch of a *Spanish strategy for a Sustainable Economy*¹² in 2009 provide a multidimensional conceptual framework that enables a cross-cutting approach to the capabilities and strengths of **VLC/CAMPUS** consortium institutions.

¹¹ Véase http://europa.eu/legislation_summaries/agriculture/environment/l28117_es.htm

¹² Véase <http://www.economiasostenible.gob.es/> y http://www.mma.es/secciones/el_ministerio/pdf/EEDSnov07_editdic.pdf

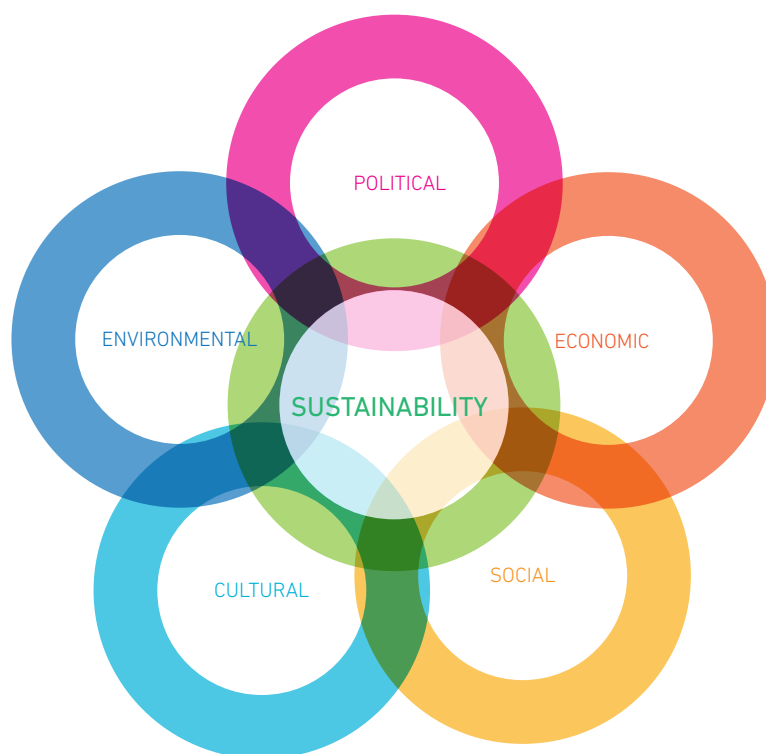


Figure 10. VLC/CAMPUS project sustainability dimensions

Under the European strategy, there are seven priority goals and action areas:

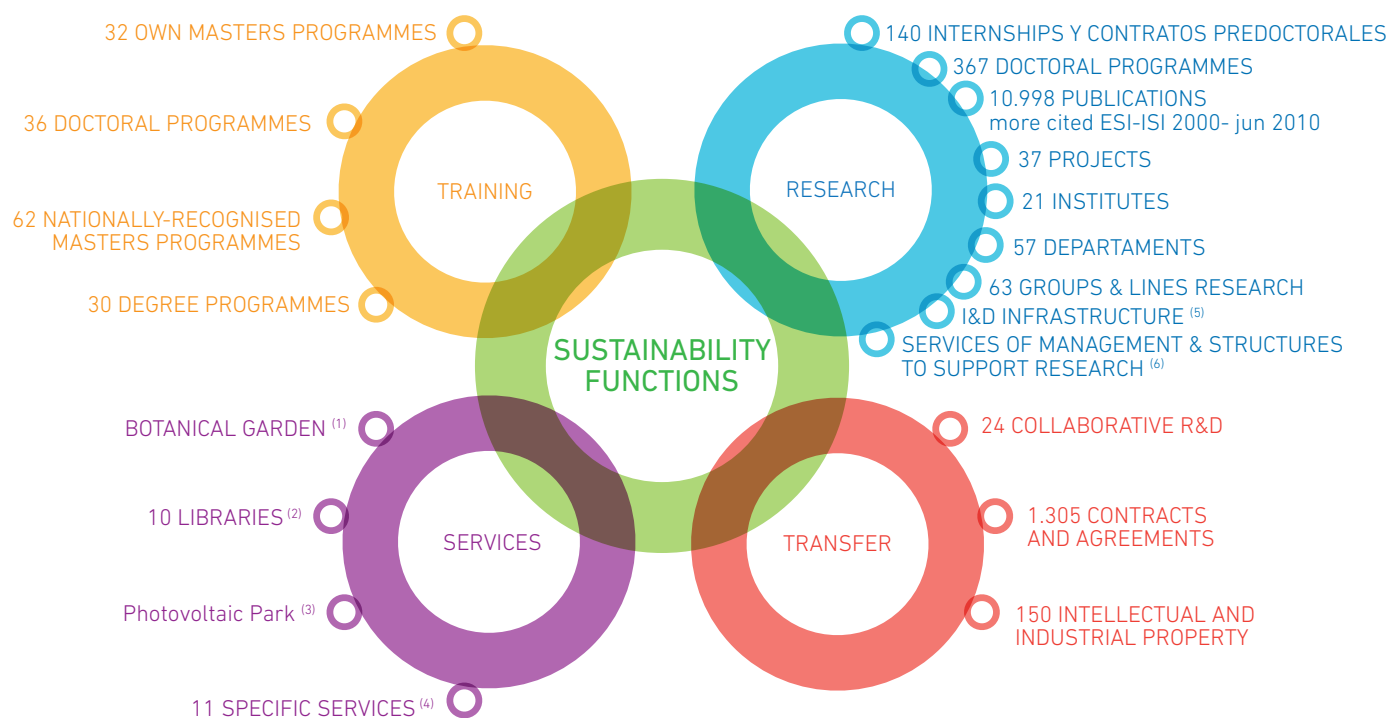
- climate change and clean energy
- sustainable transport
- sustainable consumption and production
- natural resource conservation and management
- public health
- social inclusion, demography and immigration
- world poverty

These seven priorities need to be addressed by putting in place appropriate cross-cutting policies. The following are cited by the Sustainable Development Strategy (SDS):

- training and education
- research and development
- financial and economic instruments
- communication and mobilisation

For its part, Spain's strategy set out in the bill for a Sustainable Economy Act distinguishes between three sustainability dimensions: environmental, economic and social. In international forums such as UNESCO these three are often accompanied by two more, namely cultural sustainability and politics.

The first addresses issues related to the defence of cultural diversity (fourth generation of rights) and the conservation and enhancement of cultural heritage. The second political dimension is concerned with matters such as the institutionalisation of sustainability, governance and civic participation. Consequently, *Figure 10* below gives an overview of this multidimensionality as it is understood by VLC/CAMPUS.



(1) It has a germoplasm bank. It Cultivates 4,500 species grouped into 20 different colecciones. (2) Library Science "Eduard Boscà (UV), Library of Social Sciences 'Gregori Maians' Botanical Garden Library, Central Library UPV; Library ADE and Topography; agroengineering Library, Faculty of Fine Arts Library Alcoi ; Library of Gandia. (3) UV photovoltaic park: Extension 8000 m²; Power 1,472,672 KWh. (4) Safety, Health and Environmental Quality (UV), Integration of Persons with Disabilities (UV) Equality Unit (UV) Security Service (UPV) Health Center (UPV); prevention and occupational health Service (UPV) CEDAT Foundation (UPV) Agromuseu Area (UPV), Central Area of wetlands (UPV), area of environment, urban planning and management of campus (UPV) Art collection (UPV) (5) 34 km of dark fiber network (UV) Comprehensive Center for Energy and Environmental Improvement of Transportation Systems (CIMET) (UPV). (6) Spanish Culture Collection service (UV) Central Service for Support to Experimental Research (SCSI) (UV) interdisciplinary search ERI Economic-social behavior (ERIZAS) (UV) Central Support Unit to Research in Social Sciences and Humanities (UCRESH) (UV), CTT (UPV)

Figura 11. VLC/CAMPUS functions seen from the SUSTAINABILITY core perspective

This multidimensional approach makes it possible to:

- include the initiatives deployed in the various VLC/CAMPUS knowledge areas.
- integrate research, formal education and lifelong learning, scientific outreach (chairs and publications), innovation and transfer and the provision of services to the university community (designed to be a sustainable university) and to society.
- generate fresh energy through participation and innovation that is open to social agents (public institutions and third sector organisations, trade unions and employer organisations, social movements) concerned about and working for sustainability in the region.

Moreover, the sustainability paradigm used in this perspective is not only closely linked to the health paradigm (public health, food safety, policy to deal with the risks and vulnerabilities generated by the current development model and correlative lifestyles, etc.) but also helps to redefine the concept of welfare and quality of life by contributing to the realisation of a new European model for the 21st century.

This is a powerful reason for the integration of the Health and Sustainability cores – based on information and communication technology – in a VLC/CAMPUS vision geared towards producing science for quality of life, a vision that sets a medium-term strategy for consortium institutions that encourages them to cooperate more closely with their environment and strengthens their visibility in the global networks whose mission and concern is sustainable development.

Figure 11 below shows the VLC/CAMPUS project's SUSTAINABILITY core, which provides an overview of the institutional functions related to it: education and training, research, transfer and innovation and delivering services to the academic community.

2.5. INCORPORATION OF NEW MEMBERS TO THE CONSORTIUM

VLC/CAMPUS has the unanimous support of **public institutions** (Corts Valencianes, Valencia Autonomous Government and City Councils where universities have campuses) as well as the **Chamber of Commerce and business associations and trade unions**. It also has direct involvement with research centres, institutes, associations and organisations, such as the Principe Felipe Research Centre, the Centre for Advanced Research in Public Health and medical research foundations, as well as some of the most dynamic and innovative technology-based **companies**.

The goals that VLC/CAMPUS intends to achieve, the actions undertaken to achieve the goals and the coordination of both the sponsoring institutions and other institutions of the consortium can only be achieved through an effective and robust governance model.

In this section, first we describe and classify the **future new members** of the consortium and secondly we present the **model of governance**.

VLC/CAMPUS classifies its consortiums into two main groups: VLC/CAMPUS main consortium and supplementary consortiums. The first group, described in paragraph 1.3, is made up of the institutions that sponsor the project and foundations with legal entity created by the two universities (General Foundation of the Universitat de Valencia, Enterprise- Universitat de Valencia Foundation -ADEIT, Scientific Park Foundation of the Universitat de Valencia, Polytechnic City of Innovation Foundation). The second group, called **supplementary** consortium, includes the leading institutions, organisations and entities related to the specific areas of knowledge and activity of the project.

In order to present the VLC/CAMPUS project and to collect opinions and suggestions that can add value to the proposal presented by the University of Valencia, the Universidad Politécnica de Valencia and the Consejo Superior de Investigaciones Científicas (CSIC) – towards the recognition as International Campus of Excellence, VLC/CAMPUS is organizing four workshops, aimed at different groups (representatives of the business, administration and social movements and civic organizations) during the months of July and September 2010.

Specifically, on July 21 took place a workshop attended by representatives of the municipalities where VLC/CAMPUS is established: Valencia, Burjassot, Paterna, Gandia, Alcoy and Ontinyent. Following this process, it is scheduled to meet various departments of the regional Government, with trade unions and civic organizations.

For clarity in the presentation and for a better understanding of the relationship with the members of the consortium, the supplementary consortium has been divided into four subgroups: public administration bodies and institutions, research centres, enterprises and socio-economic actors (See Figure 12).

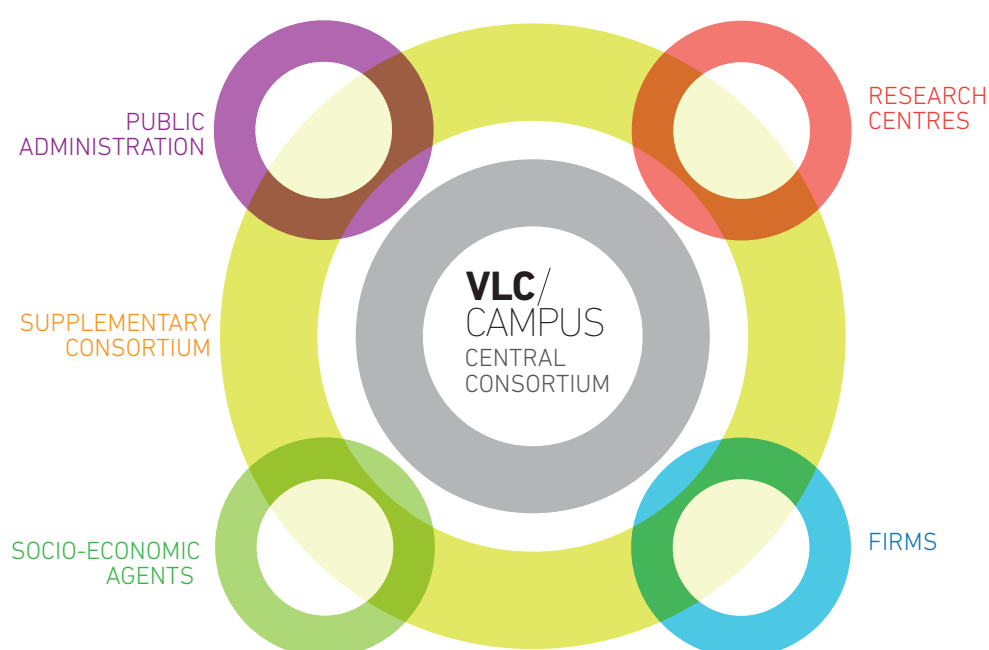


Figura 12. VLC/CAMPUS main consortium and supplementary consortium

2.5.1. MAIN CONSORTIUM: PRINCIPLES AND GOALS

An approach to the aforementioned issues -to help solve global problems while acting as an engine for regional development- today it is only feasible through the establishment of **lasting liaisons** between diverse knowledge areas, different institutions and organisations that are convinced that complexity and uncertainty can only be addressed through **strategic collaboration and open innovation**. By the same token, VLC/CAMPUS has been promoted and is composed of the three most important regional institutions in the production of knowledge: the Universidad Politécnica de Valencia, the Universitat de Valencia and the National Research Council. But at the same time, VLC/CAMPUS has incorporated a wide range of institutions and organisations devoted either to the production of scientific knowledge and innovation or to the economic and sociocultural dynamisation, providing additional strength and scope to the project (see Section 2.5).

As a result of this process of cooperation between the three sponsor institutions, VLC/CAMPUS is integrated by 32 schools, 63 research institutes, 135 university departments, 46 libraries and learning resource centres, two scientific parks and the services and resources of the three institutions required to support their activities. These centres and services occupy a built-up area of 1,123,951 m².

About 6201 researchers and instructors and 4212 administration staff work in these centres, and every day about 79 485 undergraduates, 7345 master students and 5257 doctoral students attend classes in the VLC/CAMPUS classrooms.

The **rationale and principles** of the consortium are based on the following criteria:

- The **complementary nature of the academic offer** of the promoting universities provides a catalogue of graduate and postgraduate degrees that virtually **covers all areas of knowledge** and consequently, VLC/CAMPUS becomes the most complete educational offer in the Valencian Community and its immediate environment, with an essential role in the production model.
- the **ability of Valencia to attract international exchange students positions this city as the first European city hosting Erasmus students**, and the stakes for the creation of an International Postgraduate Centre and Doctoral School and the special attention paid to doctoral studies as the most emblematic degree awarded by European universities, places VLC/CAMPUS in a leading position of advanced higher education advance both in research and highly qualified training.
- The **scientific and technological complementary nature** of the research groups and the number of leaderships in international projects made possible by the development of joint platforms and micro clusters, acts as a **booster of scientific production and transfer**; on the other hand, interdisciplinary and inter-institutional collaboration provides better chances to successfully address global problems.

- geographical proximity facilitates the efficient development of joint projects, produces efficient synergies in service delivery and promotes the creation of a **scientific niche that relies on cutting-edge resources for research;**
- the improved coordination and complementarity of research centres and scientific parks allows the development of **platforms and clusters able to lead innovation strategies;**
- the location of the VLC/CAMPUS centres and institutes in the urban hinterland and its territorial expansion positions VLC/CAMPUS as the first **Spanish metropolitan campus with international projection;**
- the direct involvement of the 10 research institutes of the CSIC in Valencia, most of which are located in the VLC/CAMPUS facilities and are already of a mixed nature.
- The inclusion of organisations sponsored by both universities and that have with legal personality, such as Foundations, Singular Scientific Centres and Scientific Parks, whose role is key in the transfer of knowledge and innovation.

The **transversal goals** of VLC/CAMPUS can be summarised as follows:

- To act as the dynamic scientific and academic motor of the local environment, by offering training and transfer of research results of excellence.
- To position VLC/CAMPUS as one of the main poles of knowledge of excellence in the Euro-Mediterranean area, for its academic and scientific contribution to the solution of global issues.
- To transform the city of Valencia and its metropolitan area in terms of knowledge society by clustering all actors involved in the production of knowledge and interested in the quality of life and the new European social model.

2.5.2. VLC/CAMPUS SUPPLEMENTARY CONSORTIUM

2.5.2.1. PUBLIC ADMINISTRATION

VLC/CAMPUS has the explicit support of public administration, as reflected in the signing of institutional declarations, agreements and collaboration agreements.

Les Corts Valencianes, maximum representation of the Valencian people, gathered in plenary session and unanimously of all political parties, made an Institutional Declaration of support to VLC/CAMPUS consortium.

The President of the Valencia Autonomous Government and the Mayor of the City of Valencia welcomed the top representatives of the member institutions and publicly expressed their support to the project on June 30, 2010. Similarly, the Plenary of the City of Valencia also made an institutional declaration of support (May 28, 2010).

The Valencian Department of Education, representing the Autonomous Region, provided the support that is mandatory under Article 19.5 of the ORDEN EDU/903/2010, paragraph 19.6, 8 April.

In addition to explicit support from the Generalitat Valenciana, most departments showed their commitment to the proposed VLC/CAMPUS, either in general (Department of Health, Solidarity and Citizenship of the Regional Government Valenciana), or for making up of specific action:

- The Department of Social Welfare enables the creation of the University Center for Diagnosis and Early Care.

- The Department of Infrastructure and Transport will develop joint actions in areas such as development and innovation, training and advice on road safety, risk of road infrastructure from the perspective of human factors, transportation, electronic commerce and telecommunications, the use of water resources or the study of social and economic impact of ports and logistics structure of the Western Mediterranean.

- The Department of the Environment Water, Town Planning and Housing will allow the creation and activity of the Landscape Observatory as a tool to contribute to the protection, management and landscape management from a holistic perspective and in the context of sustainable development, specifically its action through the preparation of proposals and promotion of measures for the landscape.

The signing of agreements with the councils of the cities in which VLC/CAMPUS has been implemented, and the commitments adopted in the plenary chambers, enhance the opportunity and feasibility of the project and its metropolitan nature.

Table 12 shows the members of the public administration who have joined VLC/CAMPUS and their relation with the selected areas of knowledge of Campus project.

INSTITUTION	HEALTH	INF. – COM.	SUST.
Cortes Valencianas	1	1	1
Generalitat Valenciana	1	1	1
Conselleria de Benestar Social de la Generalitat Valenciana	1		1
Conselleria d'Infraestructures i Transport de la Generalitat Valenciana			1
Conselleria de Medi Ambient, Aigua, Urbanisme i Habitatge de la Generalitat Valenciana			1
Conselleria de Sanitat de la Generalitat Valenciana	1		
Conselleria de Solidaritat i Ciutadania de la Generalitat Valenciana			1
Conselleria d'Educació de la Generalitat Valenciana	1	1	1
Direcció General d'Inmigració i Ciutadania de la Generalitat Valenciana			1
Direcció General de Territori i Paisatge de la Conselleria de Medi Ambient, Aigua, Urbanisme i Habitatge de la Generalitat Valenciana			1
Direcció General d'Indústria i Innovació de la Conselleria d'Indústria, Comerç i Innovació de la Generalitat Valenciana	1	1	1
Ayuntamiento de Valencia	1	1	1
Ayuntamiento de Burjassot	1	1	1
Ayuntamiento de Paterna	1	1	1
Ayuntamiento de Gandía	1	1	1
Ayuntamiento de Alcoi	1	1	1
Ayuntamiento de Ontinyent	1	1	1
Ayuntamiento de Catarroja	1	1	1
Ayuntamiento de Onda	1	1	1
Consorci Hospital General Universitari	1		
Hospital Clínico Universitario de Valencia	1		
Departamento de Salut València-La FE	1		
Hospital Universitario Dr. Peset	1		
Instituto de Mayores y Servicios Sociales (IMSERSO)	1		1
Cáritas Española			1
Consejo Social Universidad de Valencia	1	1	1
Consejo Social Universidad Politécnica de Valencia	1	1	1

Table 12. Institutions of the public administration that have joined VLC/CAMPUS project

2.5.2.2. RESEARCH CENTRES

This group includes different institutions, both public and private, closely related to the area of scientific improvement. They will be important potential users of the VLC/CAMPUS services, such as the research platforms or the central scientific and technical services. Many of them will be integrated into the various micro-clusters of research.

In the field of educational improvement, the International School of Postgraduate and Doctorate of Valencia will create significant synergies

with these centres, increasing the transfer of research results for the achievement of an international excellence education.

As shown in *Table 13*, this group includes Research Centres, Public Research Institutions and Research Foundations. The table illustrates the close relationship of the research centres with the Campus activities highlighting the connection the activity of the centre and the VLC/CAMPUS selected areas of knowledge.

INSTITUTION	HEALTH	INF. – COM.	SUST.
Centro de Investigación Príncipe Felipe	1		
Centro Superior de Investigación en Salud Pública (CSISP)	1		
Universidad Nacional de Educación a Distancia	1	1	1
Instituto Español de Oceanografía			1
Instituto Valenciano de Investigaciones Agrarias (IVIA)			1
INCLIVA - Fundación para la Investigación del Hospital Clínico Universitario de Valencia	1		
Instituto de Investigación Sanitaria- Hospital la FE	1		
Fundació de la Comunitat Valenciana Hospital General per la Investigació Biomèdica, Docència i Desenvolupament de les Ciències de la Salut	1		
Fundación para la Investigación del Hospital Universitario Doctor Peset de Valencia	1		
Equipo Institutol Valenciano de Infertilidad de investigación	1		
Fundación Instituto Valenciano de Oncología (IVO)	1		
Fundación Oftalmológica del Mediterráneo	1		
Fundación para la Innovación Urbana y Economía del Conocimiento (FIVEC)			1
Instituto de Biomecánica de Valencia	1		
Instituto de Tecnología Eléctrica			1
Instituto Tecnológico de Informática		1	
Instituto de Investigación Aplicada y Centro Tecnológico de la PYME	1	1	1
Instituto Valenciano de Seguridad y Salud en el Trabajo (INVASSAT)	1		
Instituto Valenciano de Investigaciones Económicas (IVIE)			1
Fundació de la Comunitat Valenciana Centre d'Estudis Ambientals del Mediterrani (CEAM)			1
Red de Institutos Tecnológicos de la Comunidad Valenciana (REDIT)	1	1	1
Fundación Entomológica Torres Sala. Museu Valencià d'Història Natural			1
Fundación Adapta	1		1
Fundación Adecco	1		1
Fundación para la Investigación e Innovación para el desarrollo social			1
Fundación Centro de Estudios para el Desarrollo de Ayudas Técnicas y Sistemas para la Integración Socio Laboral de Personas Discapacitadas (CEDAT)	1		1
Valencia Space Consortium / European Space Agency		1	1

Table 13. Research Centres that have joined VLC/CAMPUS project

2.5.2.3. COMPANIES

The tremendous activity of VLC/CAMPUS in the area of technology transfer is a clear indicator of its strong involvement with the production environment. The project uses this strength to establish concrete liaisons with companies involved in the selected areas of knowledge of the project. It largely contributes to boost scientific improvement, promoting the transfer activity and creating a two-way flow of knowledge between the two environments. With this group VLC/CAMPUS also intends to contribute to the development of technology-based

companies, by providing key services such as joint innovation platforms, networking equipment or fast dissemination of the results generated in the micro-clusters.

The point of connection among companies is their technological nature. Many of them are implemented in their own technological parks and some are spin-offs that have emerged as a result of the research activity of the project. *Table 14* shows the list of companies that have joined VLC/CAMPUS and their involvement in each of the selected areas of the project.

INSTITUTION	HEALTH	INF. – COM.	SUST.
Alkime Consultores		1	
Abba Gaia	1		
Acústica inecav	1	1	1
AdLemons		1	
Amauta		1	
Analog Devices		1	
Aurora Software And Testing, S.L.		1	
Austriamicrosystems Spain		1	
Bienetec		1	
Biopolis, S.L.	1		
Biotech Vana, S.L.	1		
BiOncoTech	1		
Biosensores		1	1
CYS Energy			1
Balmart		1	
Biotecnología de la Comunidad Valenciana (BIOVAL)	1		
Comunicaciones y Publicaciones Multimedia, S.L.			1
DAS Photonics			1
Demanda Activa de Energía			1
Electro Redeval Sistemas		1	
Energesis			1
EOLab		1	
ESAM Tecnología, S.L.		1	

INSTITUTION	HEALTH	INF. – COM.	SUST.
Exit Geocosult			1
Feasa Valencia			1
Fibrostatin, S.L.	1		
Finergetic Eficiencia Energética, S.L.			1
Florida Centre de Formació	1	1	1
FOMESA	1		
Galileo Geo-Systems		1	1
Oncovision GEM-Imaging	1		
Génesis Especialidades Farmacéuticas y Biotecnología, S.A.	1		
Genesis	1		
Genia Global Energy			1
Green Molecular, S.L.	1		
Grupo Buscalia		1	1
INDRA		1	
I+D Solutons		1	
iGenomix	1		
Instituto de Medicina Genómica, S.L.	1		
Instituto Psicológico de la Infancia y de la Familia			1
ITAI Asesores & Consulting	1	1	1
Integración Digital Ingeniería, S.L.		1	
IVAC Instiuto de Certificaicón			1
Intenanomat	1	1	1
Iting		1	
Kaparazoom		1	
Laserfood	1		
LIFESEQUENCING, S.L.	1		
Mediamovil		1	
Mirage Technologies		1	
Navitae Engineering	1	1	1
Neoture			1
Ngaro Intelligent Solutions		1	
Nosholto	1	1	1
NTDA Energía			1
Nubesis		1	
OdPe Business Solutions	1	1	1
Okode		1	
Open Sistemas de Información Internet, S.L.		1	
Proiser	1		
Principia Technologies Valencia		1	
Projectes i Serveis R més D, S.L. (PROISER R.D., S.L.)	1	1	1
Siliken			1
Sistemas Genómicos, S.L.	1		
Software Design		1	
Tecnolingüistas	1	1	1
Valentia Biopharma, S.L.	1		
W3Futura		1	
Wireless Sensor Networks Valencia		1	1
Vector Software Factory, S.L.		1	
Vossloh			1

Tabla 14. Companies that have joined VLC/CAMPUS

2.5.2.4. SOCIOECONOMIC ACTORS

This category includes entities that link VLC/CAMPUS in a special way with the environment in which they operate. This connection is manifested in two aspects, the improvement in knowledge transfer rates and, in particular in their contribution to the transformation of campus project for the development of an integral social model.

Among the meetings held with different institutions it is worth mentioning the workshop held on 12 July with the main socio-economic organisations: Asociación Valenciana de Empresarios (AVE), Valencian Chamber of Commerce, Council of Chambers of Commerce of Valencia, Valencia Business Confederation (CEV) and the Confederation of Organisations of the Valencian Community (CIERVAL).

Table 15 details the socio-economic agents that have joined VLC/CAMPUS. It includes business associations, professional groups, NGOs and other institutions that develop cross-campus activities.

Business associations and professional groups are the backbone of the relationship among various industrial sectors and strongly contribute to transfer knowledge to the production environment. The Campus action plans leading to the transformation of Campus for the development of an integral social model, such as social cooperation and awareness raising, are strongly supported by the presence of NGOs and transversal institutions, positioning VLC/CAMPUS as a reference model.

INSTITUTION	HEALTH	INF. – COM.	SUST.
CCOO PV	1	1	1
CGT-PV	1	1	1
CSIF	1	1	1
Federación de Trabajadores de la Enseñanza FETE-UGT	1	1	1
STEPV Intersindical Valenciana	1	1	1
Federació Valenciana d'Empreses Cooperatives de Treball Associat (FEVECTA)	1	1	1
ASIVALCO, Comunidad de Propietarios	1	1	1
Asociación de Entornos Saludables (AENS)			1
Asociación Empresarial L'ANDANA	1	1	1
Asociación Valenciana de Empresarios	1	1	1
Asociación Valenciana de Empresas Innovadoras (Avant I+E)	1	1	1
Paterna Innova 5, A.I.E.	1	1	1
Cámara Oficial de Comercio, Industria y Navegación de Valencia	1	1	1
Consejo de Cámaras de Comercio de la Comunidad Valenciana	1	1	1
Confederación Empresarial Valenciana	1	1	1
Confederación de Organizaciones Empresariales de la Comunidad Valenciana	1	1	1
Bancaja	1	1	1
División Global Santander Universidades, Banco de Santander	1	1	1
FREMAP Mutua de Accidentes de Trabajo y Enfermedades Profesionales de la Seguridad Social nº 61	1	1	1
Fundación de la Comunidad Valenciana frente a la discriminación y a los malos tratos Tolerancia Cero (FTC)			1
Colegio Oficial de Abogados	1	1	1
Colegio Oficial de Economistas de Valencia	1	1	1
Colegio Oficial de Enfermería	1		
Colegio Oficial de Farmacéuticos	1		
Colegio Oficial de Fisioterapeutas de la Comunidad Valenciana	1		
Colegio Oficial de Ingenieros Técnicos Agrícolas y Peritos Agrícolas de Valencia y Castellón			1
Colegio Oficial de Ingenieros en Telecomunicaciones		1	
Colegio Oficial de Ingenieros Superiores Industriales		1	1
Colegio Oficial de Médicos de Valencia	1		
Colegio Oficial de Odontólogos y Estomatólogos de Valencia	1		
Colegio Oficial de Psicólogos de la Comunidad Valenciana	1		1
Colegio Oficial de Peritos e Ingenieros Técnicos Industriales			1
Colegio Oficial de Químicos			1
Colegio Notarial de Valencia			1
Colegio de Geógrafos de la Comunidad Valenciana			1
Colegio Oficial de Aparejadores y Arquitectos Técnicos			1
Colegio Oficial de Arquitectos de la Comunidad Valenciana			1
Colegio Oficial de Biólogos de la Comunidad Valenciana	1		1
Colegio Oficial de Diplomados de Trabajo Social			1
Colegio Oficial de Doctores y Licenciados de Bellas Artes de Valencia			1
Colegio Oficial de Graduados Sociales			1
Colegio Oficial de Ingenieros Técnicos de Obras Públicas			1
Colegio Oficial de Ingenieros Técnicos en Topografía			1
Colegio Oficial de Ingenieros Agrónomos	1		1
Colegio Oficial de Ingenieros de Caminos, Canales y Puertos			1
Colegio Oficial de Ingenieros en Informática		1	
The International Association for the Exchange of Students for Technical Experience	1	1	1
Asociación Instituto de Diseño y Fabricación	1	1	1
Asociación Instituto Tecnológico de Informática		1	
Asociación Instituto Tecnologías Aplicadas a las Comunicaciones Avanzadas		1	
Asociación CMT Motores Térmicos			1
Asociación Instituto de Tecnología Eléctrica			1
Asociación Instituto Tecnológico de Biomecánica	1		
Asociación Valenciana de las Tecnologías del Hábitat			1
Pescaplus			1
Entidad de Conservación "València Parc Tecnològic"	1	1	1

Tabla 15. Socio-economic agents that have joined VLC/CAMPUS

2.5.2.5. FUTURE MEMBERS

In addition to the various institutions mentioned in this section, VLC/CAMPUS intends to incorporate new members in the consortium. Particularly, large companies with strong R & D departments related to the areas of knowledge of Campus, such as those listed in *Figure 13*.

It is also envisaged the incorporation of other institutions depending on the

progress of the project and the new needs and requirements of the project. The model of governance (see below) includes leaving some vacant seats in the steering committee which will be occupied in the future by representatives of these institutions.

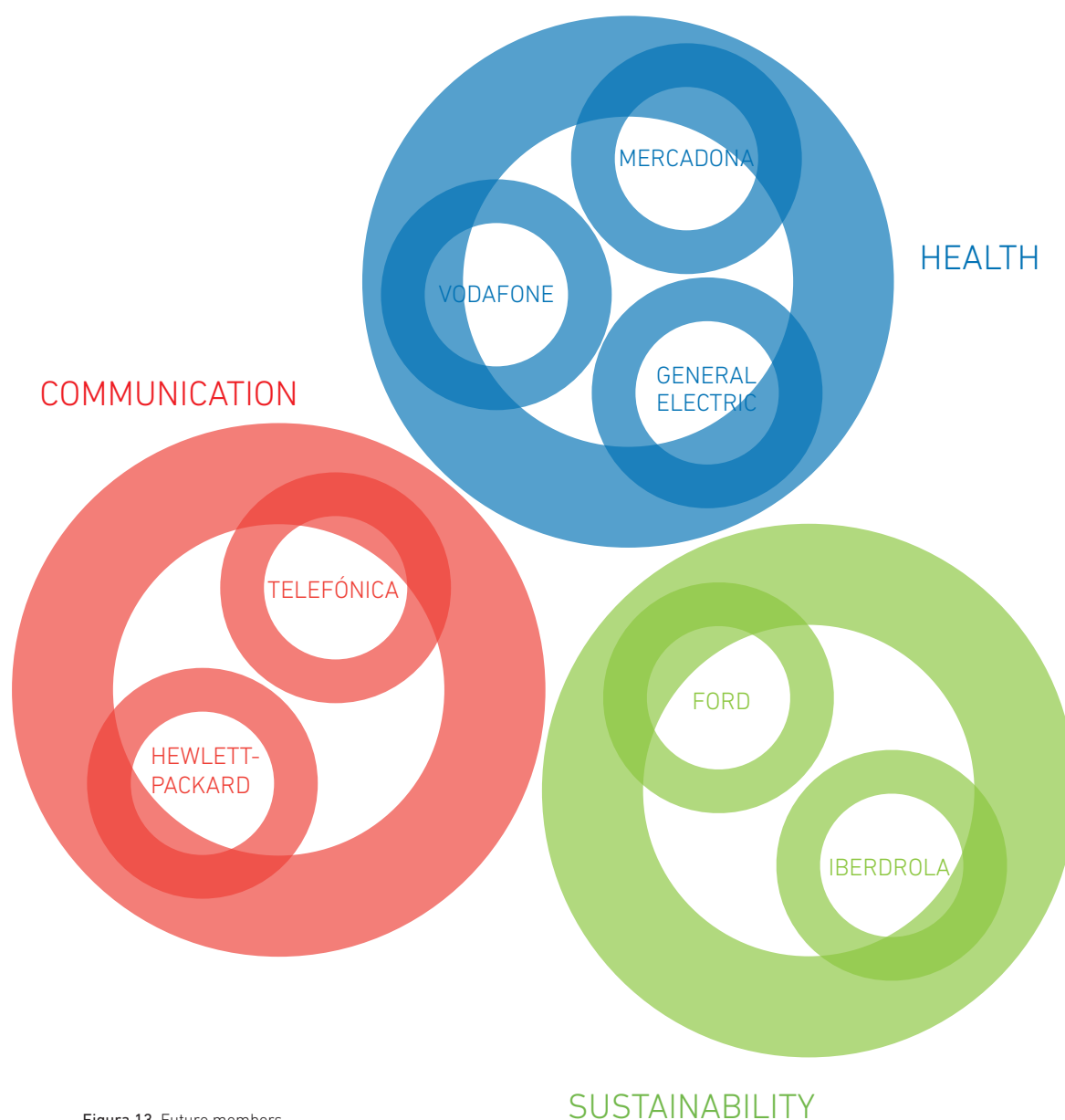


Figura 13. Future members

2.5.3. MODEL OF GOVERNANCE

The VLC/CAMPUS project is based on the consortium of sponsoring institutions and on the commitment, with varying degrees of involvement, of institutions, organisations and partners that are members of the consortium. The project goals will be achieved only if the planned measures are coordinated and managed by an effective and robust governance model. In the following pages the main features of the organisational structure that supports the governance model of VLC/CAMPUS are described, the Portico Building is presented as the governance head office and the methodology of open innovation is outlined as the most appropriate strategy for the coordination of this diversity of actors in a context of globalisation and open knowledge flows.

2.5.3.1. ORGANISATIONAL STRUCTURE

A robust and efficient governance system, in our view, is based on the joint creation of a **VLC/CAMPUS Foundation**, run by the political management of a **Steering Committee, an Executive Board and a Technical Coordination Unit**.

The Foundation's headquarters are located in the Portico building at the campus, which will also house some of the management services of the most important activities of the project.

The Steering Committee, which plays the role of political management body, is composed of a total of 15 members, whose distribution is as follows:

- 6 representatives of the sponsoring institutions (the rectors of UV and UPV, and the President of CSIC, and an additional representative from each sponsoring institution appointed by them),
- The Presidents of the Social Councils of both universities,
- two representatives of the Administration and
- 3 representatives of the associate members (one for each area of knowledge).

- 2 additional vacant seats for future members.

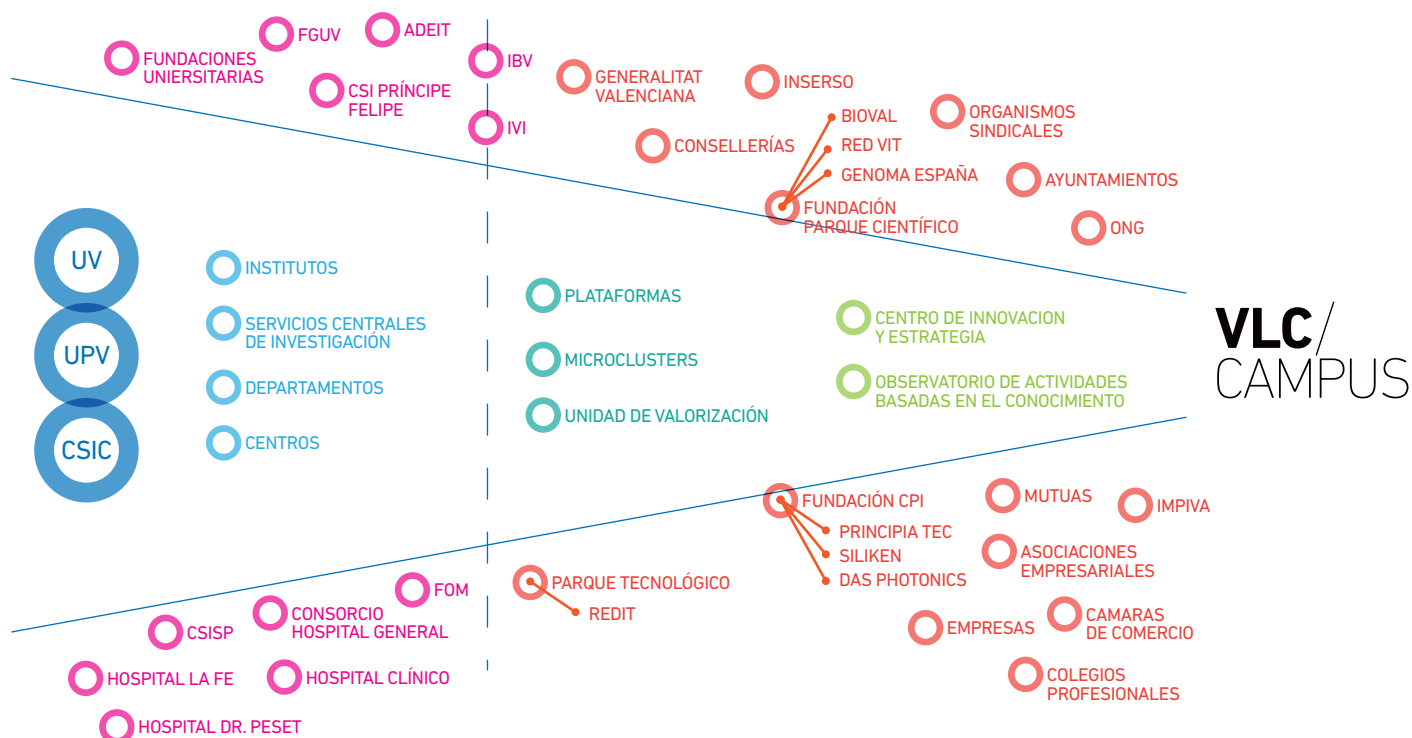
This Committee delegates the management and coordination of VLC/CAMPUS to the **Executive Board** and is endowed with social legitimacy through the support of an **Advisory Council**.

The **Executive Board** carries out its mission through a **Technical Coordination Unit**, staffed with the necessary members for taking over the tasks of a) promotion and management of projects, b) monitoring and evaluation of actions and c) communication and internationalisation.

The **Advisory Council** is composed of representatives of the scientific and academic community, socio-economic actors and civic organisations. This council has decision-making functions on the main strategic actions, activities and programmes of VLC/CAMPUS and provides advice to the **Steering Committee**.

Given the importance of the **Joint Platforms for Innovation** in the progress of the project, each platform will have a promoter of innovation, who is directly linked to VLC/CAMPUS Executive Board.

INNOVACIÓN ABIERTA



2.5.3.2. POLICY MODEL: OPEN INNOVATION

Open innovation is a flexible methodology that has recently been developed in large organisations where the production of new knowledge, innovation and transfer, is a relevant strategy. This methodology uses inward and outward knowledge generated by different organisations to accelerate innovation; open innovation is based

on interaction and connectivity, collaboration and convergence among the various actors that form the strategic consortium.

Therefore, and given the mission and vision of **VLC/CAMPUS**, it is considered that this is the most appropriate and effective approach to achieve the intended goals.

2.5.3.3. MONITORING OF PROJECT DEVELOPMENT

As promoters of **VLC/CAMPUS** and following a common policy in the Valencian public universities, we have considered it appropriate to base our project on an analysis of the potential impact of the project and we have commissioned this analysis to such a renowned institution as the Valencian Institute of Economic Research (IVIE).

It is the purpose of the promoters of **VLC/CAMPUS** to commission the monitoring and follow-up of the project to IVIE through the completion of the corresponding progress and results reports.

2.5.3.4. VLC/CAMPUS PORTICO

VLC/CAMPUS will build an emblematic and functional building, an identification symbol of the project and the headquarters of its management bodies. This construction, built according to criteria of sustainability and energy efficiency, based on a vision of post-crisis architecture, which focuses on the human dimension of living spaces and on the concept of educational campus, will be located in the main access point to VLC/CAMPUS, in the access to the city of Valencia from the motorway to Barcelona, and in an environment (in front of it is the Centre for Advanced Research in Public Health), where all relevant concepts of the project converge not only physically but also symbolically.

The building will be devoted to functional aims but the new premises will also play a symbolic role as a meeting point of the sponsoring and associate members. The building will be called **VLC/CAMPUS Portico Building**; it will also house the Interuniversity Support Unit for International Exchange Stu-

dents and will host the International Postgraduate and Doctoral School. As described below, the School will manage the master and doctoral courses providing higher quality and international recognition.

Additionally, the Portico Building will fulfil a third reference mission, namely the promotion of VLC/CAMPUS and its contribution to social improvement. In this regard, the building will host two important centres:

- the **Innovation and Strategy Centre**, a space to generate an open and permanent debate about social opportunities and economic growth patterns, involving experts and social actors committed to welfare, quality of life and the European social model
- the **Observatory of Knowledge-based Activities-ABACUS**, run by the IVIE, will provide systematic information on the national transformations in the production model in relation with knowledge economy.

2.6. RANKING, OBJECTIVES, AND INTERNATIONALISATION POLICIES

VLC/CAMPUS is a partnership of knowledge excellence and defines itself as a global player. The partnership understands global problems, adopts a global perspective when addressing these problems, and is visible on the world stage. This section explains the meaning and scope of internationalisation by identifying our strategic objectives. We also describe the starting point of the participating VLC/CAMPUS partners, and finally, our action plan for achieving the expected results.

2.6.1. THE EXTENT OF INTERNATIONALISATION

VLC/CAMPUS has two ambitious strategic objectives in this area:

1. develop a comprehensive vision of internationalisation;
2. strengthen the visibility and reputation of the VLC/CAMPUS brand.

2.6.1.1. DEVELOP A COMPREHENSIVE VISION OF INTERNATIONALISATION

The global picture has changed significantly in recent decades. Globalisation has created social problems on a new scale in terms of volume, impact, and speed. These are termed **global problems**. Universities can develop a **radically new perspective** on globalisation by taking into account these problems and making the search for solutions a principal objective. Preliminary actions can include: increasing bilateral relations, signing agreements to promote mobility, increasing the number foreign students in the lecture halls, and recruiting talented academics. However, much more is needed.

Global problems that cross national boundaries and go beyond the previous frameworks of interpretation have become **new scientific objects** – and solving these new problems requires the participation of various disciplines and institutions. This effort demands **cooperation** on an unprecedented scale, and the construction of large scientific **infrastructures**. The effective management of these infrastructures requires new **organisational structures** that include international networks, as well as the flexible integration of knowledge-based institutions, centres, and groups.

The VLC/CAMPUS was launched to develop a **comprehensive strategy**

of internationalisation in response to these changes in society. We propose to:

- Address **international and transnational problems** and dedicate a large part of our teaching and research activities to the search for solutions. Special emphasis is placed on our three areas of specialisation: sustainability; health; and information infrastructures (including networks and global communication).
- Work from an **interdisciplinary and interagency perspective** by mobilizing the VLC/VALENCIA partnership's best resources;
- Ensure that **researchers and students** regularly participate in international networks.

VLC/CAMPUS aims to:

- produce the science and innovation to help solve these global problems;
- train leaders to have an international perspective and awareness of global citizenship;
- generate new ideas to improve the quality of life for current and future generations;
- help developing nations by participating in international cooperation policies;

In short, internationalisation is part of the very nature of the VLC/CAMPUS.

2.6.1.2. STRENGTHEN THE VISIBILITY AND REPUTATION OF VLC/CAMPUS

Strengthening the European and international ranking of the VLC/CAMPUS partnership is one of objectives of Strategy to 2015 and an aim shared by all participating partners. **The definition of VLC/CAMPUS as an international project is part of the mission and vision of the campus** and one of the most relevant proposals. The **mission** of the VLC/CAMPUS is to:

- improve the quality of teaching and facilities to make them more attractive in a national, European, and international context;
- encourage the attraction and retention of talented academics among potential students, doctoral students, researchers, and lecturers (inexperienced and experienced) at a European and international level;
- establish the VLC/CAMPUS as an international benchmark by specialising in scientific and technological production.

Specifically, the VLC/CAMPUS aims to be recognised as:

- one of the top 50 centres of knowledge production in Europe, thereby improving the situation of the partnership members and raising their international rankings;

- one of the leading academic and scientific centres of innovation in the mega-Mediterranean region, thereby contributing decisively to the economic and cultural development of the Mediterranean area;
- an international leader in graduate education, advanced research, and knowledge transfer in the areas of expertise of the VLC/CAMPUS;
- one of the three major centres of mobility for doctoral students and new PhDs in Spain, building on our current leadership in the field of Erasmus exchanges.

In summary, VLC/CAMPUS will use its strategic position to play a dynamic role in enabling all its producers of knowledge, science, and innovation to work together. This role will create an ecosystem that is open to global influences and able to:

- concentrate innovation;
- attract talented academics;
- generate creativity.

2.6.2. STARTING POINT: INTERNATIONAL RANKINGS OF THE **VLC**/CAMPUS PARTNERS

Among the partners participating in **VLC**/CAMPUS, the Universitat de València and the Universidad Politécnica de Valencia are leading national universities and occupy prominent positions in international rankings. The **VLC**/CAMPUS also includes the National Research Council (CSIC) centres in Valencia: these ten centres are part of Spain's largest research institution and the eleventh largest research body in the world.

The universities behind **VLC**/CAMPUS are also among the leaders in Europe in the field of student mobility. Rankings as measured by the major international ranking guides are presented in *Table 16* and described in the following sections.

INTERNATIONAL RANKINGS

	UV	UPV
Shanghai Jiao Tong ARWU:	[201-300]/501	[301-400]/501
Chemistry	---	[76-100]
Physics	[76-100]	---
Times Higher Education	[401-500]/600	+500/600
Essential Science Indicators - ISI Web of Knowledge:	277/4.122	672/4.122
Química	78/910	---
SCImago Institutions Rankings	238/2.124	406/2.124
Cybermetrics Lab Ranking de Universidades del Mundo	205/500	325/500

Table 16. Ranking of the **VLC**/CAMPUS partners in different ranked institutions

2.6.2.1. POSITION IN INTERNATIONAL RANKINGS OF ACADEMIC INSTITUTIONS

In *Academic Ranking of World Universities 2009*, produced by Shanghai Jiao Tong University, the Universitat de València shared first place among Spanish universities in the 201-300 range worldwide (with the Universitat de Barcelona, the Universidad Autónoma de Madrid, and the Universidad Complutense de Madrid). The Universitat de València is the only Spanish university in the top 100 in physics.

La Universidad Politécnica de Valencia shared fifth position (in the 301-400 range in the world) together with the Universidad Autónoma de Barcelona

and the Universitat Pompeu Fabra. In the field of chemistry, the UPV is among the top 100 universities in the world and among the top three in Spain.

In the ranking produced by *Times Higher Education* in 2009, the Universitat de València shared seventh place (in the 401-500 range worldwide) with the Universidad de Granada. The Universidad Politécnica de Valencia shared ninth position (in the range of +500 of the 600 ranked universities) with Spanish universities such as Santiago de Compostela and Salamanca.

2.6.2.2. POSITION IN INTERNATIONAL RESEARCH RANKINGS

Data from publications cited in the *Thomson Reuters Web of Knowledge* (2000-2010) ranked the CSIC as undisputed leader in Spain. At the global level, the CSIC is ranked 62 among the 4122 evaluated institutions. The Universitat de València is ranked fifth in the Spanish ranking (277 among institutions worldwide). The Universidad Politécnica de Valencia is ranked 13th nationally (672 worldwide).

The 2009 *SCImago Institutions Ranking* (Scopus database) ranks the CSIC as the best research institution in Spain and 11th globally. The Universitat de

València is ranked sixth in the Spanish ranking (ninth in Latin America and 238 in the world). The Universidad Politécnica de Valencia was ranked 11th nationally (22 in Latin America and 406 in the world).

It is notable that the Universitat de València is the only Spanish university with an award-winning researcher in the 2010 call for *European Research Council Advanced Investigator Grants* (ERC Advanced Grant). This grant rewards global leadership in a given field.

2.6.2.3. RANKING RESEARCH INSTITUTIONS WORLDWIDE – CSIC (CYBERMETRICS LAB) JUNE 2010

This ranking evaluates Web presence by measuring organisational activity and is a good indicator of the overall quality, impact, and prestige of universities. The Universitat de València is ranked fourth in Spain (205 among universities in the world), and the Universidad Politécnica de Valencia is ranked 13th in Spain and 325 in the world.

The CSIC is ranked 19 in the world. Among the Valencian CSIC centres the Corpuscular Physics Institute (IFC) is ranked fourth in terms of global quality among all 129 CSIC centres. The Institute of Agrochemistry and Food Technology (IAT) in Valencia was ranked 29.

2.6.2.4. POSITION IN OTHER RANKINGS RELEVANT FOR EVALUATING THE INTERNATIONAL DIMENSION OF VLC/CAMPUS

During 2007/2008, the Universitat de València was the second most popular European university in terms of arriving Erasmus students, while the Universidad Politécnica de Valencia

was fifth in terms of the number of student sent to study abroad. Taken together, the VLC/CAMPUS universities are already European leaders in student mobility (see *Table 17*):

ERASMUS STUDENTS Ranking among European universities 2007/2008	UV	UPV	
	RECEIVED	2 ^a	6 ^a
	SENT	6 ^a	5 ^a

Tabla 17. Position of VLC/CAMPUS for Erasmus exchange studentse

In addition, it is notable that VLC/CAMPUS has received the support of the Confucius Institute. The headquarters of the Confucius Institute in Valencia is ranked one of the 20 best in the world.

Through programs and activities developed in this institute, VLC/CAMPUS is opening the Asian area and this forms part of our ambitious plans for internationalisation.



2.6.3. STRATEGIC PLANS FOR THE INTERNATIONALISATION OF VLC/CAMPUS

VLC/CAMPUS will encourage internationalisation in seven dimensions (teaching, research, human resources, organisation, communication, structure, and global) with appropriate strategies.

2.6.3.1. TEACHING DIMENSION: TRAINING LEADERS FOR A GLOBAL STAGE

To train graduates for leadership roles in a global society, we propose the following actions:

- implementation of **high performance academic (ARA)** groups in various degree courses;
- creation of the **Valencia International School of Graduate and Doctorate Studies (EIPDV)** to manage the more international VLC/CAMPUS courses such as master's programs

(Erasmus Mundus, etc.) and doctoral programs of excellence;

- **encourage multi-lingual skills** and increase the level and use of English and other key languages by students, lecturers, and administrative staff;
- increase and diversification of **international exchange** activities with more initiatives for lecturers and students.

2.6.3.2. RESEARCH DIMENSION: CONTRIBUTE TO FINDING SOLUTIONS TO GLOBAL PROBLEMS THROUGH SPECIALISATION, INTER-AGENCY COOPERATION, AND THE ATTRACTION OF TALENTED RESEARCHERS.

With the aim of increasing the areas and lines of research from the perspective of broad internationalisation, and in order to remain responsive to new social problems while contributing to finding scientific solutions, the VLC/CAMPUS will:

- implement **Joint Innovation Platforms** in which researchers, lecturers, doctoral students, professionals, and managers bring their diverse experiences together to study complex issues and problems. They will include researchers of international excellence who seek to enhance their global presence while improving their ability to attract emerging groups;
- encourage presence in international projects and events by providing services to optimise and focus resources on promising lines of research;
- construct scientific and technical infrastructures (ICT) able to generate research and transfer high levels of added value.
- Creation of a unit for monitoring quality and best practices in research and transfer in order to accredit installations, services, and laboratories.
- Creation of an observatory of knowledge-based activities (ABACO) with the participation of the Valencian Institute of Economic Activities (IVIE). The observatory will issue periodic reports on economic trends.
- Strengthening of the science parks that are part of VLC/CAMPUS in order to accelerate the creation of technology-based companies and encourage their role in attracting talent and innovation. In this way, the results of research are transferred to society and this further encourages changes in the production model.

2.6.3.3. HUMAN RESOURCE DIMENSION: RECRUIT HIGHLY QUALIFIED INDIVIDUALS IN ALL AREAS.

- recruitment of additional researchers and creation of an attractive hall of residence for Lluís Vives researchers;
- launch of a visiting researcher program and improved job security for researchers;
- designation of international experience as an evaluation criterion for lecturer/researchers;
- special attention is required when identifying and contracting talented staff in the post-doctoral phase. For this stage, we will establish (in coordination with the Valencia International School of Graduate and Doctorate Studies and Inter-University Unit for International Exchange Students) a number of options within the post-doctoral recruitment program that include:
 - foreign visits (research support);
 - integration of PhDs in different research teams to promote multidisciplinary work;
 - incorporation of interdisciplinary training aspects for new lecturers, as well as in the management of research teams and the application of new technologies.

2.6.3.4. ORGANISATION DIMENSION. THE PROVISION OF SERVICES OF EXCELLENCE FOR OUR INTERNATIONALISATION POLICY.

- An integrated perspective on internationalisation requires more dynamic services and organisational structures to meet the resulting challenges. In this sense, VLC/CAMPUS proposes to:
- create an Inter-University Unit for International Exchange Students to assist students at degree, master's, and especially, doctoral levels;
 - launch an **VLC/CAMPUS International Reception and Attention Point;**
 - internationalise other key management units (in communication, academic management, research, and knowledge transfer) that meet certain criteria (criticality to project success, membership of international networks, linguistic ability, etc.).

2.6.3.5. COMMUNICATION DIMENSION. CREATE GREATER VISIBILITY AND EUROPEAN AND INTERNATIONAL REPUTATION FOR VLC/CAMPUS

VLC/CAMPUS will design and develop an **international communication plan** based on a global, cross-disciplinary, and comprehensive internationalisation. The plan will include educational offer, mobility, and European and international alliances. It will project the image of the VLC/CAMPUS as a **specialist – and attractive – scientific centre**.

The development of this communications plan is part of a strategy of dialogue between the VLC/CAMPUS and its various target audiences in order to achieve international visibility and impact.

The measures planned to achieve these results include:

- Definition of a **map indicating the various audiences** and an internal and external **plan for promoting** the VLC/CAMPUS brand.
- Selectively enhancing the presence of the campus in the **media, international exhibitions, and seminars**.
- Extending the **VLC/CAMPUS scientific outreach program** worldwide (paying greater attention to emerging areas of talent acquisition in R+D).
- Enhancing the participation of **VLC/CAMPUS** partners in **projects and international events** aimed at academics and researchers.
- Developing a dynamic **information channel** (WEB **VLC/CAMPUS**) for gathering new proposals (without forgetting the selective use of traditional channels and new modes of communication).

2.6.3.6. STRUCTURAL DIMENSION. DEVELOP AND EXPAND THE PRESENCE OF VLC/CAMPUS AND ITS PARTNERS IN PROMOTING INTERNATIONAL ALLIANCES AND SCIENTIFIC-ACADEMIC NETWORKS:

VLC/CAMPUS partners currently belong to various networks, including: the European University Association (EUA); the Iberoamerican Association of Postgraduate Universities (AUIP); the Community of Mediterranean University (CMU); the European Association for International Education (EAIE); the General Office of Confucius Institutes (Hanbo), the Association of Iberoamerican Educational and Cultural Television (ATEI), the Instituto Cervantes, the European Association for International Education (AEEI), the Collège des Hautes Études Européennes “Miguel Servet”, funded by the EU Jean Monnet programme and Open movement networks, Open Course Ware (OCW) and Open Access (Berlin Declaration). They are also members of other thematic networks aiming at the development of research in certain areas: World Tourism Organization, the Valencia Inter-University Committee on International Relations and Cooperation (CUVRIC), The LRN Consortium and the Association for Job Market Development in South America. They are also integrated into various networks of excellence in research funded by the European Commission under the Sixth and Seventh Framework Programme.

Our action plan will build on the current level of participation of VLC/CAMPUS partners in networks and international agencies by selecting those that are most relevant for strengthening the visibility and international recognition of the campus. This aim is reflected in the following actions:

- Signing of **agreements and international partnerships**, while raising our active presence in our three areas of expertise in university networks at European, Latin American, and international levels.
- Increased participation in international academic networks with benchmarking sessions with leading partners on internationalisation policy issues.
- More active participation in events coordinated by the European Commission to promote the EHEA outside the European Union, as well as the European Research Area.
- Drawing a **map of the international networks** of the campus to enable the development of mobility strategies (for students, lecturers/researchers, and administrative staff) and strategic alliances to support the program and attract talented staff.

2.6.3.7. GLOBAL DIMENSION: ENCOURAGE INTERNATIONAL COOPERATION AND SOLIDARITY BETWEEN SCIENTIFIC AND ACADEMIC COMMUNITIES. GENERATE RESOURCES FOR PROGRAMS IN DEVELOPING NATIONS.

A sense of corporate social responsibility and awareness of the global impact of human and institutional actions requires a special sensitivity to developing nations and populations living in conditions of extreme poverty and exclusion. The **VLC/CAMPUS** shares the Millennium Goals of the UN, and has included a program of solidarity and international cooperation as one of the key dimensions of internationalisation. This program includes a number of current actions that are grouped from a dual perspective.

1. ACADEMIC AND RESEARCH

· **UNESCO Chair for Development Studies:** This Chair has been created to promote cooperation and exchange activities with institutions in developing nations, and is especially aimed at encouraging inter-university cooperation.

The Chair will be active in the following areas:

- university exchange networks;
- encouragement of short-stay visiting lecturers;
- further development and dissemination of educational materials regarding developing nations;
- programs of direct assistance aimed at improving teaching and research infrastructure and specialist training.

· **VLC/CAMPUS postgraduate offer:**

Examples include inter-university doctoral programs of Development Cooperation and Human Rights, Peace and Sustainable Development (Universitat de València and Università degli Studi di Palermo); or the International Master's in Migration (Universitat de València, Université Catholique de Lille, and the Genève Haute école de travail social). In this context, development studies will be a more attractive option for PhD students.

· **Extended offer of complementary modules on development for students** at all levels.

· **Grants:**

Education and higher education is fundamental for expanding the opportunities and freedoms of individuals and societies. Consequently, the strengthening of university systems and wider access to university education is a key objective for development cooperation. To this end, **VLC/CAMPUS** will launch a series of financial resources for scholarships and financial aid:

- tuition fee assistance for students from developing countries;
- accommodation fee assistance for **VLC/CAMPUS** halls of residence for students and lecturers;
- grants for specialised training for young researchers from developing countries.

2. PROJECTS AND ACTIVITIES

Cooperation and solidarity are values that are embodied in joint research projects and initiatives, as well as the exchange of lecturers, researchers, and students with other universities and institutions around the world. In this sense, VLC/CAMPUS has been developing various initiatives in 2010:

- On 19 August the **first mothers' milk bank** in Peru opened. The centre has been installed in the National Perinatal and Maternal Institute (INMP) in Lima.

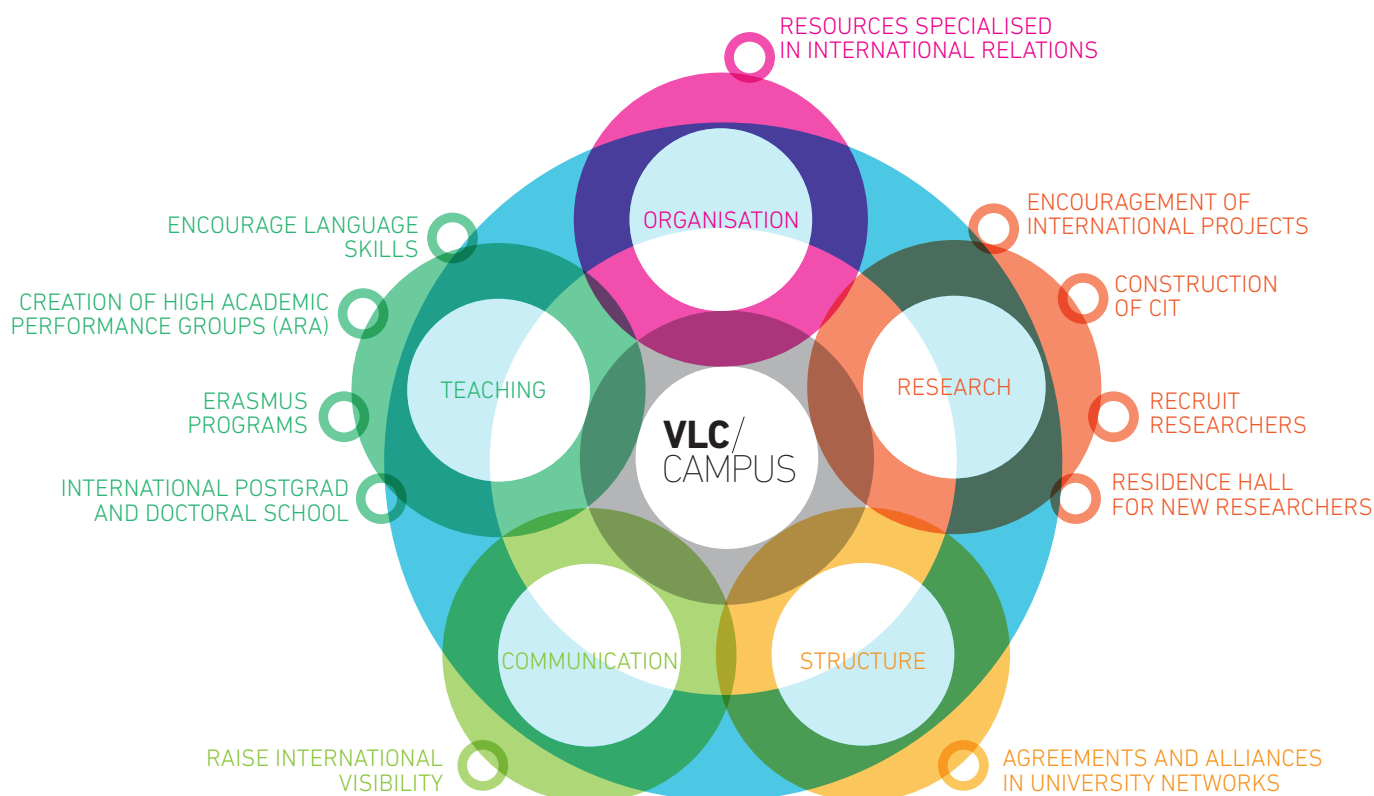
This development project is part of the 0.7% second round organised by the Universitat de València. The project was developed by the Observatory of Nutrition and Food Safety for the Developing World at the Universitat de València, with the cooperation of the Foundation Oswaldo Cross through the Latin

American Program of Human Milk Banks.

- The Universitat de València with funding from the regional government (Generalitat Valenciana) is participating in the proposed construction of **four kindergartens in the city of Medellín (Colombia)**.

This project has the support of the University of Antioquia and Medellín city council in Columbia, as well as the Valencian institutions.

- Currently, VLC/CAMPUS, through the general foundation of the Universitat de València, cooperates in various international development projects funded by the Generalitat Valenciana. These include the construction of an environmental **education centre in Peru and the establishment of help centres for children and adolescents in two cities in El Salvador**.



2.7. VLC/CAMPUS PROPOSAL FOR SUSTAINABILITY (PARTICIPATION IN AN ECONOMICALLY SUSTAINABLE MODEL)

The pollution of seas and rivers, carbon emissions, climate change, depletion of non-renewable energies, food crises, an aging population, and social exclusion are some of the dangers facing our planet unless we make a firm commitment to sustainable development. We are aware that universities have a special responsibility to generate and disseminate this knowledge – as well as finding scientific solutions to the problems that arise.

The members of the VLC/CAMPUS partnership have proposed pooling their best resources to contribute to **Spanish and European sustainable development strategies (SDS)**. This section presents a set of initiatives and activities from the **VLC/CAMPUS proposal for sustainability**.

The **strategy of the European Union in favour of sustainable development**¹³ was launched in 2001 and has since been expanded several times¹⁴. The strategy does not present a single vision of sustainability, but calls for its inclusion in all European policies. This approach has been reinforced by the current economic crisis. **Spanish strategy for economic sustainability** is reflected in a draft bill for economic sustainability that emphasises three fields for implementation: environment, economic, and social. The bill also specifies a **national strategy for innovation** that emphasises the importance of research and knowledge transfer. Research is crucial for the mobilisation of initiatives and resources in aspects such as:

- Renewable energies
- Biotechnology
- Aerospace industries
- Food industry development
- Environmental protection: natural heritage and bio-diversity
- Integrated water management
- Stable and qualified employment
- Public health
- Social inclusion
- Self-sufficiency and dependence

¹³ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009DC0400:ES:NOT>

¹⁴ See: Guide to a European Strategy for Sustainable Development (Guía para la Estrategia Europea de Desarrollo Sostenible) (2007)

This broad view of sustainability and the diversity of issues involved requires an inter-disciplinary and inter-institutional approach to encourage open innovation and create bridges between academic institutions, government departments, and socially representative groups. The **VLC/CAMPUS proposal for sustainability** meets these objectives and those of the Spanish and European strategies for sustainability. Our proposal includes initiatives and actions relating to education and training, research and knowledge transfer, as well as social innovation and scientific communication. The nature of the **VLC/CAMPUS** partnership facilitates cooperation between diverse knowledge areas such as economics and law, architecture and health sciences, engineering, biology and earth sciences, as well as social sciences, education, and the humanities.

VLC/CAMPUS proposes to:

- Encourage excellent and innovative research into sustainability and find solutions to environmental problems.
- Raise awareness and encourage training in sustainability among students and researchers – as well as social, political, and economic leaders.
- Mobilise resources and ideas, facilitate access to research findings, and encourage initiatives that help society find solutions to environmental problems from a rational and scientific perspective.

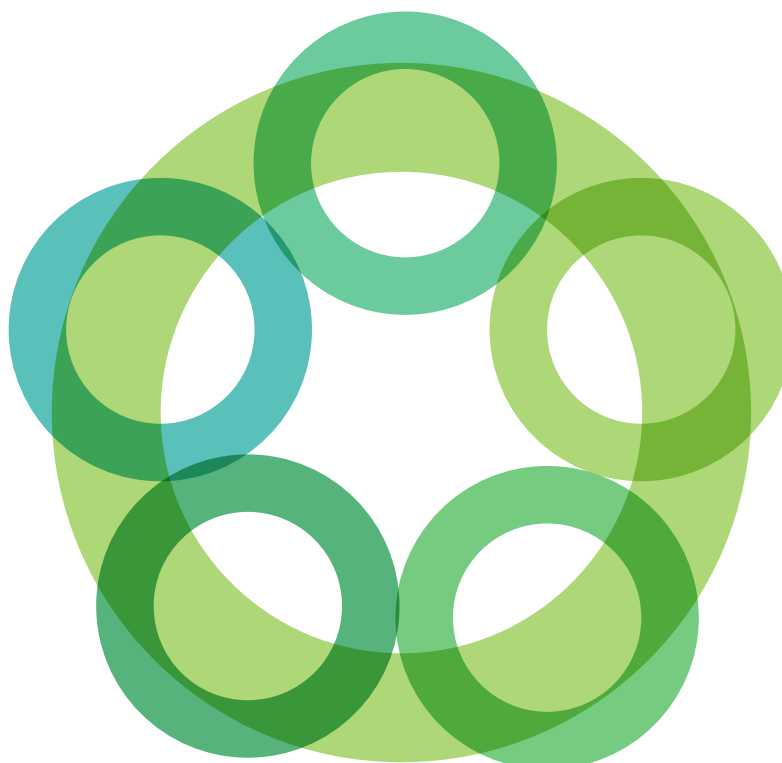
Numerous reports on the regional economy in recent years have stressed the need to change the productive model and move towards sustainability. **VLC/CAMPUS** aims to align itself with all public and private organisations that are working for **sustainable development in Valencia**.

VLC/CAMPUS has a multi-dimensional and integrated sustainable development strategy for **three areas of specialisation**, as well as a **cross-disciplinary** dimension. The objective of the strategy is closely associated with the **sustainable campus** model.

QUALIFIED
TRAINING
OFFER

STRENGTHENING
AND SPECIALIZATION
OF SCIENTIFIC PARKS

PROMOTION OF
HIGH QUALITY
DOCTORAL
PROGRAMMES



PROMOTE THE
DEVELOPMENT OF NEW
MICRO-CLUSTERS

JOINT PLATFORM OF
INNOVATION IN
SUSTAINABILITY

2.7.1. SUSTAINABILITY AS A VLC/CAMPUS SPECIALISATION

Sustainability is one of the areas of specialisation and one of the conceptual pillars of VLC/CAMPUS. The aim is to offer excellence in sustainability and propose far-reaching initiatives:

- **Qualified training** in sustainability with international and accredited doctorate programs. These include: Master's programs in materials and sensor systems for environmental technologies and psychology at work, organisational and human resources (Erasmus Mundus courses); and PhD programs in human rights, peace and sustainable development, biodiversity and science, technology and food safety. This specialist offer has a marked interdisciplinary nature and is based on the many degree courses offered by VLC/Campus partners and experienced teaching staff.

MASTER'S DEGREE COURSES IN:

[Aquaculture](#)

Learning throughout life: education, employment and transformation

[Socio-sanitary care](#)

Advances in research and treatment in psychopathology and health

[Social welfare: individual, family, and group intervention](#)

Biodiversity: conservation and evolution

[Molecular biology, cellular biology, and genetics](#)

Quality and food safety

[Pollution and environmental toxicology](#)

Development cooperation

[Human rights, peace, and sustainable development](#)

Social economics (co-operative and charitable organisations)

[Physiotherapy and aging: health strategies](#)

Sexual equality policies

[Management and promotion of local development](#)

Environmental engineering

[Biomedical engineering](#)

Psychological intervention in social areas

[Research and rational drug use](#)

Research, treatment, and associated pathologies in drug addiction

[Molecular nanoscience and nanotechnology](#)

Psycho-gerontology

[Psychology of work, organisations, and human resources \(Erasmus Mundus\)](#)

Sustainable chemistry

[Theoretical chemistry and computational modelling \(Erasmus Mundus\)](#)

Systems and services in the information society

[Experimental techniques in chemistry](#)

Management techniques for regional environments

[International Master's in migration](#)

Master's in Advanced Architecture, Landscape, Urbanism and Design

[Master's in Plant Molecular and Cellular Biotechnology](#)

Master's in Science and Food Engineering

[Master's in Agricultural and Food Economics and the Environment](#)

Master's in Building

[Master's in Cultural Management](#)

Master's in Business Administration, Supplies and Services

[Master's in Management and Food Safety](#)

Master's in Engineering Acoustics

[Master's in Hydraulic Engineering and Environment](#)

International Master's in Materials and Sensors Systems for Environmental Technologies (Erasmus Mundus)

[Master's in Animal Breeding and Biotechnology of Reproduction](#)

Master's in Plant Breeding. (Interuniversity: UPC, UPM, UC)

[Master's in Alternative Internal Combustion Engines](#)

Master's in Plant Production and Agro-Ecosystem

[Master's in Industrial Safety and Environment](#)

Master's in Energy Technology for Sustainable Development

[Master's in Transportation and Urban Land](#)

Master's in Viticulture, Enology and Wine Business Management

- In light of the new legal framework for PhDs, VLC/CAMPUS will encourage PhD programs centred on sustainability. These new programs will train researchers and lecturers in the application of sustainability.
- A joint platform for innovation in sustainability will strengthen research, knowledge transfer, and innovation. Various **research micro-clusters** are already included (see *Table 18*). The quality and excellence of these centres is recognised through participation in the Innocampus program.

Nº	MICRO-CLUSTER
1	Food safety and use
2	Adaptation of plants to environmentally stressed conditions
3	Sustainable energy
4	Technologies for sustainable water management
5	Intelligent, safe, and sustainable transport
6	Human capital, health and labour in a sustainable economy

Table 18. Research micro-clusters associated with sustainability

- Additionally, VLC/CAMPUS intends to foster new **micro-clusters**, including research institutes (such as the Institute for Local Development – or the University institute of Food Engineering for Development), research groups (such as Polibienestar, which researches sustainable social policies and technologies applied to sustainability) and **emerging groups**.
- VLC/CAMPUS aims strengthen the role of **science parks** as increasingly specialist tools that connect science, technology, and the business market in our areas of expertise: health, information/communication, and sustainability. In this way, VLC/CAMPUS will create Valencia's largest area of shared research between universities and business – and one of the largest in Spain.

2.7.2. VLC/CAMPUS AS A SUSTAINABLE CAMPUS

For VLC/CAMPUS, sustainability is a cross-disciplinary dimension that is implicit in every action and forms part of the social model of the campus. Sustainability is part of our corporate social responsibility and our commitment to regional development and the European social model.

1. To ensure that VLC/CAMPUS develops as a sustainable campus, a **sustainability master plan** will be developed in a similar way to the International Sustainable Campus Network (ISCN)¹⁵. This master plan will include a program of actions – of which the following have already been implemented:
 - Encourage the use solar and alternative energies on campus. VLC/CAMPUS already operates the most powerful solar energy urban park in Spain. This installation prevents the annual emission of nearly 750 tons of CO₂. The expected output is nearly 1,500,000 kWh per year, which is equivalent to the annual consumption of more than 330 families.
 - Encourage sustainable transport with support for the use of bicycles in every part of the campus. This initiative includes the negotiation of new infrastructure (bike paths) and services with the appropriate government departments.
 - Implementation of energy efficiency programs throughout the campus.
2. In the field of training, this approach involves developing a **plan of awareness raising for the entire university community** – and the introduction of a **sustainability curriculum**. The aim is to ensure that all students who pass through the lecture halls of the VLC/CAMPUS acquire an understanding of environmental issues.
3. The following actions with local and regional communities are planned: :
 - The creation of a **Landscape Observatory** together with the regional government (Generalitat Valenciana). This inter-university project is the result of an agreement with the regional department of environment and will monitor Valencia's natural heritage in a similar way to other European observatories. The Inter-University Institute for Local Development (IIDL) is also participating.

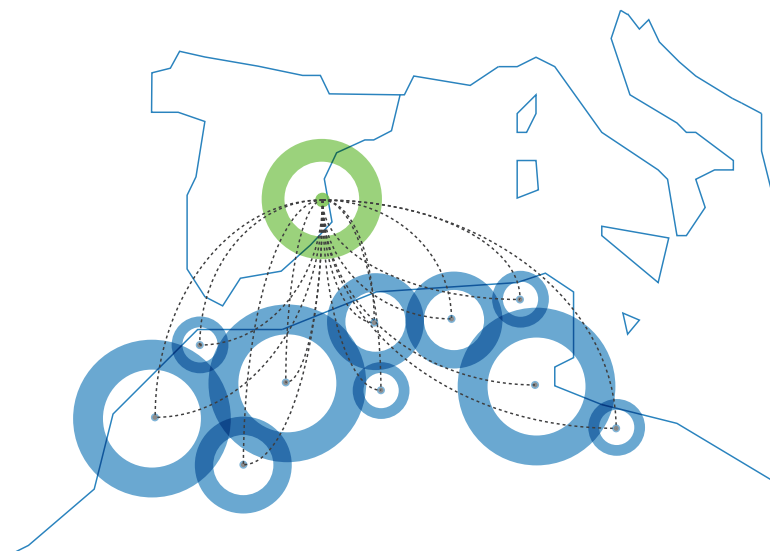
¹⁵ <http://www.international-sustainable-campus-network.org/>; <http://www.sustainablecampus.org/universities.html>; <http://www.greencampus.harvard.edu/>; <http://environment.stanford.edu/cgi-bin/index.php>

- The following proposals aim to adapt the physical spaces of the VLC/CAMPUS:
 - a. The allocation of an annual budget for upgrading and improving urban integration to create a healthier, more sustainable, and friendlier campus (signage in English, universal accessibility, etc.).
 - b. A restructuring of the current UV Campus dels Tarongers by adding **new garden landscaping** on 15% of the space (53,000 m²), planting more trees, and incorporating the necessary protective mechanisms.
 - c. The construction of new infrastructure, such as the VLC/CAMPUS Portico, the Espai Innova with Gandia city council, and a centre for the Confucius Institute.
 - d. The restructuring and expansion of campus Vera as a urban border with a garden as an example of integration of open spaces and the relationship between urban space and the protected area of farmland.
 - The creation of a specialised **forum** for discussion at the Innovation and Strategy Centre (CIE) with the participation of social, political, and cultural representatives.
4. In the realm of natural heritage we propose:
- The construction of a natural science museum. This will be located next to the UV Botanical Garden and display the important collection assembled by the biologist P. Ignacio S.J. In addition, the old farmhouses on the Campus de Vera will be preserved to enhance the natural heritage.
 - New resources to encourage research and conservation work at the Botanical Garden of the University of Valencia (founded in 1567)¹⁶. The garden is a study and teaching area located near the centre of Valencia city and measures approximately 13 hectares. It has been used during the past 200 years for growing medicinal herbs and plants. The garden currently devotes its research efforts to exploring plant diversity; the protection of rare, endemic, or threatened species of Mediterranean flora; and the conservation of natural habitats..
5. In the field of scientific communications, the VLC/CAMPUS will encourage communication of activities in the campus areas of expertise. Special emphasis will be made on publishing results on sustainability by building on the measures included in the **General Plan for Science Communication** (see section 2.1.4) of the VLC/CAMPUS.
- VLC/CAMPUS will develop a **unit for inter-institutional scientific development** in order to manage the general plan for science communication and make the project objectives and results known. This will be achieved by maintaining a close relationship with the media, other campuses of excellence, and government departments, etc. VLC/CAMPUS will also support other actions and alliances beneficial to the scientific reputation of the VLC/CAMPUS brand.
 - Strengthen the activity of the Chair of Scientific Dissemination in the area of sustainability.
 - The annual publication of an issue (in three European languages) of the journal **METHOD**¹⁷ (a refereed journal published by the Vives University Network) dedicated to the dissemination of scientific results on sustainability.

¹⁶ <http://www.jardibotanic.org/>

¹⁷ <http://www.metode.cat/>

NETWORK OF MEDITERRANEAN COOPERATION



2.8. ALLIANCES AND NETWORKS

2.8.1. CURRENT SITUATION

As mentioned in section 2.6 regarding internationalization, VLC/CAMPUS belongs to numerous networks related with specialised campus areas.

In Europe it has a strong presence and participates, both as partner and member of the different managerial bodies, in important networks which lay the foundations of university cooperation on the continent. The first of these, and one of the most important, is the **European Universities Association (EUA)** with representatives from higher education institutions of 46 countries. It also forms part of the **European Association for International Education (EIAE)**, as part of its international strategy, of other vertical networks which are the basis for setting up agreements in specific areas and of **Heads of University Management & Administration Network in Europe (HUMANE)** for the improvement of management practice in higher education. The following can be included in this latter group: the “**Miguel Servet**”¹⁸ **College of European Higher Education**, the **European Society for Engineering Education (SEFI)**, the **Top Industrial Managers Europe (TIME) network**, and the **Conference of European Schools for Advanced Engineering Education and Research (CESAER)**.

Participation in the **Ibero-American University Association for Post Graduate Studies (AUIP)** will allow the campus to value in Latin America many of the actions related with the Postgraduate in International Excellence, such as the Valencia International School of Postgraduate and Doctorate Studies, or setting up joint degrees. It is also member of the executive committee of the **Network for Continuing Education in Latin America and Europe (RECLA)** which will be an important reinforcement for the international projection of the VLC/CAMPUS Life-Long Training Centre. In North America it is worth mentioning the Collaboration Consortium in **North American Higher Education (CONAHEC)** and the **American Society for Engineering Education (ASEE)**.

¹⁸ Financed by the Jean Monnet programme of the European Union

In the Mediterranean field it already forms part of one of the university networks with greater presence in the area ie: the **Community of Mediterranean Universities** (UNIMED) and is a field in which VLC/CAMPUS, as shall be seen further along, aims to reinforce its presence with the creation of the **Mediterranean Cooperation Network**.

VLC/CAMPUS is present in other **thematic networks** which have research development in specific areas as their objective: the **World Tourism Organisation** (OMT), the **Valencia Inter-university Committee on International Relations and Cooperation** (CUVRIC), the **Network of Valencian Universities for the promotion of Research, Development and Innovation** (RUVI), the **Joan Lluís Vives Institute**, the **LRN Consortium**, the **International Astronautical Federation**, the **international Association of Science Parks**, the **Association for Development of the Labour Market in South America**.

As regards **promoting languages**, VLC/CAMPUS forms part of two important networks covering the most commonly spoken languages on the planet, namely the Sistema Internacional de Certificación del Español como Lengua Extranjera (SICELE) and the Instituto Cervantes **Hanban/Confucius Institute**.

VLC/CAMPUS constitutes part of the **Open Course Ware (OCW)** consortium, which allows it to spread and share knowledge generated on campus in an open manner along with other institutions like the Massachusetts Institute of Technology.

VLC/CAMPUS is also currently member of the **Weiterbildungszentrum Brennstoffzelle Ulm E.V.**, a network in charge of promoting the use of renewable energies in the field of education which will serve as a basis for activities related with this subject and is described in the section on **campus transformation**.

Also to be noted are the research activities funded by the European Commission in the 6th and 7th Framework Programme which are aimed at creating **networks of excellence in research**.

VLC/CAMPUS has at its disposal a specific action which is aimed at making use of the synergies which may arise from collaboration between institutions such as the **map of international networks**.

2.8.2. FUTURE PROJECTS IN THE VLC/CAMPUS FRAMEWORK

The campus proposes the development of two networks which, besides promoting cooperation and exchange of experiences, also act as support to activities of attracting talent, mobility and international exchange which are reflected throughout the report. The first of these planned networks, the **Mediterranean Cooperation Network**, has a nature of cooperation and exchange of knowledge and technology in a specific geographical field. The second of these, the **Metropolis Network of Excellence**, aims to search for synergies between campus of similar characteristics which can find global solutions to common problems.

2.8.2.1. MEDITERRANEAN COOPERATION NETWORK

The Mediterranean Cooperation Network aims to increase university cooperation in those countries bordering on the Mediterranean Sea and in particular with the Magreb countries. It has been set up due to the sharp rise of cross-border migration flows and a considerable increase in the presence of students and teachers from the Magreb countries in recent years.

VLC/CAMPUS is developing numerous cooperation programmes with the Magreb countries. The three institutions of central aggregation have **more than 70 active programmes** mainly financed by the Spanish Agency for International Development Cooperation (AECID) and the European Union (UE), with support from the Valencia Regional Government and their own programs through the Sub-Nord

Board and Commission 0.7 which imply important exchanges and donations for the different participating institutions. The critical mass that has been reached allows for a qualitative jump towards an integrated and strategic Mediterranean cooperation project articulated in a first phase by way of a **cooperation network in specialised campus areas**.

In the VLC/CAMPUS framework this network is one of the tools which will allow internationalization and cooperation actions to take place. (These appear in section 2.6.) It shares the set objective of **promoting international cooperation by encouraging solidarity between the scientific and academic communities and generating resources for programmes in developing countries**.

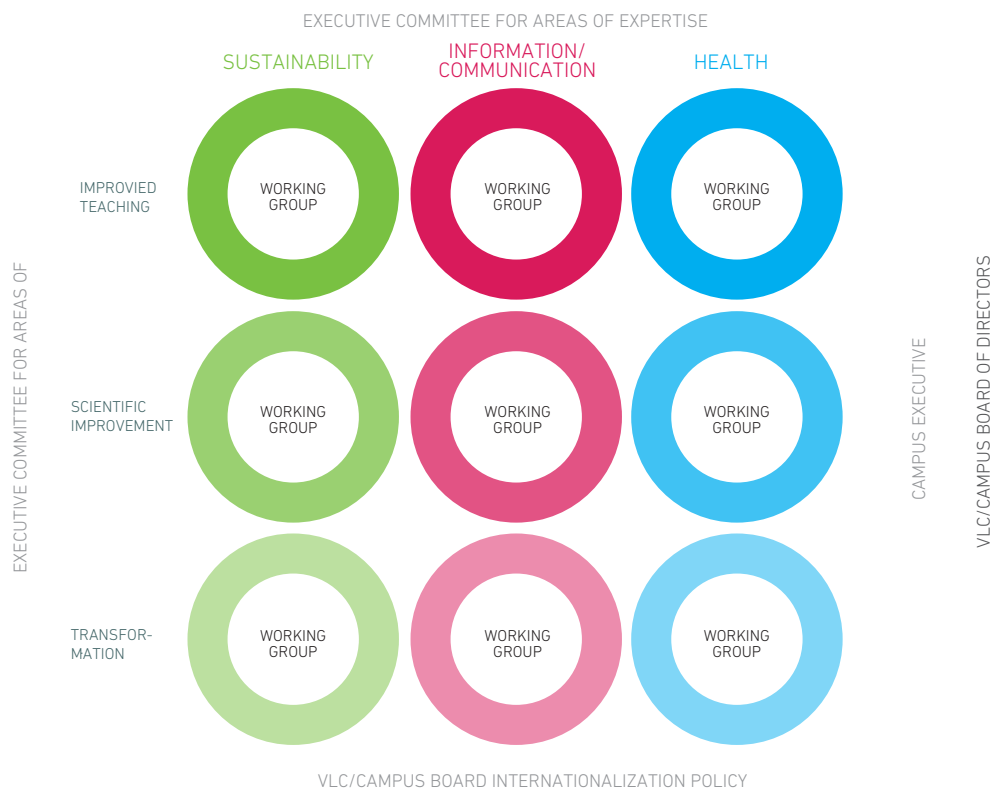


Figure 14. Mediterranean cooperation network model of government

The **Mediterranean Cooperation Network** will integrate collaboration activities in the Mediterranean area of existing projects and will promote cooperation with the countries in the Maghreb and the Mediterranean Arc.

Collaboration will be based on specialised areas of the project (health, information/communication and sustainability) and will deal with three action areas: improved teaching, scientific improvement and campus transformation. In the first two areas the **number of collaboration programmes** will increase and there will also be a considerable increase in the **exchange of technology and knowledge** between VLC/CAMPUS and network members. In the third area, specific collaboration actions will be set up with development projects with other countries, and form will be given to a set of initiatives which recognise the **international strategic importance of the Mediterranean region as a hub of development**.

This network will have as its mission the elaboration of a **strategic map of actions in Maghreb**, that allows for the consolidation of academic and research offer and acts as support for the international cooperation activities that VLC/CAMPUS is developing in the area.

As regards this network's model of government, a matrix model where work groups have greater importance is used. Coordination of network results is carried out at both at levels of specialised areas as well as those of action. For this reason two coordination committees are set up for each level. Finally the obtained results are monitored by campus executive management which will check that the work is in line with VLC/CAMPUS internationalization policy and that it will also have the function of informing the campus Administration Council. This model of government is reflected in *Figure 14*.

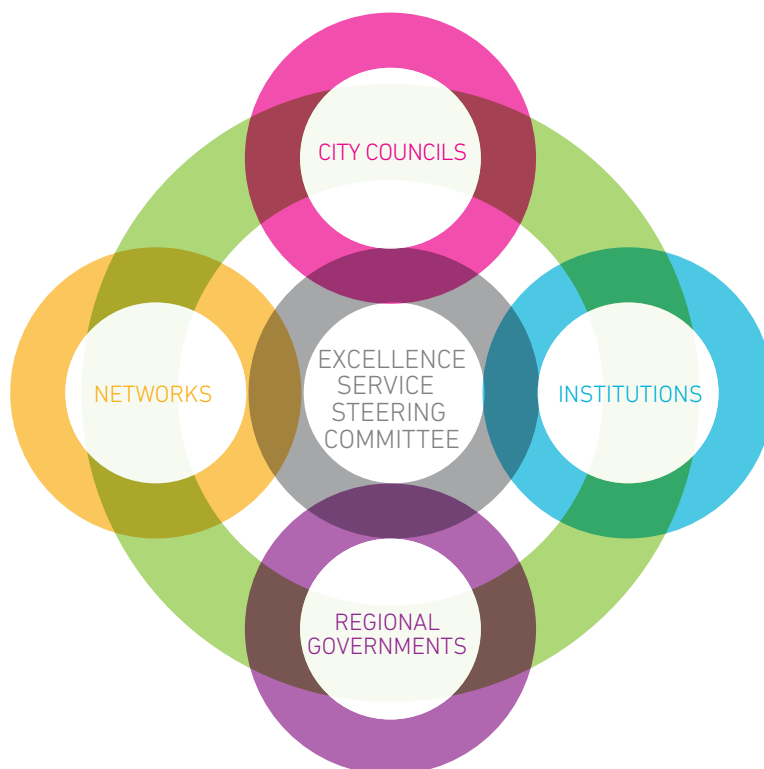


Figure 15. Model of Metropolis Network of Excellence government

2.8.2.2. METROPOLIS NETWORK OF EXCELLENCE

VLC/CAMPUS is a distinctly metropolitan project, where strong integration and identification of the campus project converge with the city project. Making use of this strength, we aim for cooperation and setting up agreements with other campuses of similar characteristics.

The **Metropolis Network of Excellence** will promote alliance with other distinctly metropolitan projects and that they are also within the framework of international excellence initiatives developed in Europe. Projects developed in France in Operation Campus, those developed in Germany in the Initiative for Excellence and those promoted in the UK will be taken as a basis.

This network will focus on the search for Campus-City cooperation mechanisms in order to create intelligent territories which increase the concentration of human capital, talent and innovation in the implementation areas of those network campus members. It will search for global solutions to

common problems, encouraging exchange of experiences and good practice contextualized to the individual situation of each campus. The network will have a high specialised level in concentration of talent in intelligent territories and will take the case of Lyon Cité Campus as a pilot test to establish its starting point.

Apart from participation of the campuses themselves, collaboration with regional development networks, as well as other types of supranational organisms like the European Committee of the Regions will be promoted. These should contribute towards promoting creation of knowledge, regional development and talent sharing from an international perspective.

The proposed model of government represented in *Figure 15* will be composed of an executive committee made up of representatives of different campuses, regional governments, councils and organizations involved in the project.

ANNEX 1

EVALUATION OF **VLC**/CAMPUS SOCIOECONOMIC CONTRIBUTIONS

BY INSTITUTO VALENCIANO DE INVESTIGACIONES ECONÓMICAS (**IVIE**)

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1. INTRODUCTION

The University of Valencia (UV), the Universidad Politécnica de Valencia (UPV) and the National Research Council (CSIC) promote **VLC/International Excellence Campus** (hereinafter **VLC/CAMPUS**), a project aimed at the development of Science and Technology for Quality of Life in the 21st Century, comprising a broad range of initiatives to implement in coordination with the three institutions.

VLC/CAMPUS aims to turn the metropolitan area of Valencia into a scientific and technological referent with international projection and transformation of its close economic and social environment, relying in particular on its potential in the areas of health, information/communication and sustainability.

This report compiled by the Instituto Valenciano de Investigaciones Económicas (Ivie)¹ evaluates the project prepared by the promoter institutions from the perspective of their potential socio-economic contributions.

The first section describes the **VLC/CAMPUS** approach and provides a summary of the assessment carried out by the Ivie. The rest of the Report is structured in three sections. Section 2 provides the characteristics of the higher education and research involved institutions in **VLC/CAMPUS** and the circumstances that may influence the outcome of their actions. Section 3 discusses the project's potential contribution to overcoming the weaknesses and threats in the developing institutions and in the socio-economic environment. Finally, Section 4 brings together a collection of reflections and proposals for developing a scheme to monitor the activities and results of **VLC/CAMPUS**, through a system of indicators to assess its performance on an ongoing basis and increase its effectiveness.

¹ The Ivie is a research center with a reputable national and international experience in the analysis of sources of economic growth, and especially the economic and financial problems of education, in collaboration with researchers from six Spanish universities and a large team of specialists. Ivie's team has published since its inception in 1990-91 about 1,400 monographs and articles in scientific journals, and one of the lines of work which has gained greater recognition is the analysis of the economy and the universities of Valencia (www.ivie.es)

2. APPROACH

The objectives of VLC/CAMPUS are in line with European governments strategies aimed at strengthening the role of universities and research institutions in developing the knowledge society and to promote actions in this *direction*. However, the obstacles to overcome for these strategies to be effective are important. The difficulties encountered by the countries of the European Union (EU) by 2010 to meet the Lisbon Agenda, which sought to strengthen Europe's competitiveness in the world based on knowledge, are a clear example. The obstacles are greater in countries like Spain and in regions such as Valencia, which have not intensive production systems in the use of technology and human capital, and reduces the incentives for companies to develop R&D+i and makes it more complicated by strengthening its partnerships with universities.

However, in the Spanish and Valencian case during the last economic upswing two significant changes have taken place, which should not be underestimated. The first is the substantial progress of university graduates in firms, in technical and managerial positions. Between 1995 and 2010, the number of graduates employed in Spain and the Valencia region has gone from 1,944,835-4,805,880, and 168,202-446,567, respectively, that is, it has been multiplied by 2.5 in the first case and by 2.7 in the second. The employment of university graduates is a prerequisite and a necessary condition for growth of R&D&i activities in firms and to address other changes to intensify the use of knowledge in them.

At the same time, changes are taking place in the tradition of many public universities to guide their actions by paying attention mainly to the demands of the scientific community. A growing number of Spanish universities and university students is changing the vision of their role in today's society, recognizing the need to respond to social and economic demands, and the importance of taking entrepreneurial initiatives related to their core activities of training and research. This change of perspective coincides with the adoption by the institutions of a government approach and a more strategic direction: the objectives of improving the provision of educational services, research and transfer have become more explicit; they have begun to build information systems aimed at evaluating the results and exercise accountability to society that legitimize the use of the funds received and justifying the demand for more resources to better meet social demands. The three institutions that promote the VLC/CAMPUS project have participated intensively in recent years in this dynamic change, with the approval of strategic plans in recent years by all of them.

Despite this progress, **the economic crisis has highlighted that change occurs too slowly**, both in the developing institutions and in their environment. It is now more urgent to have the contributions of knowledge-producing institutions, not only to transform the production model but to restore growth on different terms. The development of a pattern of growth capable of generating more added value requires the use of knowledge-based assets, which seems difficult without adequate participation of universities and research centres.

Thus, **the institutions that promote the VLC/CAMPUS project made their proposal at a time that offers great opportunities for ambitious initiatives of this nature and makes them even more necessary**. But getting the same success also poses considerable difficulties. First, because the changes, both within institutions and in their environment, are not readily available. In addition, because the needs of knowledge-increasingly perceived by companies, businesses and individuals-can be met by very different institutions, near or far. That competition makes knowledge applicants more demanding with any of the bidders, for which there are abundant opportunities but also threats from competitors.

What may be, in this context, the added value of the VLC/CAMPUS project? The main potential contribution of this project is that the planned measures can help foster changes in important ways to strengthen capacities, correct weaknesses and take advantage of opportunities:

- Clearly, the institutions that make up the project have proven capabilities to develop teaching, research and technological development, as exemplified by his significant contributions over the decades in all these areas and their track record of improvement in them.
- But we also have features that limit their contribution in the three areas and their ability to compete in the nearest local environment and, above all, internationally.
- These constraints are more relevant today and require appropriate action to seize the opportunities that are occurring.

Responding to the question posed in the preceding paragraph shall be the central focus of this report. To answer this question objectively and realistically, we have developed an analysis of the trajectories of universities and of the Valencian economy and an assessment of the contribution VLC/CAMPUS can make to improve the functioning of the developing institutions and their environment with particular attention to the alignment between the needs and the strategy proposed by the project.

The greater the consistency between the objectives of VLC/CAMPUS and needs, and the firmer the support of its activities, the more effective the efforts. *Figure 1* illustrates this argument by indicating that the alignment of actions with the key needs is to multiply the impact of the former. It also suggests that without a solid support, based on the actual capacity of the institutions, the project will be difficult to operate as a lever capable of lifting the burdens of internal and external weaknesses. Thus, three key issues for the evaluation of the project will be the evaluation of the needs assessment, the adequacy of the actions and the strength of the selected axis.

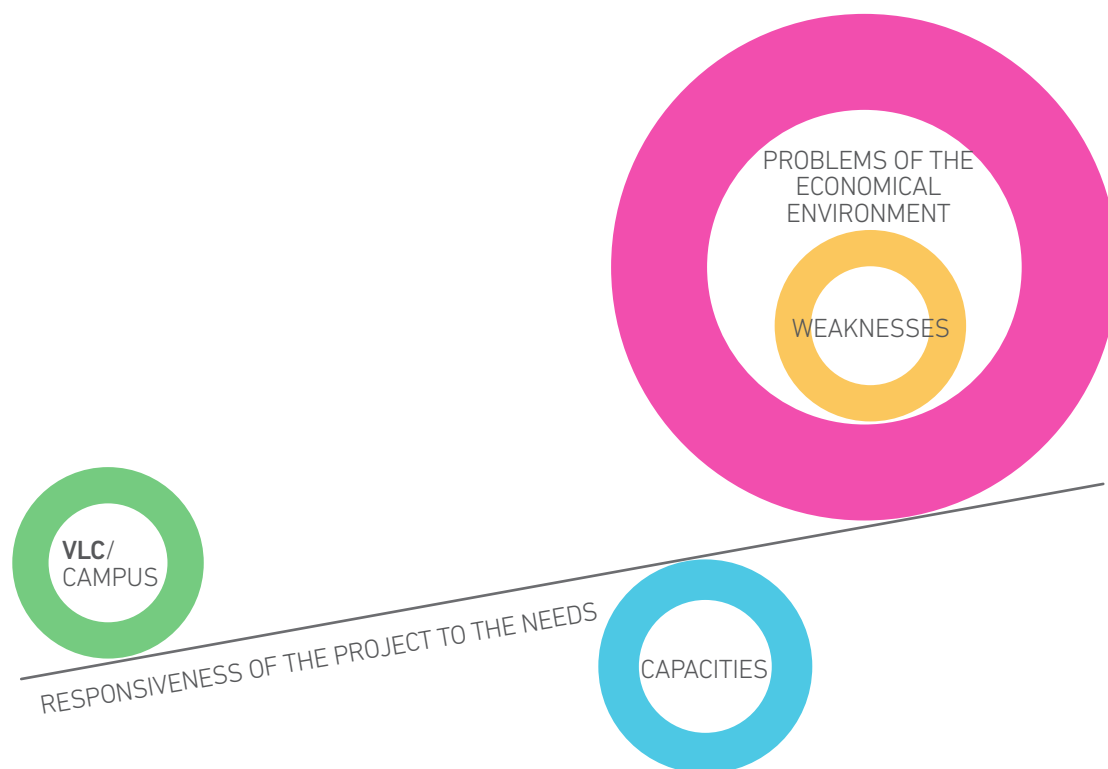


Figure 1. Reduction process of weaknesses of the VLC/CAMPUS project

3. SUMMARY OF RESULTS

The central question raised by this report is, therefore, if the VLC/CAMPUS project can add value, producing results within the developing institutions and their environment:

- **In order to answer *ex ante*, we must reflect on the effective capacity of the proposed changes needed to promote the Valencian Region to engage more intensively than hitherto in society and knowledge economy and to move decisively relying on a better use of the capabilities of universities and research institutions.**
- **To respond *ex post*, when the project is underway, we should rely on an information system to assess the development of VLC/CAMPUS, its products (outputs) and outcomes and impacts (outcomes), both internally and in society.**

The *ex ante* response of the report to the question is positive: **the potential impact of the improvements that VLC/CAMPUS can be generated is high, for three main reasons:**

- The project is a realistic analysis of internal and external needs and identifies major strengths in the institutions that promote it.
- Their performances are consistently articulated around a strategy that gives more ambitious improvement plans already in place and can take advantage of synergies between institutions that have sufficient dimension for their impulses to be noticed.
- Its strategic priorities are supported by specialized institutions strengths and respond to opportunities offered by the environment, so that they can operate as a fulcrum of the lever mobilizing the required transformations.

At the same time, the report also follows the conclusion that, to realize (*ex post*) that potential it will be critical:

- To enforce the willingness of the promoters of the initiative to add a large number of institutions in the environment.
- To decisively address the changes required within institutions to channel resources and efforts to the objectives pursued.
- To capture and reallocate resources so that the different existing initiatives, including the most ambitious, are feasible.
- To continuously monitor the results and direct the same strategy accordingly.

The **strengths of the project** that support this overall assessment are:

- **It places the focus on globalization:** VLC/CAMPUS makes practical proposals to strengthen its capacity to attract talent to the metropolitan area of Valencia, and to serve the growing need for globalization to deploy separate building strategies of the nuclei and more international power units, teaching and research.
- **It proposes a strong commitment to the environment:** VLC/CAMPUS presents articulated proposals to strengthen the connections between the developing institutions and enterprises and administrations, training, knowledge transfer and innovation, responding to the demands and needs of the environment.
- **It provides collaboration based on a model of open innovation:** VLC/CAMPUS launched a strategic proposal to society very valuable at this time of crisis in the previous production model, because it defines the lines on which progress in building an open innovation model and a pattern of knowledge-intensive growth.
- **It properly focuses the specialization of the project:** VLC/CAMPUS stands among its three areas - health, communication and sustainability, for which it has expertise and offers powerful opportunities for development initiatives in cooperation with companies and institutions around them.
- **It proposes a strategy well articulated with the above:** VLC/CAMPUS is not new, but reinforces the strategies that institutions are already running, building on progress and raise more ambitious goals.
- **It allows to take advantage of synergies:** VLC/CAMPUS proposes that institutions jointly tackle a number of weaknesses and opportunities, taking advantage of potential synergies between them and other agents added to the project.
- **It proposes ambitious and well-structured action:** VLC/CAMPUS has a well-targeted set of actions to remedy the weaknesses, and an adequate scheme of management and governance.

The assessment of the project in paragraphs 2 and 3 of this report allows to **identify** the most relevant **capabilities and limitations of the institutions that promote VLC/CAMPUS and their environment and relation to current and future opportunities**. In summary, grouped by topics, they are:

Teaching

- VLC/CAMPUS has proven ability to deliver higher education services in all branches of knowledge. Its contribution has been instrumental in substantial improvement of human capital in the Region in recent decades.
 - But part of the human capital formed is not used properly, due to imbalances between training supply and demand and limited international projection, and also to the characteristics of the Valencian economy, little knowledge-intensive. It is necessary to improve the characteristics of the proposal to reinforce the contribution of graduates to society and economy of their environment, facilitating their transformation.
- **VLC/CAMPUS now has the opportunity to impel a selective and realistic reinforcement of the universities' teaching capacity by redirecting the offer towards higher standards in which they are most competitive and most in demand, in such a way as to improve their Spanish and international reputation and give them an advantage in attracting talent.**
- **VLC/CAMPUS now has the opportunity to transform the profiles and qualifications of professionals and entrepreneurs in the area and in this way to make possible the changes that industry needs to intensify its use of knowledge.**

International competitiveness

- The institutions participating in VLC/CAMPUS are highly placed in Europe in their capacity to attract Erasmus students and are beginning to draw post-graduate students in higher numbers, especially from South America.
 - But the presence of the promoting institutions is very limited so far in a critical area for its international visibility and prospects for attracting talent: the ability to compete in the graduate and doctoral training in fields that include its researchers.
- **VLC/CAMPUS makes a selective commitment of graduate and doctoral training of international quality in areas where research has more power, enabling it to compete for the attraction of young talent and researchers to our country, strengthening and consolidating groups of international recognition.**

Science and Technology Transfer

- VLC/CAMPUS has a remarkable record of research and development of technological capital in several areas: its institutions are key actors in the region in the field of R& D&i, concentrating the bulk of expenditure and specialist human resources available in this area and some of its research units have developed a network of connections to the production base that has grown over the last decade.
 - However, although their weight and resources stand out in the regional context, they cannot place too much reliance on the type of industry prevalent in the area, which is not highly knowledge-oriented and is mostly made up of small and medium sized companies.
- **VLC/CAMPUS represents an operative proposal for the institutions that compose it and the social and economic environment helps to ensure the renewal of the productive sector through a joint strategy based on increased production of science and technology and improve its use by companies facilitating the orientation of activities towards knowledge intensive.**

Competitive research

- VLC/CAMPUS has a large number of research groups of excellence with proven competitive capacity and international prestige.
- However, many of these are not based on platforms that would allow them to use all of their potential and are struggling to survive in a demanding environment in which other institutions are continually being reinforced.
- **VLC/CAMPUS is an opportunity to selectively raise the quality of research in its participating institutions to reinforce centres with the greatest scientific and knowledge transfer potential, so as to make them more productive and give them the capacity to provide feedback for the knowledge generation process and its funding.**

Cooperation with the environment

- The size and nature of the institutions involved in the project gives them a remarkable ability to influence regional and metropolitan environment because of the number of people and to attract and retain cultural and economic profile of these are crucial to reach set Valencia area as a hub of knowledge.
- However, the ability to take advantage of the inter-university synergies and the institutional and social environments in Valencia's towns and cities is limited by the lack of a well-defined joint strategy and the low number of cooperation activities.
- **VLC/CAMPUS offers an opportunity to identify and implement a strategy for regional and metropolitan cooperation, articulated around the changes that are proposed to encourage universities and research centres and involving the other institutions in offering services that make it viable to attract and retain talent and knowledge-linked activities to Valencia.**

Priority axis with high transforming potential

- Health, communication and sustainability are areas of teaching and research activity in which the institutions promoting VLC/CAMPUS have outstanding talent and ability to compete nationally and internationally, with significant concentrations of human capital.
- But the support structures with which these areas of specialization have to strengthen their business and projection have been limited and, especially, have lacked a strategy as the basis of the answers that society and the economy should give to problems such as the quality of life, reducing dependency of highly cyclical activities with a high environmental impact or the reinforcement of knowledge-intensive.
- **VLC/CAMPUS intends to structure its activities around priorities that offer the potential to become engines of change that Valencia needs and that its privileged location in the southeastern shore of the Mediterranean permits. Health, communications and sustainability can be fertile ground for the development of high value added activities based on human capital and the exploitation of information technologies and communication technologies (ICTs), aimed at quality of life.**

What might be the impacts of the actions foreseen in the project and what might be their importance for the use of the above opportunities? To answer these questions, the third section of the report examines the correspondence between the most important activities of VLC/CAMPUS and weaknesses needed to alleviate. **The conclusion of this analysis is that most of the activities of the project are linked to the problems identified and are capable of contributing to their solution.**

The actions provided by VLC/CAMPUS articulate around three main areas (teaching improvement and adaptation to the European Higher Education Area (EHEA), upgrading and transfer of scientific knowledge, transformation of the campus for a comprehensive social model). In addition, they respond to the choice of providing the project with expertise defined axes (Health, Information/Communication and Sustainability), which are in line with scientific and technical capabilities and highlights the need for the environment to find a way to participate in the opportunities offered by the development of a knowledge-based society and quality of life.

The most important activities in the first area, training, are aimed at substantially increasing the internationalization of the teaching offer - particularly postgraduate and doctoral - develop a program of excellence in teaching based on a range of qualifications tailored to the demand and able to attract talent, and complete adaptation to the EHEA. These are actions with significant potential impact on internal weaknesses identified in teaching activities, and also in the weaknesses of the labour market environment, the use of human capital and ICT.

The key activities to improve science and knowledge transfer are to strengthen the joint resources for research and innovation, and develop programs to attract talent and recovery of R&D&i. Joint Innovation Platforms in each field of specialization, the plan for strengthening science parks and the recovery program are important actions for their potential impact on identified weaknesses in the internal matters of research and transfer, and also in weaknesses relating to the productive environment and cooperation between the university and society. In that sense, it should be noted some actions foreseen in the third of the areas referred to as the Center of Lifelong learning, Innovation and Strategy Center and the Employability and Employment programs, and cooperation with higher schools of vocational Training.

Table 1 lists the main expected impacts, bringing together the areas where they occur in two broad categories, which refers to the inside of the institutions (teaching, research and transfer, organization and relationship with the environment and communication) and their socio-economic (productive and labour market, human capital and use of ICT and collaboration between university and society).

Regarding the monitoring of the project, paragraph 4 of the Report notes the importance and difficulties of developing a comprehensive system of indicators and well thought out, to evaluate the deployment of a project as ambitious as VLC/CAMPUS, as well as products and results. It also highlights the importance of having in mind that a project of this nature acts in many directions and generates some of its short-term and long-term impacts, being important to consider adequately the times when results are measurable, especially those that should occur on the environment.

FIELDS OF ACTION		IMPACTS EXPECTED FROM VLC/CAMPUS
WEAKNESSES OF INSTITUTIONS	Teaching	<ul style="list-style-type: none"> · Better adaptation and increased demand · Better structuring and internationalization of offer · Improved academic performance · Recognition of quality teaching
	Research and transfer	<ul style="list-style-type: none"> · Enhancing research productivity · Improved fund attraction from agreements and contracts · Increased visibility of activities and results
	Organization	<ul style="list-style-type: none"> · Development of the organizational culture of quality and accountability · Improved organizational structure to support research · Better training of managers · Improved quality management of qualifications
	Relationship and communication environment	<ul style="list-style-type: none"> · Implementation of a communication strategy · Design of an offer consistent with the needs of the environment · International orientation of teaching and research
CONTEXT PROBLEMS	Production structures and labour market	<ul style="list-style-type: none"> · Employment growth in high technology activities · Advance towards a social and productive knowledge-based model · Improve the employability and employment of graduates · Advance in attraction policies, training, recruitment and stabilization of talent · Intensification of technological innovation and sustainable strategic development
	Utilization of human capital and ICT	<ul style="list-style-type: none"> · Reduction of imbalances in the market of university students · Reduction of unemployment of graduates · Adequacy of skills to the demands of firms · Improvement of the skills of graduates in languages and use of new technologies · Increased entrepreneurship capacity of graduates
	Collaboration between university and society	<ul style="list-style-type: none"> · Improvement of the quality and transfer of knowledge and innovation · Increased social interest in science and technology · Growth of the activity of professional development training throughout life · Increased number of technology-based firms

Table 1. Expected impacts per field of action

VLC/ CAMPUS

VALENCIA, CAMPUS OF INTERNATIONAL EXCELLENCE

