THINKING SMART

Toolkit for the engagement of HEI in regional growth

# Polytechnic University of Valencia (UPV)

The Entrepreneurial Discovery in HEIs

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# 1 Introduction

The development of the activities and tasks of the UPV in WP3 involves some activities/objectives whose feasibility is quite questionable. Specifically, the initial approach was based on the fact that it would be feasible to bring together representatives of industry, local government, high level University staff, senior researchers, etc. by assuming that they would be easily available to collaborate and participate in work meetings of an ERASMUS + project. Even recognizing the great interest of the project, the fact that it is developed within an ecosystem (UPV) - where there are close to hundred active projects financed by the EC (H2020, ERASMUS+ LIFE, etc.) - makes particularly difficult to attract special attention on a given project. In addition, this UPV ecosystem is located in a university environment -the city of Valencia- where UPV cooperates and competes with another large public university and three other private universities. This makes it extremely difficult to attract a number of high level interlocutors to actively discuss, reflect and collaborate on the development of a single project.

Given the scenario, the UPV team has designed and adopted (as it was explained and approved in Newcastle project meeting, celebrated 17th November 2016 and later virtual meetings) a different approach aimed at achieving the same kind of debates and reflections. This approach would count with broad participation of the university community – also from outside the University - and other profiles of the quad-helix. Thus, WP3 objectives would be reachable, generating the necessary inputs to respond to all tasks and to achieve the goals of the proposal.

The approach adopted structures the mind-set group discussions within a workshop with a format and organization that encourages the debate aiming to give answers to the questions raised in the WP3 planning. Thus, all participants were previously registered identified in four basic profiles: Academia (university researchers/scholars),

Industry, Senior Managers (R & D & I managers and promoters of transfer, heads of departments, etc.); and Government. All participants received adequate questionnaires for each of their profiles, which included questions regarding the main objectives of WP3. The aim was to respond to all aspects concerning the participation of HEIs in the implementation of RIS3, as well as the incorporation of RIS3 priorities in institutional university strategies.

A wide dissemination was made to: Directors of Research Units and researchers of the UPV and other universities of the Region of Valencia, social council of the UPV, businessmen and high positions of the industry, officials of high profile of the Valencian government and personnel of Science parks. The dissemination channels were: internal mailings in the UPV, mailings from the UPV Scientific Park to SME with connections to the park, dissemination from IVACE (Valencian Institute of Business Competitiveness, GV), and from the Network of Valencian Universities for the Promotion of Research (RUVID - incorporates the five Valencian public universities and two private universities).

The workshop was divided into four parts (as detailed in the program), corresponding to:

1. **Brief introduction** by the Rector of the UPV, the Regional Minister of Industry, the Representative of RUVID, and the Vice-Rector of the UPV José E Capilla. The Minister underscored the importance and willingness of the government to ensure that RIS3 is an instrument to carry out the modernization and specialization of the region's productive system, underlining the fundamental role of universities.

2. **Presentation of the Valencian RIS3** by the Valencian government with special emphasis in those sectors where the collaboration of the universities offers greater opportunities. Three people from the Seville JRC participated in the video conference.

**Speakers:**

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|---|---|
| Julia Company | General Director of IVACE, Generalitat Valenciana |
| Rafael Escamilla | Head of European Projects department of IVACE, GVA |
| Roberto Parras | Technical Office of RIS3-CV, IVACE, GVA |
| *Video-Conference:* | *Delegates of EC - Joint Res. Centre from Seville.* |

IVACE is the agency responsible for RIS3 in Valencian Region, the participants gave a short presentation focusing on the key aspects for the Regional RIS3 giving special emphasis to those aspects where university contributions offer better and bigger opportunities. During the presentation, delegates of European Commission - Joint Research Centre from Seville participate through video-conference. They covered RIS3 priorities for the region; the process through which they were arrived at and involvement of different stakeholders (including the partner university) in this process; and the Action plan for implementation of the RIS3 and its current progress. All the information provided was a real mapping of the RIS3 in Valencian region to help the two collaborative working groups with stakeholders.

3. **Workgroup 1: "Exploring University capabilities to contribute to the Valencian RIS3"**

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| **Moderator**: José E Capilla | Vice-Rector for Res., Inn. and Transfer, UPV |
| Roberto Parras | Technical Office of RIS3-CV, IVACE, GVA |
| Raúl Martín | Innovation Director of Embutidos Martínez S. A. |
| Francisco Corell | Director ESK, S.A. Group |
| Javier Sánchez | Director of Valencian Biomechanics Inst. (IBV). |
| Lucas Martínez | CEO Desarrollo Creativo de Negocio (DCN) |
| *Video-Conference:* | *Delegates of EC – Seville JRC* |

4. **Workgroup 2 "Alignment of Universities with the priorities of the RIS3"**

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| **Moderator**: Eusebio Monzó | Business developer, CPI, UPV |

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| Josefina Bueno | GD of University, Research and Science, GVA |
| Miguel Burdeos | President of SPB S.L., member of UPV Social Council |
| Marc Ramis | Tech and Business Innovation (TBI), CPI UPV |
| Francisco Mas | Tech. Secretary. Consell Valencia de la Innovacion, GVA |
| Guy Haug | European Expert in Higher Education |
| Juan Juliá | Former Rector of UPV 2005-2013, Coord. of Habitat 5U. |

## 5. Closing remarks

The participants gave a final words following the debates from the two workgroups. It was agreed that RIS3 is a great and positive instrument in itself. It is a strategy based on a reflection on the characteristics of the region, its strengths, weaknesses, threats and opportunities, assuming that the future passes through the knowledge society, aiming at sustainable economic development based on R&D&I in smart specialization.

The workshop had 201 online registrations divided into the four groups previously named related with the quadruple Helix: Academia, Industry, Government and Senior Managers.

The debates of the two workgroups were followed by 130 Attendants: 68 of ACADEMIA, 14 of INDUSTRY, 11 of GOVERNMENT, 37 of SENIOR MANAGERS.

The survey was answered by 42 of the participants: 26 from Academia group; 4 from Industry group; 4 from Government group; and 8 from Senior Manager group.

# 2 Overview of the Regional RIS3

To achieve integrated economic and social development in the Valencian Region requires an approach that considers not only sectorial economic areas, but also inter sectorial spaces. The opportunities with more potential to face the current crisis situation are born precisely in these less explored spaces.

In order to determine the points to focus the attention of RIS3-CV, the analysis carried out was organized, for practical purposes, in seven workgroups based on the higher potential development environments projection in the region: Agri-food, Consumption excluding Habitat (because of its special significance in the Valencian Region it has its own analysis that includes building, equipment goods excluding by the same reason motion and automobiles, health promotion, efficient public healthcare system, tourism, and quality of life.

On another axis of the matrix, the key enabling technologies (KETs) have been identified by the European Commission in the proposal for the new Cohesion Policy as a relevant investment priority for the smart growth of the regions. KETs are the way to new and better products and processes, thus driving economic growth, employment and strengthening competitiveness. It is therefore assumed in the prioritization matrix the need to identify the needs and competitive advantages that the KETs may have for economic environments, so that a transverse "mapping" exercise is proposed, which seeks to answer the question of whether there is A potential business model in terms of exploitation of these technologies in the market. Three work teams, by affinity and degree of implementation of the technologies in the Region of Valencia, have divided this task of "mapping" the KET.

In this sense, information and communication technologies (ICTs) also provide an essential cross-cutting framework on which to sustain competitive strengths of regional economic development. Securing innovation for sustainable growth will require

designing interventions that will help overcome the market failures required by a Low Carbon Economy (EBC), so it has been considered of the utmost importance to also establish a cross-sectional analysis in this area.

Given the assumptions set out in the economic analysis and the SWOT, a cross-sectional analysis in the field of logistics and transport has not been sought, considering its inescapable significance for intra-regional development, but also its great capacity for economic mobilization beyond the regional scope, given our geo economic positioning.

With all this, the initial matrix was proposed to locate the proposal of axes and objectives for the RIS3 Agenda in the Region of Valencia. It is a proposal resulting from the confluence of the bottom-up analysis, performed through the business discovery procedure, with the top-down approach emanating from the contextual analysis, the resulting SWOT and the established strategic framework.

The prioritization has been carried out using four main arguments to measure the different objectives proposed by the analysis teams:

- Potential impact on the regional economic competitiveness of existing or newly created activities.
- Effective leadership, based on the availability of critical mass and a variety of collaborative business and technological resources for its implementation.
- Degree of alignment with the main national and European technological trends.
- Trailing potential in other sectors and / or technological areas.

Other aspects that have been considered equally have been:

- Proximity to the market, in the sense of understanding that it is a strategy for the development of economic activity, not research.

- Need for public funds, understood as not intrusion into activities very attractive to private funds in terms of profitability.
- Regional capacity to retain activity, that is, to be linked to the regional innovation ecosystem and not an occasional visitor.

Specifically, the RIS3-CV prioritization exercise delimits three major Priority Development Hubs, which in turn must set the guidelines and orient the priorities to be supported in the different technological and transversal areas analysed. These axes are:

Axis 1. Quality of life

1.1 Agricultural, cosmetics and household products
1.2 Health promotion and efficient public healthcare
1.3 Tourism and quality of life

Axis 2. Innovative product

2.1. Customized consumer goods
2.2. Habitat: the housing and its environment

Axis 3. Advanced manufacturing processes

3.1. Automation and mobility
3.2. Equipment goods

The first, ***Quality of Life***, includes the great potential of production and Valencian food processing, and the chemistry linked to personal care and home. It also includes innovation for health promotion, disease prevention, development and improvement of products, services, infrastructures, human resources and management of health processes that increase the ratio between the effectiveness of health services and

costs which require, considering the different activities that people develop, the environments in which they live and the resources they use, seeking their sustainability and adaptation to the new challenges related to the health of the population and demographic change. Finally, it introduces the development and provision of tourism services around the "Mediterranean" concept capable of contributing to an integral experience of quality of life and health before, during and after the trip to the Valencian Region.

A second axis, under the name of ***Innovative Product***, includes the manufacture of personal consumer goods, mainly footwear, textile-clothing, toys, childcare, and habitat, in which their growth and competitiveness necessarily pass, and as a priority, by the generation of innovations focused on the product, oriented to contribute value to its customers based on their use, and additionally, for the innovation in the productive processes.

The third axis, ***Advanced Manufacturing Processes***, covers the manufacture of means of transport (car and rail), with an undeniable relevance and tractor effect in the economy of the region, where maintenance and improvement of the current high levels of productivity at the global level, it is a priority to focus on innovations in processes, especially in the case of large companies (and hence their suppliers at lower levels) with decision centres outside the region that they habitually monopolize product innovation. In addition, this axis includes the manufacture of capital goods, a sector formed mainly by SMEs directly linked to the automation of industrial processes in other sectors. Hence its strategic nature, practically transversal, with a view to improving competitiveness, productivity and the internationalization of the Valencian economy.

These major regional economic axes, and their respective sectorial business environments have been analysed from the perspective of possible areas of technological or transversal specialization. These areas can sometimes be defined as economic sectors in themselves, such as transport and logistics or ICT, but it has been

preferred to cross-treat with the previous ones because of their wide horizontal or inter sectorial impact, and because unlike the others, in general, do not target a final consumer market.

The Areas of Expertise analysed have been rearranged in the following areas:

- Advanced materials and nanotechnology
- Advanced manufacturing
- ICT (Information and Communication Technologies)
- Biotechnology
- Micro and nano-electronics, and photonics
- Energy and environmental technologies
- Logistics

The crossing of the evaluation by relevance of the specific objectives of each axis with the different areas of specialization shows the most significant priorities for the development of the Region based on research and innovation:

Analysed by AXIS DEVELOPMENT, these are:

- In the QUALITY OF LIVING AREA, AGRICULTURAL, COSMETICS AND HOUSEHOLD PRODUCTS, PROMOTION OF HEALTH AND, EFFICIENT PUBLIC HEALTHCARE stand out in common for their prioritization of Biotechnology and ICTs, and of advanced materials and manufacturing.
- In the INNOVATIVE PRODUCT axis, the prioritization, in this order, of ICT technologies stands out; Manufacturing and Advanced Materials, and Nanotechnology.
- Finally, in the axis of ADVANCED PROCESSES OF MANUFACTURING, AUTOMATION AND MOBILITY and EQUIPMENT GOODS, they share their demand for advanced manufacturing technologies, ICT and Micro and Nano-electronics and Photonics.

If we look at the data from the perspective of TECHNOLOGICAL SPECIALIZATION AREAS, we conclude that:

- The ICT area is the most versatile because its weight among the relevant specific objectives is significant for all environments.
- ADVANCED MANUFACTURING is a clearly determining area of future options in the agro food, consumer goods, automobile and mobility, and Customized consumer goods, as well as in health promotion and efficient public healthcare.
- BIOTECHNOLOGY concentrates its demand fundamentally in the Environments of Agro food and health promotion and efficient public healthcare.
- The LOGISTICS area appears as an important transversal demand, in this order, in tourism; Automotive and mobility; Habitat; Agro food and consumer goods.
- MICRO AND NANO-ELECTRONICS AND PHOTONICS will be demanded basically in the region in health promotion, efficient public healthcare and in capital goods.
- ADVANCED MATERIALS and NANOTECHNOLOGY stand out for their demand in Habitat and, to a lesser extent, in other environments such as Agro food; health promotion, efficient public healthcare, and consumer goods.

## ACTION PLAN

The proposed measures may be described, to a certain extent. as facilitation tools that need certain requirements for their integration into RIS3-CV. These are intended to avoid the tunnelling effect that previous policies might entail in identifying opportunities for their necessary thematic or technological focus.

To complement progressively with the RIS3-CV priorities, the Valencian government proposes three types of measures in relation to their alignment with these priorities, and to simplify the scheme, they are grouped into two levels: policies and programs.

Thus, we have **focal policies** in:

- Quality of Life, which includes programs to group the measures in:
  - Mediterranean Food of Quality
  - Intelligent Health and Active Life
  - Smart Holiday Destinations

- New Sustainable Industry, including programs:
  - Customized Products and Environments
  - Advanced Manufacturing and New Industrial Systems

Obviously, despite its definition as "focal", no strict delimitation ends up being precise, so in both cases, although we can locate its basic nucleus in areas of well-defined technological specialization (ICT and biotechnology for Quality of Life, Materials, Advanced Manufacturing and ICT for New Industry), we wanted to point out the importance of the energy, environmental and logistic aspects in both cases, since all the proposals of measures also contemplate these areas.

In addition, a **transversal policy** on *Sustainable Environmental Management* is proposed, aligned with the European flagship initiative that aims to support the shift to a resource efficient and low carbon economy, which will include related research promotion measures with energy, environmental, logistics and transport technologies, etc.

Finally, an exploratory policy is defined, as the Valencian government understands that they cannot abandon the search of opportunities in the economic and social environment of the region. Some of these measures have been already working with remarkable success, counting even with an important institutional and economic support of the local administrations, Spanish and European. This is the case of the Network of European Centres of Innovative Companies or the EEN (Enterprise Europe Network) in the Valencian Region.

*Opportunity Nursery* is, therefore, an open policy, that starts with some programs already defined as the promotion of R & D & I in SMEs, or support for the preparation of human resources for research and innovation, but ready to integrate new ideas. This is the case, for example, of the use of intellectual property resources for the promotion of innovative entrepreneurship, or of the financial instruments made available to the regions for innovative business projects.

# 3 The role of the HEI in RIS3 design and implementation

On the part of the Valencian government it is implied that it is intended that RIS3 be a stable reference in time for the development of industrial policy and R & D & I in the CV, and calls for the participation and co- responsibility of all Agents of the quadruple propeller. Regarding the participation of universities, it focuses on: the generation of knowledge, providing expert research experience, providing companies with support and security, helping to identify niches of competitiveness, facilitating the absorption of knowledge (improving skills), guiding the formation of Skills, collaboration with industry (in definition and execution), leadership (socially catalysing as an authorized neutral leader). In this sense the government mentions the role of the association of the five Valencian public universities in the form of Campus of International Excellence.

JCR technicians from Seville intervene, focusing on the development of the process of entrepreneurial discovery as a process that facilitates the interaction of the different agents and stating that it is key to identify the actions necessary to carry out this process successfully. They indicate that they are analysing how it is carried out in different regions. They underline the role of the university as a producer of knowledge and innovative agent. There is also a lack of reflection on the generation of human capital from universities. They also mention two case studies that they consider of great interest: Navarre and another region of Romania.

The first workgroup discusses the role of the University seen from the industry point of view. The contribution of the universities to the creation of clusters is affected and it is indicated that an endemic disease of the Valencian industry is the lack of search for innovation based on R&D. In this sense HEIs offer a huge opportunity for industry as a source of innovation but it has to be activated to make it so. It also emphasizes the need to be in the university to know the innovative projects that are developed in this and to collaborate in training programs. The role of the HEIs as trainers of the future professionals is influenced several times, beyond the development of R & D & I.

Equally, it is identified as an indicator of the weakness of the University - company relationship the industry's lack of interest in hiring doctors. This is seen as a possible symptom of R & D & I that is very close to the needs of the industry and/or as a symptom of the weakness of the latter's innovative capacity.

The model of a mixed technological centre (three examples at UPV) is also discussed, where the University is associated with the technological centre by companies. The Director of one of these centres, the IBV located in the scientific park of the UPV explains how this is done.

The role of the university as a generator of spin-off companies is also highlighted and exemplified by the start-up ecosystem started by the UPV almost 25 years ago. In this sense it is discussed the different speeds that have followed the universities with respect to its connection with the industry, and the highlight of the UPV in this aspect. At present all universities have improved significantly in this respect and to a greater or lesser extent maintain policies of connection with the industry.

However, communication channels between the industry and the university are still lacking.

Some researchers are wondering what the University should do - considering RIS3 - that it has not already done. In this regard, it is pointed out that the mere formulation of this issue may be highlighting the need for greater university-industry communication and interaction.

Regarding how the University can make itself available to the development of RIS3 and even align with it, there is an interesting debate during the second work group, from which some conclusions are drawn:

- It is essential to build trust in the university-business relationship, due to this is what fails most of the times. Examples of programs developed at the UPV such as the Ask UPV and the co-creation workshops are given. This would be an essential part of the EDP process. The university-company relationship must be optimized.
- The alignment of HEIs is necessary and essential for the development of RIS3. However, academic culture is unfit to adapt to multi discipline and thematic priorities.
- There is a problem in the current university - especially serious in Spain - and it is the priority approach to the publication of papers.
- Universities need to adapt times longer than a political mandate, they can do so by creating the right policy and incentive frameworks.
- Alignment will be more effective if priorities are discussed and agreed.
- Diversification between universities is necessary
- The stays of teachers/researchers in companies or the creation of "research vouchers" It would be very useful as a tool so that the companies could choose universities with which to collaborate.
- While incentives should point in the direction of priorities this does not happen. There are other types of incentives and HEIs are concerned about rankings, accreditations, etc. and researchers for posting papers.
- Universities have a lack of experience with the EU Structural Funds; ERDFs channelled through RIS3 are structural funds.
- Alignment with RIS3 priorities should not neglect other R & D & I lines
- The enormous potential of dynamic universities to facilitate interregional and international collaboration has not been adequately valued. Generally, much higher than local businesses.
- Concern for the stability of policies so that the University can truly align itself

Josefina Bueno, as a representative of Valencian Government was very clear when talking about the role of HEI in Valencian RIS3.

As a brief, she explained that on the initial documentation an execution plan was developed through the Technical Committee for the RIS3-CV (DGUIC participated) by reviewing measures and budgets; Following-up indicators; Governance System.

As RIS3 is an acronym that responds to Research and innovation strategy for an intelligent specialization, she affirms that there is no innovation without knowledge, no innovation without scientific basis, and that the culture of research and innovation requires other skills, some of which are linked to the arts, humanities and social sciences in which the university plays an important role.

Other relevant agents in the research are the scientific parks (such as the CPI (UPV) and CPUV and the research centres of the universities, since they are the actors who have the highest returns in H2020. Therefore, *UNIVERSITIES ARE A DECISIVE AGENT FOR THE PERFORMANCE OF THE RIS3 CV".*

To demonstrate this she says that from the 50 measures proposed in the Valencian RIS3, to begin to transform the Valencian production model, there are measures that directly involve the University, seven measures are carried out by the Valencian universities and managed by the DGUIC:

Among them:

- (**Measure 6**) Sustainable agriculture, animal production, aquaculture and better use of natural resources
- (**Measure 16**) Biomedicine, biotechnology, biomaterials and ICT applied to health
- (**Measure 20**) Nanoscience, nanotechnology, new materials, and search for energy efficiency applied to industrial processes
- (**Measure 23**) State-of-the-art technology for the development of machinery and capital goods, automotive, and transportation and new technologies based on more efficient energies

- (**Measure 26**) Space telecommunications and new materials for the space realized by the Valencian universities
- (**Measure 27**) Information technologies, information storage, high performance computing and robotics by the Valencian universities
- (**Measure 40**) Support to the innovative entrepreneur- Campus of the Entrepreneur in universities)
- (**Measure 41**) Patent Bank
- (**Measure 43**) Promotion of the research career and transfer of research results (ACIF, BEFPI, APOST):

At executive level the universities take part in the Management Committee RIS3-CV: Universities as representatives of the system of knowledge generation in the region so there are 2 members proposed by the Consell Valencià d'Universitat: a vice-rector and the representative of the Network of Scientific Parks in Valencian Region.

At technical Level the universities take part in platforms of participation as experts from the Valencian public universities designated by their vice-rectors or research, with the following functions: advising and issuing opinions on the research and innovation promotion activities of the different Competent Councils in the RIS3-CV environment; contribution proposals to attract the private sector to the RIS3CV, dissemination of the RIS3-CV strategic approach to achieve a greater impact on society.

To finalize, Josefina affirms that public universities are the reference center for human resources in charge of the research and innovation tasks carried out by all agents of the Valencian research and innovation system.

# 4 Gaps, barriers, challenges

The Valencian Region in east of Spain (CV Region) has a privileged location that, together with the good living conditions offered, makes it a territory with a strong capacity to attract population and economic activity.

In addition, CV region has been experiencing a process of convergence in the area of labour productivity in the last few years, and it is already very close to the national average levels. During the period of economic growth, the increase in the employed population was not accompanied by higher levels of production per hour worked due to a specialization towards less productive sectors. Since 2008, improvements in productivity are due to the significant destruction of jobs and labour.

Despite of that, the Valencian industry is producing more per hour of work, what means it is improving its competitiveness abroad.

The CV region presents a productive structure that does not favour improvements in productivity. The services (trade, hotel, transport and construction) were the engines of the Valencian economy and it was where the impact of the economic crisis on the region has been more intense. The progressive loss of impact of industry in the regional economy requires a different strategy for economic relaunch based on the promotion of intensive industrial technological activities and the development of advanced and intensive human capital.

The CV region has a great industrial tradition that is reflected in bigger impact of employment in its industry than in the rest of Spain. The most important sectors are the ceramic industry, chemistry, metallurgy and the automobile industry. Footwear, textiles, tiles, toys and furniture are the most specialized manufactures in the region.

The CV region must improve its productivity levels in the industrial sectors through two lines of action: the first one: improving in sectors with a high weight in the regional economy and whose productivity is lower than the national average of the same sector (chemical industry, Plastic, food and metallurgy); And second, increasing the presence in the region of more productive industrial activities (among others, the automobile industry, machinery and equipment manufacturing, and the beverage and tobacco industry).

The CV region is an important tourist nucleus at an international level. Tourism is one of the main sources of wealth in the region. Despite the arrival of the crisis, the volume of tourists has continued its trend of growth and, at the same time, the offer and the demand have been diversified.

The CV region is located at the centre of the world trade axis, in the middle of trade flows from the East and the Atlantic. Its logistics network (balanced and intermodal) provides a high degree of national and international accessibility, defining it as a key point in the logistics activity of the Mediterranean and the Iberian axis and an attractive location for locating multinational companies.

The CV region is characterized by a strong and atomized business fabric, with a strong predominance of small companies, which adversely affects their ability to obtain financial support to develop R+D+I projects in their processes and products, and even in their capacity to export abroad. In spite of this, there is a strong entrepreneurial culture that, together with the high levels of training of company managers, is helping the emergence of new technologies and global companies.

The CV region has a wide base of highly qualified human resources that are available to the productive industry of the region. Since the beginning of the 21st century, more

than 66,000 people with university degrees have joined the Valencian labour market, a key aspect for the incorporation of knowledge into the productive mass. The specialization in activities of low technological content makes the degree of utilization of this human capital relatively low, causing a loss of talent to the outside in search for a job opportunity.

The CV region has an important network of knowledge-generating institutions that forms the technological map of the region (universities, technological institutes, research centres) that promote R & D & I and its application in the productive industry. In addition, the volume of innovative Valencian companies continues to grow considerably, and it is now necessary to increase the innovation effort of these companies, especially large tractors.

The CV region has suffered with greater intensity the hardness of the crisis, which has caused the loss of some of its engines, such as residential construction, public and private investment, industrial activity and domestic demand. However, the international trade balance of the Community is positive.

The CV region is the third Spanish region in terms of export volume, focusing its sales abroad on products manufactured by the car industry, agri-food industry, footwear and ceramics. New non-European destinations with an important level of development are emerging (China, Saudi Arabia, Algeria, India or Brazil).

In spite of the crisis, the CV still maintains a significant potential growth, the main outcome of which depends on the general recovery of the European Union as a whole.

The CV region has some key aspects to achieve sustainable and balanced economic growth in the long term: human capital of sufficient quality to meet the potential

demand of companies in new activities linked to the knowledge economy; Underutilized entrepreneurship that does not find opportunities for success; Installed capacity in many of the branches of activity that can facilitate a rapid recovery of production; And technological potential within the reach of companies, inside and outside them, on platforms that can integrate science, technology and innovation.

The CV region has some leading companies that mobilize the rest (among them Ford, Mercadona) and that allow to expand the markets of its supplier companies until production scales are much more efficient than those of SMEs. The Valencian company must grow in number, dimension and level of professionalism, being urgent to raise the level of training of entrepreneurs to enhance their intrinsic qualities (leadership, risk taking, sacrificial capacity, etc.).

The CV region has industrial clusters, technologically powerful at the level corresponding to the branch of activity, and there is still ample space to carry out cooperation actions in multiple directions: technological, commercial, shopping, brand, marketing, etc.

The CV region has reduced its capacity for public investment in the face of the commitments made to reduce the public deficit. The financial recovery of the region should allow us to relaunch those investments aimed at generating greater economic growth and improving the competitive advantages of the companies based in the region, thus breaking with the negative trend of recent years.

The CV region should take advantage of the growth of non-market services (health, social assistance and education) to enhance the capacity of the regional productive fabric by incorporating applied R + D + I to the hospitals, centres and public or private institutions involved in these activities.

The CV region has to develop projects of green economy where the great social interest is exploited economically by the problems of energy efficiency and sustainability of the environment.

The CV region can exploit its geographic location by achieving logistical advantages in the national and European markets, offering a logistics service with lower costs and a high level of quality in its execution.

**WEAKNESSES**

- Productive specialization little intensive in sophisticated products and high technological content
- Productivity problems in levels and rhythms of improvement: loss of external competitiveness
- Intensive industry workforce and technological level medium and low: deindustrialization
- Strong sensitivity to economical cycle (consumption, tourism or construction): effects on unemployment
- Tourism: high national dependence and reduced average expenditure
- Shortage of large companies. Consequences: access to global markets, export, innovation, financing.
- Underuse of human capital, high overload qualification and low spending on R+D+I
- Low level of spending on R&D in comparison with advanced regions
- Insufficient business vocations with scientific formation
- Difficulties in access to new markets: loss of quota within and outside of Spain
- Disposals of productive capital per worker: excess investment or residential n
- Lower infrastructure endowment or logistics per inhabitant and GDP: Mediterranean Corridor

- Strong Valencian indebtedness in public sector: little credit to private sector and liquidity problems
- Strong growth in GHG emissions: petrol dependence and low use of renewable energies

**THREATS**

- Blockage to regional GDP improvement, driver of smart specialization
- Extensive network of R+D+I: logical or technological institutes, research centres and scientific parks to stimulate knowledge economy
- Loans restrictions and liquidity in companies and institutions that do not allow fund R+D+I. Economy exposed to emerging countries competition with quick productivity gains
- Increasing difficulty to compete based on cost advantage activities: risk of delocalization
- New international and low cost touristic destinations
- Low growth prospects of traditional activities by low technological content
- Expansion limitation of production and trade companies for its little cooperation
- Strong emigration of talented human capital: brain drain and low level of returns. Problems of recycling not qualified workforce
- Difficulty in attracting foreign investment
- Difficult absorption of excess capacity: warehouses, offices, plants, factories, infrastructure, logistics
- Excessive energy consumption, over - exploitation of the territory, fires, erosion, emissions, biodiversity.

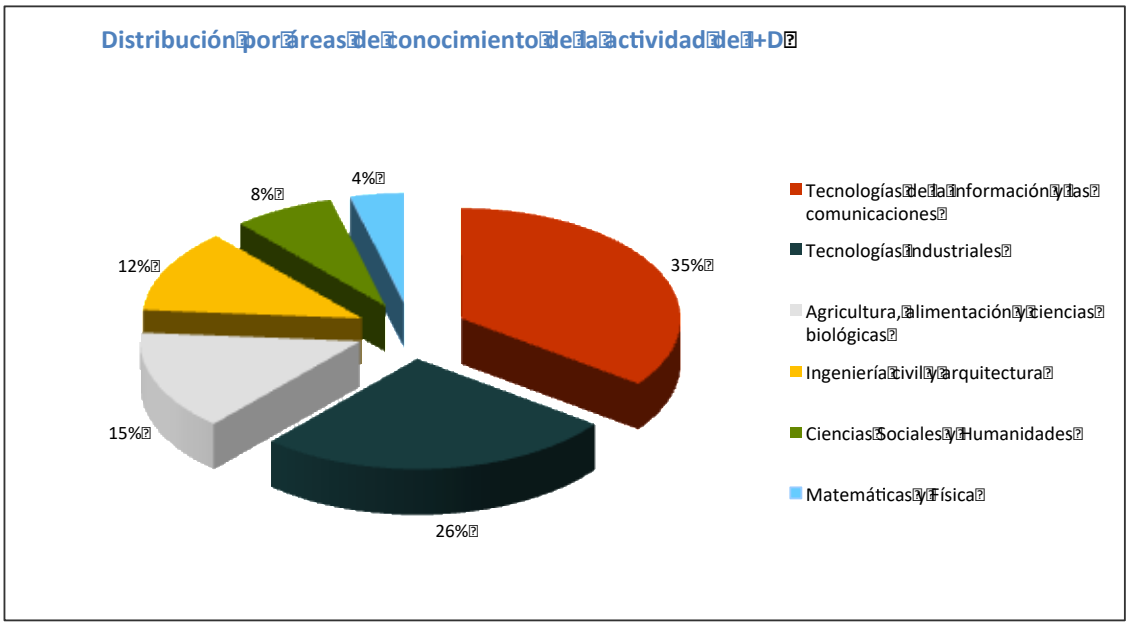
**STRENGTHS**

- Strong economic dynamism 1995-2008: in particular market services. Used to change adaptation
- Big industrial tradition: Valencian industrial fabric consolidated, clusters
- Powerful touristic sector: quality and diversity of touristic products
- Strong entrepreneurial dynamism with experience in foreign markets (diversification)

- Existence of a Technological based companies
- Higher level of education of entrepreneurs: high formation
- Existence of highly productive companies in all productive sectors
- Abundant supply of human capital
- Presence of HEI institutions with increased sensitivity to the impact of their teaching, research and dynamism of the region
- Vertebrate territory by two logistics axes: north-south (A7 and Euromed) and interior-coast (A3 and AVE)
- Logistic intermodal capacity: road, rail, sea and airport
- Existence of regional policies on environmental sustainability for: soil, water, energy and biodiversity

# 5 Identified opportunities for further/future involvement of Universitat Politecnica de Valencia (Spain)

UPV is a HEI highly committed to actively cooperation with industry at the local, national and international level. This cooperation is carried out through basic and applied research, through R&I projects, through high technology consulting activities, registering and exploiting patents, and promoting and supporting the creation of start-ups and spin-off enterprises. All these type of cooperation actions happen in different R&I areas. It is measured internally quantify at UPV with indicators that are used to assess the R&I productivity that comprise R&I and technology transference. Based on these indicators, the following graph provides a general view of the distribution of current R&I activity in specific areas. Note that most of the activity areas in the graph comprehend areas of expertise that can be connected – or at least show the potential strength – with most of the priorities established in the regional RIS3. Besides, this distribution includes both R&I developed under contracts with industry and other organisms, and the activity developed within competitive projects (regional, national and international) that amounts for almost half of the economical resources obtained by UPV for R&I.



The table below shows the current potential of the different R&I areas with respect to the organization in axes of smart-spec described in the RIS3-CV document. A scale 0-5, being 5 the maximum, has been adopted. The value inserted in the table is a quantitative estimation based on data from UPV responsible managers.

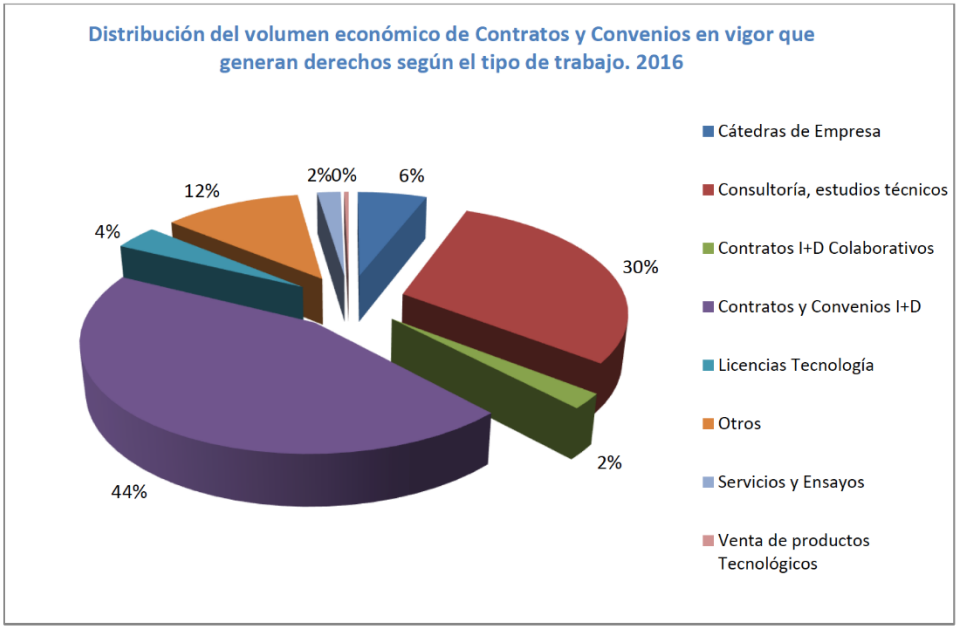
| | *Information and communication Technologies* | *Industrial Technologies* | *Agriculture, food technologies and biological sciences* | *Civil Engineering and architecture* |
|---|---|---|---|---|
| ***Axis 1. Quality of life*** | | | | |
| *1.1 Agricultural, cosmetics and household products* | 1 | 2 | 4 | 0 |
| *1.2 Health promotion and efficient public healthcare* | 4 | 2 | 2 | 1 |
| *1.3 Tourism and quality of life* | 2 | 1 | 1 | 3 |
| ***Axis 2. Innovative product*** | | | | |
| *2.1. Customized consumer goods* | 0 | 0 | 2 | 0 |
| *2.2. Habitat: the housing and its environment* | 3 | 3 | 1 | 3 |
| ***Axis 3. Advanced manufacturing processes*** | | | | |
| *3.1. Automation and mobility* | 4 | 5 | 1 | 3 |
| *3.2. Equipment goods* | 4 | 2 | 1 | 0 |

The above estimations are based on indicators of technology transfer (RI activity, R&I contracts with industry, patents, software development, spin-off initiatives and consulting activity). They show that apparently there is a margin of opportunity to intensify the involvement of the HEI with regional priorities. However, the R&I orientation of activities in a given HEI depends on many circumstances, including the complementarity with the R&I areas of other HEI in the same region. Taking this into account, the following table provides a qualitative estimation of the possible “gaps” in the sense that there is possibly some margin to increase the HEI-industry cooperation.

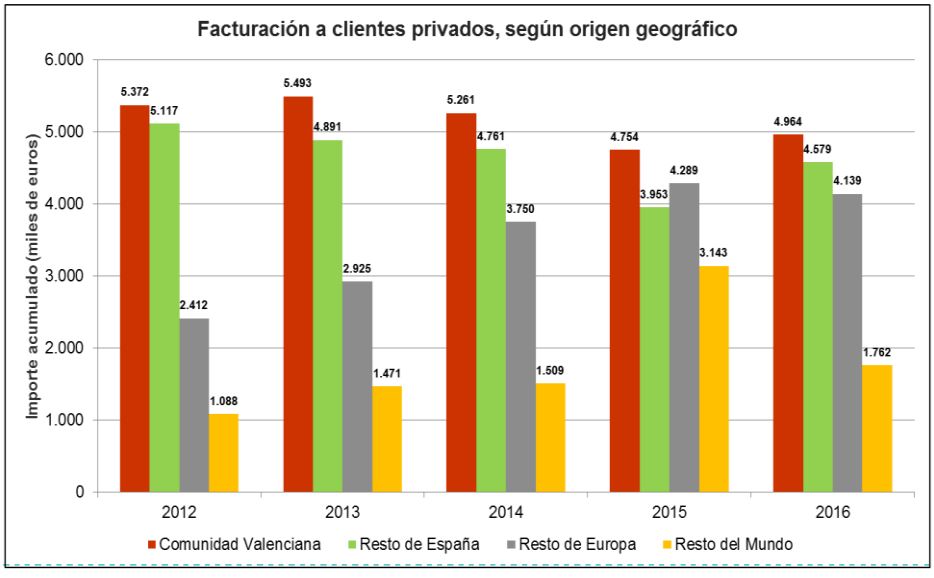
The table uses the legend: L – low margin; M – there are possibilities to improve; H – possibly high potential tom promote and exploit.

| | *Information and communication Technologies* | *Industrial Technologies* | *Agriculture, food technologies and biological sciences* | *Civil Engineering and architecture* |
|---|---|---|---|---|
| ***Axis 1. Quality of life*** | | | | |
| *1.1 Agricultural, cosmetics and household products* | H | M | H | L |
| *1.2 Health promotion and efficient public healthcare* | L | H | M | L |
| *1.3 Tourism and quality of life* | M | H | M | H |
| ***Axis 2. Innovative product*** | | | | |
| *2.1. Customized consumer goods* | H | M | M | L |
| *2.2. Habitat: the housing and its environment* | M | M | M | H |
| ***Axis 3. Advanced manufacturing processes*** | | | | |
| *3.1. Automation and mobility* | L | L | L | H |
| *3.2. Equipment goods* | L | M | M | L |

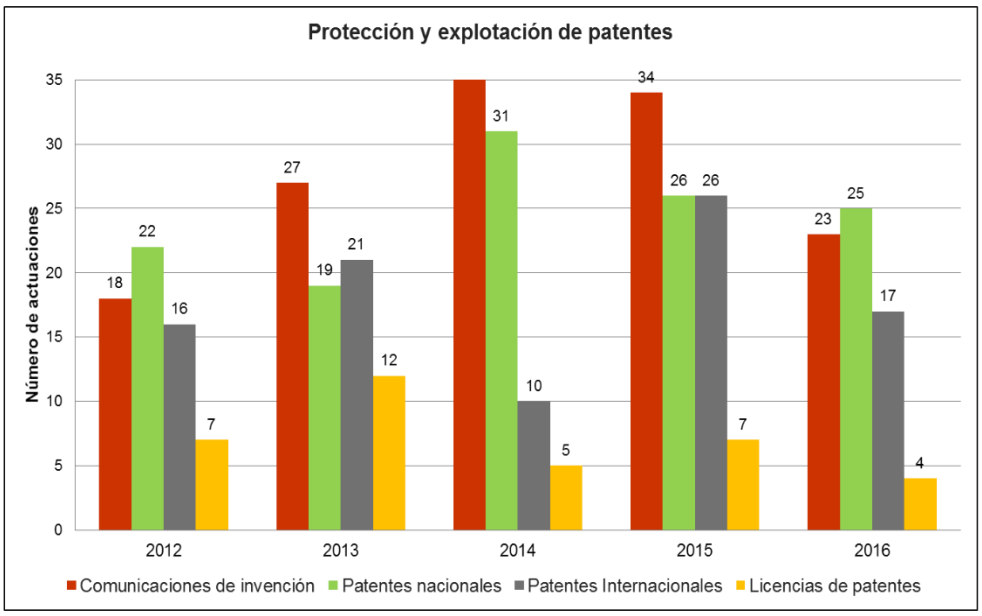
The following graph provides a distribution of the type of contracted activity through which the HEI (UPV) cooperates with the industry and other organisms. Note the weight of R&I contracts (44%) and consulting activities (30%). We believe the above tables provide a good picture of the main capabilities of the HEI that are not currently being fully mobilised and could help address the regional innovation resource/capability gaps.




Another remarkable detail is the geographical distribution of contracting activity. Note in the following graph the evolution of this distribution between 2012 and 2016, the fact that international activity is fundamental. In fact, when putting together contracts and competitive projects, close to one third of the total captured resources come from abroad. This is a significant fact to take into account when implementing policies to align the HEI with the local regional needs and priorities. The HEI is local but at the same time global, and the benefits of this dual projection are clear for both the HEI and the Region.



The following graph shows the evolution of patent registering activities in the HEI. UPV ranks number 1 or 2 among Spanish Universities – competing with Technical University of Catalonia. However, in the internal policy of the institution there are plans to increase the creation and exploitation of R&I results.




Although the collaboration between the HEI and regional actors is remarkably high, there is potential to increase it in different areas, as shown above. UPV develops several actions and programs to do that: matching of industrial needs with HEI capabilities, cooperation for joint applications to R&I competitive programs, help to commercialize patents, an internal program to coach the creation of technology based companies, etc. However, there are not really planned programs to increase the capacity of the HEI in the RIS3 priorities. The way this is happening – or at least it seems that will happen - is mainly driven by the regional government implementation of the strategy. As a public University, the autonomy of UPV to re-direct priorities is limited by the R&I sources of funds which come from the government, from other regional, national and international actors requesting UPV services, and from R&I competitive calls. In short, apart from the communication and diffusion activities of the

RIS3 and its implementation by the government, very little has been done - and can be done - to strengthen the capacity of the HEI in the RIS3 priorities.

Teaching activities at UPV are generally connected to R&I activities. This means that the HEI is providing an important support to RIS3 priorities through the currently implemented official programs that cover very well every RIS3-CV axe. Also, there is diverse and big offer of short courses and diplomas for life-long-learning that are continuously evolving to respond to local formation needs. In this sense, the teaching activity, much more focused on the local regional ecosystem that the R&I activity, is more aligned with the RIS3 priorities. However, the implementation of new official undergraduate and master programs is difficult and slow. New initiatives are required, by UPV internal regulations, to be analysed to assess the potential attractiveness to enrol students. These analyses include surveys and some consultation to industry and other regional/local agents. However, at this point, it cannot be said that any of the recent initiatives has been driven by the RIS3 priorities.

The international dimension at UPV is very important, as indicated above for R&I. UPV runs every year actions to bring local companies to the competition for European projects in the H2020 pillar “Industrial Leadership” with a great success in some of the subprograms. In fact, several national and Valencian companies are successful applicants – pushed by UPV – for which UPV works subcontracted. We believe, and this is something that has been discussed with different stakeholders during the meetings under the Thinking Smart project, that universities have a great potential to help boosting internationalization of the regional activities and its industry. This would help to bring new knowledge or connections to support the implementation of RIS3 but so far, apart from the above actions, no further programs have helped to do this.

UPV, as a public University, regulated by general principles of freedom to choose R&I fields, has little margin to established explicit strategies to orientate R&I priorities. Also, this is limited by the financial capacity in the sense that researchers tend to orientate

their activity to those fields in which there is possibility to obtain funds. Thus, the HEI cannot have an explicit strategy to increase research capacity/investment/funding applications in any of the RIS3 priority areas.

Without having and explicit definition of R&I priorities, UPV has changed its approach to knowledge creation in response to the demands posed by societal challenges facing the region. This has happened in a natural way as a response to industrial and other public bodies needs that have approached to UPV looking for support and help. It has happened and is happening in many fields that include climate change (there is a great deal of cooperation with environmental local and national authorities and the first Regional Strategy for Climate Change was developed at UPV). Besides, there are internal mechanisms in place to encourage or support transdisciplinary research that help to address this societal challenges. Some of the internal R&I Institutes bring together personnel from different University departments, and some internal funding programs encourage this kind of cooperation.

UPV cooperates with other regional HEIs through different initiatives, including a regional association (Valencian association of universities for the promotion of research - RUVID) that was involved in the organization of “Thinking Smart” activities. RUVID was represented in the commission that elaborated the RIS3 document finally approved. Some of the initiatives and actions run by the regional government to implement RIS3 involved all Valencian universities. The most remarkable are the support to the Bank of Patents and the support to the promotion of entrepreneurship and the creation of start-ups.

# 6 Future Implementation of the RIS3

During the second workshop the General Director of Universities, Josefina Bueno, explained the 50 measures to implement the RIS3-CV, an action plan, and other actions grouped into programs. These measurements will have direct and individual impacts on every HEI at the Region of Valencia. Besides, the proposed measures can, to a certain extent, be described as facilitation tools that require certain requirements for their integration into RIS3-CV and start transforming the Valencian production model. These have the purpose of avoiding the tunnel effect that previous policies could imply in the detection of opportunities due to their necessary thematic or technological targeting.

The first action to follow by UPV is to be alert in order to promote the participation in the calls and actions taken by the regional government to implement the “focalized policies” listed in the following table. These directly connect with many of the strengths of UPV and can help to eliminate gaps regarding the exploitation of the own HEI capabilities and the increment of collaboration with other regional organisms.

| POLÍTICAS FOCALES | | Nº | TITULO |
|---|---|---|---|
| C | | 1 | INVESTIGACIÓN E INNOVACIÓN EMPRESARIAL EN CALIDAD DE VIDA |
| | | 2 | INVESTIGACIÓN EN CENTROS TECNOLÓGICOS EN CALIDAD DE VIDA |
| | Programa **Alimentación Mediterránea de Calidad** | 3 | INVESTIGACIÓN AGRARIA APLICADA PARA LA PRODUCCIÓN SOSTENIBLE DE ALI- MENTOS MEDITERRÁNEOS FRESCOS DE CALIDAD, SEGUROS Y ECO EFICIENTES |
| | | 4 | EQUIPOS INNOVADORES Y SISTEMAS DE GESTIÓN DE LA INFORMACIÓN PARA I+I EN ALIMENTOS MEDITERRÁNEOS FRESCOS DE CALIDAD |
| | | 5 | FORMACIÓN INVESTIGADORES EN EL SECTOR AGROALIMENTARIO |
| | | 6 | INVESTIGACIÓN EXCELENTE EN AGRICULTURA, PRODUCCIÓN ANIMAL, ACUICUL- TURA Y RECURSOS NATURALES |
| | | 7 | INNOVACIÓN AGROECOLÓGICA EN MODELOS PRODUCTIVOS E INDUSTRIAS AGROALIMENTARIAS |
| | | 8 | INVESTIGACIÓN E INNOVACIÓN EN BIOMEDICINA, SERVICIOS SANITARIOS Y SALUD PÚBLICA |
| | | 9 | INVESTIGACIÓN EN MEDICINA DE PRECISIÓN: TECNOLOGÍAS ÓMICAS Y NUEVOS MODELOS DE GESTIÓN CLÍNICA |
| | | 10 | EQUIPAMIENTO Y SISTEMAS DE GESTIÓN DE LA INFORMACIÓN PARA BIG DATA SA- NITARIO, MEDICINA COMPUTACIONAL Y BIOIMAGEN |
| | | 11 | INVESTIGACIÓN EN MEDICAMENTOS INNOVADORES Y DE PRECISIÓN |
| | | 12 | EQUIPAMIENTO DE TECNOLOGÍAS DE IMAGEN HÍBRIDAS (PET-RMN) E INNOVADO- RAS (PET-LXe) |
| | | 13 | INVESTIGACIÓN EN ENFERMEDADES INFECCIOSAS Y EPIDEMIAS EMERGENTES |
| | | 14 | INVESTIGACIÓN EN ENFERMEDADES RARAS |

| POLÍTICAS FOCALES | | Nº | TITULO |
|---|---|---|---|
| | Programa **Sanidad Inteligente y** | 15 | INVESTIGACIÓN EN ENVEJECIMIENTO, FRAGILIDAD, PLURIMORBILIDAD, DETE-RIORO COGNITIVO Y PROMOCIÓN DEL ENVEJECIMIENTO ACTIVO |
| | | 16 | INVESTIGACIÓN EXCELENTE EN BIOMEDICINA, BIOTECNOLOGÍA, BIOMATERIALES Y TIC APLICADAS A LA SALUD |
| | Programa **Destinos Turísticos** | 17 | EMPRENDIMIENTO TURÍSTICO INNOVADOR |
| | | 18 | INVESTIGACIÓN EN INTELIGENCIA DESTINOS Y MERCADOS TURÍSTICOS |
| | | 19 | PRESTACIÓN DE SERVICIOS TURÍSTICOS INNOVADORES |
| *Nueva Industria* | Programa **Productos y entornos personalizados** | 20 | INVESTIGACIÓN EXCELENTE EN NANOTECNOLOGÍA, NUEVOS MATERIALES Y EFI-CIENCIA ENERGÉTICA |
| | | 21 | INVESTIGACIÓN EN CENTROS TECNOLÓGICOS EN PRODUCTOS Y ENTORNOS PER-SONALIZADOS |
| | | 22 | INVESTIGACIÓN E INNOVACIÓN EMPRESARIAL EN PRODUCTOS INNOVADORES Y ENTORNOS PERSONALIZADOS |
| | Programa **Fabricación avanzada y nuevos sistemas industriales** | 23 | INVESTIGACIÓN EXCELENTE EN BIENES DE EQUIPO AUTOMOCIÓN Y TRANSPORTE |
| | | 24 | INVESTIGACIÓN EN CENTROS TECNOLÓGICOS EN FABRICACIÓN AVANZADA |
| | | 25 | INVESTIGACIÓN E INNOVACIÓN EMPRESARIAL EN FABRICACIÓN AVANZADA |
| | | 26 | INVESTIGACIÓN EXCELENTE EN TELECOMUNICACIONES ESPACIALES Y NUEVOS MA-TERIALES PARA EL ESPACIO |
| | | 27 | INVESTIGACIÓN EXCELENTE EN TIC Y ROBÓTICA REALIZADA POR UNIVERSIDADES VALENCIANAS |
| | | 28 | DESARROLLO EXPERIMENTAL EN AUTOMOCIÓN |
| | | 29 | CONSOLIDACIÓN MEDIANTE LA INNOVACIÓN DE LA CADENA DE VALOR Y FABRICA- CIÓN AVANZADA |

A second action is to increase the involvement of UPV in the programs and actions developed by the Regional government for Sustainable Management (Measures 30 to 36), for exploratory policies (37-38), Oportunities Generation (38-49, and RIS3-CV Governance and communication (50). These measurements are listed in the table below.

| POLÍTICA TRANSVERSAL | Nº | TITULO |
|---|---|---|
| *Gestión Sostenible del Entorno* | 30 | INVESTIGACIÓN EN CENTROS TECNOLÓGICOS SOBRE TECNOLOGÍAS ENERGÉTI-CAS Y MEDIOAMBIENTALES |
| | 31 | INVESTIGACIÓN E INNOVACIÓN EMPRESARIAL EN SOSTENIBILIDAD |
| | 32 | CLIMATE KIC |
| | 33 | INVESTIGACIÓN E INNOVACIÓN EN CALIDAD DE LA EDIFICACIÓN |
| | 34 | DESARROLLO DE HERRAMIENTAS DE DIAGNÓSTICO E INTERVENCIÓN PARA REHABILITACIÓN DE EDIFICIOS Y REGENERACIÓN URBANA |
| | 35 | INNOVACIÓN PARA EL EMPLEO VERDE EN LA CONSTRUCCIÓN |
| | 36 | INVESTIGACIÓN SOBRE SOLUCIONES PARA REHABILITACIÓN DE EFICICIOS |
| POLÍTICA EXPLORATORIA | | |
| | 37 | EMPRENDIMIENTO INNOVADOR: INSTRUMENTOS FINANCIEROS |
| | 38 | FINANCIACIÓN PARA PROYECTOS INNOVADORES |
| | 39 | EMPRENDIMIENTO INNOVADOR: ENTIDADES DE FOMENTO |
| | 40 | EMPRENDEDOR INNOVADOR: CAMPUS |
| | 41 | EMPRENDIMIENTO CIENTÍFICO: BANCO DE PATENTES |
| | 42 | EMPRENDIMIENTO DE BASE TECNOLÓGICA |
| | 43 | PROMOCIÓN DE LA CARRERA INVESTIGADORA |
| | 44 | CONOCIMIENTO E INNOVACIÓN EMPRESARIAL |

| POLÍTICA TRANSVERSAL | Nº | TITULO |
|---|---|---|
| *Viveros de Oportunidades* | 45 | VALORIZACIÓN DE RESULTADOS DE INVESTIGACIÓN Y TRANSFERENCIA HACIA LAS EMPRESAS |
| | 46 | FOMENTO DE LA INVESTIGACIÓN E INNOVACIÓN EMPRESARIAL |
| | 47 | EUROPEAN ENTERPRISE NETWORK |
| | 48 | PARTICIPACIÓN EN OTROS PROYECTOS EUROPEOS |
| | 49 | IMPULSO DE LA COMPRA PÚBLICA INNOVADORA |
| *Gobernanza - Comunicación* | 50 | ENTORNO DE PARTICIPACIÓN EN RIS3-CV |

A third course of action should be to increase and intensify current internal UPV programs to match UPV capabilities with industry needs, focusing on RIS3 priorities. This can be done looking for funds in Regional calls but also in H2020 calls where SME can play an important role.

The UPV start-up generation program is considered a successful example by many local, national and international actors. It was initiated 25 years ago and has generated more than 600 companies. This experience to collaborate in internal entrepreneurship programs in other valencian organisms and might reinforce the collaboration with them.

The internationalization of R&I and educational activities at UPV might also help to the internationalization of SME activities. This was commented during the workshop meetings as a great potential in which the HEI can contribute to the implementation of RIS3.

There is margin for the development of LLL programs that serve other regional actor needs. This is an opportunity for the HEI.

The main external factors affecting the ability of the HEI to contribute more to RIS3 priorities are the recent funding cuts and the very rigid regulations that impose a slow pace to management processes and creates, sometimes, great difficulties to develop certain agreements with the industry.

# 7 Conclusions

During the two meetings held at UPV, it was clear that RIS3 is a great and positive instrument in itself. It is a strategy based on a reflection on the characteristics of the region, its strengths, weaknesses, threats and opportunities, assuming that the future passes through the knowledge society, aiming at sustainable economic development based on R & D & I in smart specialization.

Something important for this RIS3 strategy to come into effect is its elaboration with the participation of all the agents involved. In principle they are the government, the industry, the system of R & D & I of the region (Universities and HEIs), and the society, all of them elements of the quad-helix. This is essential so that the strategy works as a strong referent in the action of all agents.

At the bottom of RIS3 we have that the process of participation in the design and development of the strategy is understood as something that all the participants follow as roadmap.

The entrepreneurial discovery process (EDP) is basic to the implementation; indeed, it is a key point. In the interventions of all the stakeholders (including the JCR), EDP is identified as the great challenge for which it seems there are no unique models or strategies that can be transposed from one region or scenario to another. The characteristics of the region and the objectives of RIS3 can determine how to address EDP in each case. Two issues that have been emphasised in this regard are that: building trust between industry and the R & D & I system, and stability of objectives with clear management objectives. These are necessary conditions for the implementation of any actions for closer relationship among the different agents.

Regarding how the University might contribute, some clear issues have been identified:

- Basic knowledge generator must be brought closer to the industry so that it can focus its innovation challenges within the RIS3 priorities.
- There are three core issues within the university:
    - knowledge generation,
    - transfer of knowledge and technology,
    - entrepreneurship.

  Entrepreneurship should be a crucial issue to be introduced in curricula an other activities to be developed by the university community.
- It seems necessary to improve the supply of training taking into account more efficiently the needs of society and the economic fabric. The strong inertia of the Universities does not always allow us to act in this way. The alignment in this sense is a very important.

**SURVEY CONCLUSIONS**

There were four groups of identified participants, according with quad-helix: Government, Industry, Academia and Senior managers

The results are very similar in the four groups:

**Questions A&C**: 100% of respondents identified the axes and sub-axes related to the RIS3 and the specialization area of the RIS3 where their institution.

Question 1: 75% of respondents do not know their role in Valencian RIS3. 25% of respondents know their role in Valencian RIS3

**Questions 2, 3, 4**: 90% of respondents do not know the priorities identified in Valencian RIS3. 10% of respondents know the priorities identified in Valencian RIS3. Regarding university alignment: 90% of respondents could not identify any. Regarding how can the university contribute to your institution or area strategy, 80% did not know how, and the rest gave answers like ICT, R & D & I, knowledge area maximization.

**Question 5**: 75% of respondents do not know if the University has contributed to the design of RIS3 and later implementation. 25% of respondents know how the University has contributed to the design of RIS3 and later implementation.

**Question 6**: 85% do not know programs or modules offered by Valencian universities related with priority areas or designed by companies of the Valencian Region. 15% do not know programs or modules offered by Valencian universities related with priority areas or designed by companies of the Valencian Region.

**Question 7**: 95% of respondents do not know how to contribute different to knowledge building taking into account region capabilities, Valencian RIS3 or multidisciplinary research. 5% of respondents know how to contribute different to knowledge building taking into account region capabilities, Valencian RIS3 or multidisciplinary research.

As a conclusion after analysing the answers collected in an anonymously form we can clearly state that there is a great unfamiliarity among the audience with the RIS3-CV existence and contents, and on how the university is contributing to it and what can be made from their institutions to collaborate.

The answers to Questions 5, 6 and 7 give no room to any other view of the underlying background:

- Most of respondents do not know if the University has contributed to the design of RIS3 and later implementation.
- Most of respondents do not know programs or modules offered by Valencian universities related with priority areas or designed by companies of the Valencian Region.
- Most of respondents do not know how to contribute different to knowledge building taking into account region capabilities, Valencian RIS3 or multidisciplinary research

We find very necessary that Valencian Government takes some actions to give voice to all sectors, to make them collaborate and disseminate the RIS3 actions.

There is a lot to do in what refers to transparency and settle the conditions in which all stakeholders feel they are relevant in the process and that their voices is taken into account.

This is essential for RIS3 and is at the core of its goal in order to find the necessary synergy between its components.

# ANNEX

## Survey of the Workshop


**24 de enero de 2017**

*Ciudad Politécnica de la Innovación (Parque Científico Universitat Politècnica de València).*

Auditorio Cubo Azul

# Encuesta RIS3 - CV

## PERFIL:

☐ **GESTOR** ☐ **ACADEMICO** ☐ **INDUSTRIA** ☐ **GOBIERNO/ADMINISTRACIÓN**

**A) Marque los Ejes y sub-ejes relacionados con la RIS3 donde situaría su especialidad**

☐ EJE 1. CALIDAD DE VIDA

☐ 1.1. AGROALIMENTARIO, COSMÉTICA Y PRODUCTOS PARA EL HOGAR

☐ 1.2. PROMOCIÓN DE LA SALUD Y SANIDAD EFICIENTE ☐ 1.3. TURISMO Y CALIDAD DE VIDA

☐ EJE 2. PRODUCTO INNOVADOR

☐ 2.1. BIENES DE CONSUMO PERSONALIZADO ☐ 2.2. HÁBITAT: LA VIVIENDA Y SU ENTORNO

☐ EJE 3. PROCESOS AVANZADOS DE FABRICACIÓN

☐ 3.1. AUTOMOCIÓN Y MOVILIDAD ☐ 3.2. BIENES DE EQUIPO

## C) Marque el área de Especialización de la RIS3 donde situaría su especialidad

☐ A. Materiales avanzados y nanotecnología ☐ B. Fabricación avanzada

☐ C. TIC (Tecnologías de la información y comunicaciones) ☐ D. Biotecnología

☐ E. Micro y nanoelectrónica, y fotónica ☐ F. Tecnologías energéticas y medioambientales

☐ G. Logística

## 1.- ¿Conoce el papel que su institución ha podido desempeñar en la identificación de fortalezas en el proceso de desarrollo de la RIS3?

☐ **SI. Describir brevemente:**

| |
|---|
| |

☐ **NO**

## 2.- ¿Conocía las prioridades identificadas en la RIS3?

☐ **SI. Identifique las que ya conocía e indique su opinión**

| |
|---|
| |

☐ **NO**

**3.- De las prioridades descritas en la pregunta número 2, ¿en cuáles encuentra una mayor capacidad de alineación de las universidades para su desarrollo en la RIS3 Valenciana?**

**Enumerar prioridades:**

| |
|---|
| |

**4.- Según la prioridad identificada, relacionada con su área de especialización y el Eje en el que se enmarca, por favor conteste a las siguientes preguntas:**

a) **¿Tiene su institución una estrategia explícita para aumentar la capacidad de investigación / inversión / captación de recursos de financiación en cualquiera de las áreas prioritarias?**

☐ **SI. Citar:**

| |
|---|
| |

☐ **NO. ¿Se contempla en un futuro?**

**b) Cómo puede contribuir la Universidad a esa estrategia explícita y el consecuente intercambio de conocimientos.**

- Planes de formación: ☐ SI ☐ NO
- Transferencia de Conocimiento: ☐ SI ☐ NO
- Intercambio de personal:

☐ SI. Indique de qué tipo:

☐ NO

- Iniciativas específicas:

☐ SI. Indíquelas:

☐ NO

- Otros:

**5.- ¿Cree que las universidades han colaborado lo suficiente en el diseño de la estrategia y su posterior implementación de la RIS3?**

☐ **SI. Indique como y que sería deseable:**

| |
|---|
| |

☐ **NO**

**6.- En cuanto a la docencia, ¿hay programas o módulos (de pregrado y postgrado) que encajen en las áreas prioritarias? ¿Qué aportaciones han tenido / tendrán las empresas locales en el diseño o configuración de los nuevos planes de estudio?**

☐ **SI. Cuales, y papel de las empresas locales:**

| |
|---|
| |

☐ **NO**

**7.- ¿Cómo puede cambiar su enfoque (contestar según perfil) en la creación de conocimiento en respuesta a las demandas planteadas por los desafíos sociales que enfrenta la región (que también pueden tener resonancia global, por ejemplo, el cambio climático, la sostenibilidad, el envejecimiento, etc.)? ¿Existen mecanismos para alentar o apoyar la investigación multidisciplinar para abordarlos?**

☐ **Como cambiar el enfoque:**

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☐ **Con que mecanismos:**

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Organizado por: