



Regional Actor Map

Valencia Community



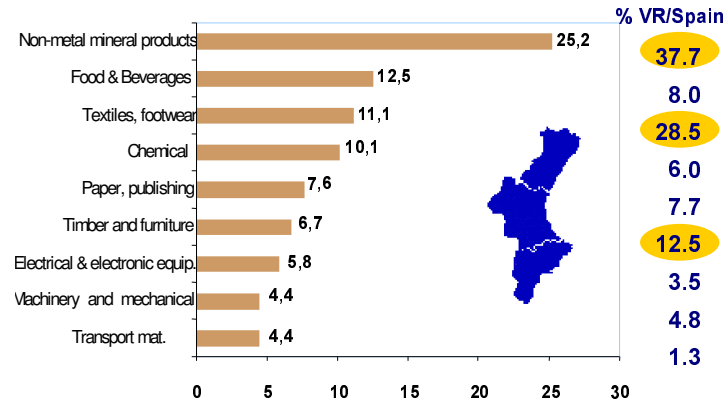
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1.- Defining & Characterising the region

2.- Mapping the actors

1.- DEFINING & CHARACTERISING THE REGION

Figure1 Spending on innovation by industrial sectors in the Region of Valencia



✓ IMPIVA, INE Technological Innovation Survey 1998

The following table sets out some of the basic magnitudes of the innovation system of the Region of Valencia along with values for the rest of the nation, for purposes of comparison. Both input variables, such as spending on R&D and Innovation, as well as some outputs of the system (publications issued, patents and participation in projects co-financed by third parties outside the region) are included in the table. In addition, two generic variables, gross value added (GVA) and population are shown to allow further comparisons.

Table 1. Basic R&D and innovation indicators in the Region of Valencia and Spain

Ref.	Indicator	Valencia	Spain	VR/Spain
(1)	Population	4.202.608	41.116.842	10,2%
(2)	GVAcf (Million €)	57.851.271	589.457.000	9,8%
(3)	R&D expenditure (Thousand €)	430.512	5.718.988	7,5%
	Companies	181.831	3.068.994	5,9%
	General Government	36.622	904.776	4,0%
	Higher Education	204.840	1.693.882	12,1%
(3)	R&D personnel	10.224	120.618	8,5%
	Companies	3.984	47.055	8,5%
	General Government	1.076	22.400	4,8%
	Higher Education	4.999	49.470	10,1%
(4)	Spending on innovation (Thousand €)	808.924	10.174.259	8,0%
(5)	Publications	1.729	19.157	9,0%
(6)	Patents	362	2.709	13,4%
(7)	ATYCA Projects	235	2.279	10,3%
(8)	National R&D Plan Projects	147	1.427	10,3%
(9)	IV Framework Programme projects	296	3.795	7,85%

✓ *INE 2001(1), INE 2000 (1ª E)(2), INE 2000 (3)¹, INE avance 2000(4), SCI 1999(5), OEPM 2000(6), MINER 1999 (7), Memoria PNI+D 1996(8), OCYT 1999, years 1994-1998(9)*

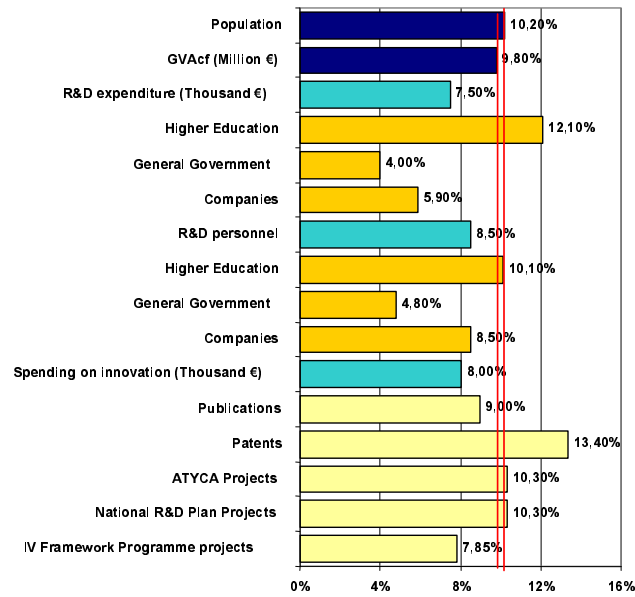
In general terms, it can be deduced that the innovative effort of the region is relatively low, since although Valencia is home to 10.2% of the country's population, it contributes only 9.8% of Spain's GVA.

According to the above table, R&D spending in the Region of Valencia in 2000 represented 7.5% of spending nationwide, significantly below the reference variables of population and GVA. Nevertheless, this figure, which amounted to 0.74% of regional GDP, was significantly higher than in 1999, when spending on R&D came to only 0.62% of the region's GDP (and thus represents an increase of nearly 20%).

If we break down this indicator, we find that distribution by sectors is not homogenous with respect to the national total. For example, Higher Education was responsible for 47.6% of R&D spending in the region, likewise, enterprises accounted for 42.2% of R&D spending in Valencia Region, compared with only 29.6% and 53,7%, respectively, accounted in Spain as a whole. This relatively low contribution by enterprises to R&D spending is one of the weak points of the Valencia innovation system. Still, this indicator is evolving positively, since the better part of the recent increase in R&D spending in Valencia can be attributed to spending by companies. The information contained in the table above is shown below in bar graph form for ease of comparison.

¹ It should be noted that a change was made in the methodology used to produce the statistics for this year with respect to the previous year.

Figure2 Comparison of Spanish and Valencia Community basic R&D and innovation indicators



✓ Own preparation. Data of Table 3

Despite the relatively low values for investment or input indicators, the SVIDI is apparently highly efficient, since the majority of the results indicators are higher than those corresponding to investment, and even above the reference variables considered. In this respect, the patent applications indicator is eloquent: residents of the Region of Valencia made 13.4% of all patent applications in Spain.

Finally, these data also show that two problems that affect Spain as a whole –a weak R&D effort and a modest contribution to this effort by enterprises- are even more pronounced in the Region of Valencia.

The Innovation System of the Region of Valencia

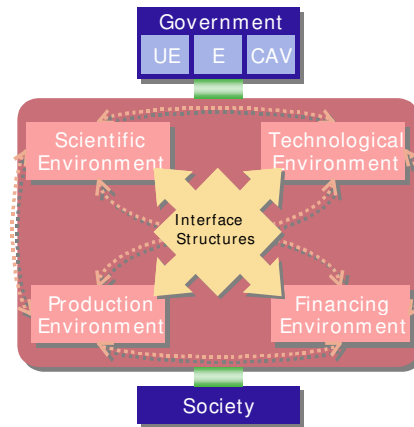
The so-called Regional Innovation System is made up of all the actors and organisations that are actively involved in the development of the innovative capacity of the Region of Valencia. During the innovation process, these actors establish a multitude of interrelationships and interconnections amongst themselves.

Specifically, the Valencia Innovation system² is composed of seven different types of actors: **the Valencia society**, as a demander of Innovation and Technology, the **General Government**; **Science Suppliers**; **Technology and Innovation Suppliers** and the **Innovation Support Infrastructure, Enterprises and Financial agents**.

² Based on FERNÁNDEZ DE LUCIO, I. Y CONESA CEGARRA, F (1996) "Interface Structures in the Spanish Innovation System. Its role in the diffusion of the technology" Universidad Politécnica de Valencia.

The interrelationships of the actors that constitute the Regional innovation System of the Region of Valencia are shown in the following figure.

Figure3 *Regional Innovation System of the Region of Valencia*



Science supply

The science supply in the Region of Valencia, as seen in the following figure, is based mainly in five universities that cover the majority of scientific disciplines and whose work is complemented by research centres (OPIs).

Table2. Universities located in the Region of Valencia

University of Alicante (UA)
University Jaume I (UJI)
University Miguel Hernández (UMH)
University Politécnica de Valencia (UPV)
University de Valencia (UV)

It is estimated that R&D spending in the higher education sector rose by some 5% in 2000 over 1999, reaching the figure of 197.5 million euros, compared with 188.1 million euros in 1999. The following table shows the proportion of all spending contributed by each of the region's five universities.

Table3. Percentage participation by each university in University R&D spending in the RV

University	Budget	Students	Total staff EDP	Researchers EDP	Total R&D personnel
UA	18,8	19,7	13,3	12,3	10,0
UPV	28,0	23,7	21,3	25,9	21,7
UJI	9,8	8,5	8,0	7,6	9,1
UV	34,3	42,5	49,2	48,2	51,9
UMH	9,3	5,5	8,3	6,0	7,4
Total CV	100	100	100	100	100

✓ *Alto Consejo Consultivo. Data for 1999, except for Budgets (early 2000)*

A certain lack of proportionality can be observed if we look at the different columns. This could be due to the differences in the types of studies imparted at each of the universities. In any case, the University de Valencia stands out, and not only with regard to its participation in the overall budget figure.

The research centres (OPIs) located in the Region of Valencia are listed in the following table.

Table4. OPIs in the Region of Valencia.

Name	Area	Mgt.
Instituto de Acuicultura Torre de la Sal	Marine aquaculture	CSIC
Instituto de Agroquímica y Tecnología de Alimentos	Food science and technology; agrarian sciences	CSIC
Instituto de Biología Molecular y Celular de Plantas "Primo Yúfera"	Biology and biomedicine	Mixto
Instituto de Física Corpuscular	Basics physics	Mixto
Instituto de Gestión de la Innovación y el Conocimiento	Humanities and social sciences	Mixto
Instituto de Historia de la Ciencia y Documentación "López Piñero"	Humanities and social sciences	Mixto
Instituto de Neurociencias	Biology and biomedicine	Mixto
Instituto de Tecnología Química	Chemical science and technologies	Mixto
Centro de Investigaciones sobre Desertificación	Natural resources and environment	Mixto
Instituto Valenciano de Investigaciones Agrarias	Agrarian sciences & the environment	GV
Instituto Valenciano de Estudios sobre Salud Pública	Health	GV
Centro de Estudios Ambientales del Mediterráneo	Environment	GV

✓ *Own preparation. (Mixed: Agreement between the CSIC and the Valencia Government (VG) and/or the universities)*

As we can see from the table, research carried out by Region of Valencia OPIs has focused on two basic areas: agricultural and natural sciences, and the exact sciences. This two areas account for 88% of all research performed.³

Technology and innovation supply

The goal of the **Technology and Innovation Supply** generate and disseminate the scientific know-how and the technologies that could be used by the other agents of the Innovation System of the Region of Valencia.. Within the **Technology and Innovation Suppliers**, there are the

³ Alto Consejo Consultivo data for the year 2001.

Technological Institutes. The technological environment of the Region of Valencia is made up of, basically, 16 Technology Institutes. Their names and locations are shown on the following map.

Figure4 *Map showing the Technology Institutes in the Region of Valencia.*



✓ [IMPIVA web page.](#)

The following tables contain some of the activity indicators of the Technology Institutes of the Region of Valencia.

Table5. Activity indicators of Region of Valencia Technology Institutes (thousands €)

(Thousand €)	1998	1999	2000
No. of companies worked with	7.064	9.942	11.326
No. of associated enterprises	4.644	4.881	5.393
No. of R&D projects	687	783	837
No. of consulting and technology transfers	6.354	13.344	18.493
No. Participations in European projects	80	79	102
No. of laboratory activities	173.350	183.389	197.147
Training activities (hours/student)	592.259	598.355	525.320
Information services	63.506	79.080	90.334
Breakdown of income by source			
IMPIVA Agreement	10.422	11.299	11.630
SME Initiative Programmes (expenditures)	2.236	3.690	282
Spanish Gov programmes	3.901	4.940	4.141
European funds	2.128	3.690	3.492
Fees and services	15.043	16.450	17.988
Other	841	1.509	1.737
Breakdown of income by activity			
For laboratory activities	4.634	5.121	5.866
For consulting and technology transfer	4.538	5.469	5.656
For R&D projects	14.244	18.289	18.974
For training actions	3.047	3.606	3.239
For information and documentation activities	445	793	583

✓ *IMPIVA*

As shown in the table, in 2000, income from fees and services accounted for almost 46% of all revenues, with the rest originating from the agreement with IMPIVA or national or European programmes and initiatives.

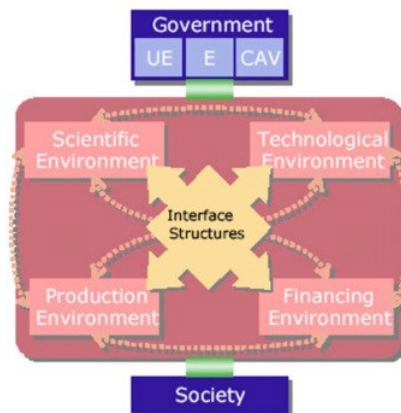
As regards revenues by type of activity carried out, most income originated in R&D projects, which accounted for a little more than 55% of all income in 2000.

2.- MAPPING THE ACTORS

Following a list of actors and comments about their relevance on ‘University-Industry Cooperation’.

An initial classification has been created:

1. University & Scientific – Technological Offer
2. Market actors – productive system
3. Interface organisms
 - University side
 - Industry side
4. Governance



1. University & Scientific – Technological Offer

- **Universities**

The 5 public universities in the Valencia Community are actives on basic research actions. Their intent to approach companies is growing. All of them have their own University-Enterprise interface.

1. *University of Valencia*
2. *Polytechnic University of Valencia*
3. *University of Alicante*



4. *University Jaume I Castellón*

5. *University Miguel Hernández Elche*

Private Universities are increasing their interest and most of them are actively involved in innovation, entrepreneurship, continuous training and labour market.

○ **Public Research Centres**

1. **OPIs (Public Research Organisations):** Public Research Institutes based at the University. They have the acknowledgement of the Ministry at national level as research body. A network of the variety research centres has been created.

- *Institute of Acuiculture Torre de la Sal (CSIC⁴)*
- *Institute of Agro-chemistry and Food Technology (CSIC)*
- *Institute of Molecular and Cellular Biology of plants 'Primo Yúfera' (CSIC)*
- *Institute of Physics Corpuscular (CSIC)*
- *Institute of Innovation and knowledge management (CSIC)*
- *Institute of Science and Documentation History 'López Piñero' (CSIC)*
- *Institute of Neurosciences (CSIC)*
- *Institute of Chemistry Technology (CSIC)*

⁴ **(CSIC:Scientific Research Higher Council. CSIC is an autonomous Public Research Organization depending from the Ministry of Science & Education-National Government-..*



- *Centre of research for Desertification (CSIC)*
 - *Valencian Institute of Agrarian Researches (Regional Government)*
 - *Valencian Institute of Studies of Public Health (Regional Government)*
 - *Centre of Environmental studies of the Mediterranean (Regional Government)*
- **Technological Centres:** promoted by the IMPIVA, a network of those technological centres was easy connected to the company through their, 15 technological centres both the traditional sectors of the Valencian economy and some sectors.
1. *AIDIMA – Technological Institute of Wood and Furniture*
ADIMA is the Research and Development Association in the Furniture Industry and Others. Its aim is to encourage the competitiveness in the Spanish furniture, wood and others sector.
<http://www.aidima.es/aidima/>
 2. *AICE – Technological Institute of Ceramics*
The Technological Institute of Ceramics (ITC) is a Technological Centre whose objective is to encourage and develop activities that contributes to improve the ceramic sector, with views to increase its compatibility in the national and international markets.
<http://www.itc.uji.es/>
 3. *ALICER – Institute Ceramic Design*
ALICER mission is to promote design in the Ceramics Sector,

providing advances support services to this subsector

<http://www.alicer.es/>

4. *ITENE – Technological Institute of Package and Packaging*

The purpose of the association is to boost the scientific research, the technological development, the development of the information society and the promotion of the environment in the packaging, transport and logistics sectors.

<http://www.itene.com>

5. *IBV – Technological Institute Biomechanics*

The Technological Institute of Biomechanics is a R&D centre whose objective is the encouragement and practice of scientific research, technological development, technical advice and formation of human resources in Biomechanics.

<http://www.ibv.org/>

6. *AIDICO – Technological Institute of the Construction*

Its aim is to increase the capacity of innovation and the quality of companies in order to boost their competitiveness in national and international markets.

<http://www.aidico.es/>

7. *AIDO – Technological Institute Optical*

The main purpose of AIDO is to improve competitiveness of the firms encouraging the research, and latest technological development of the industries within the fields of Optics, Imaging, Colour, Design and the most up to date Communication Technologies in order to raise the quality of production, support the exportation and all that contributes to industrial development.

<http://www.aido.es/>



8. *AIMPLAS – Technological Institute de Plastics*

Its field of activity falls within research applicable to the plastic transformation sector, to support, technological development and innovation through integral solutions that can be adapted to the enterprises.

<https://www.aimplas.es/>

9. *AIMME – Technological Institute Metal-mechanics*

The aim of the Institute is to encourage improvement in the competitiveness of companies in the metal processing sector through R & D & I (Research, development and Innovation) both in their productive processes and their products.

<http://www.aimme.es>

10. *AINIA – Technological Institute Agrofood*

Ainia aim is to participate actively in the achievement of the enterprises excellences through the innovation, anticipating the society demands and shaping them as a professional organisation recognized as a engaged collaborator.

<http://www.ainia.es>

11. *ITI – Technological Institute Informatics*

ITI's mission is the improvement and support of the companies competitiveness in the national informatics sector through the presentation of a RTD service, technological advice, formation and diffusion of the information.

<http://www.iti.upv.es/>

12. *ITE – Technological Institute Electrics*

ITE is a private association that oriented its services, products and technological projects to companies and national and international public bodies belonging to the energy, electrics, electronics and

communication sectors.

<http://www.itenergia.com/>

13. *AITEX – Technological Institute Textile*

AITEX comprises textile and related companies whose main objective is to improve competitiveness within the sector. For this reason, the Institute promotes modernisation and the introduction of new technologies through the implementation of R&D&I projects and, in general, the preparation of all kinds of actions and services that contribute to the progress of the sector at industrial level.

<http://www.aitex.es>

14. *INESCOP – Technological Institute Shoes*

All of the work at INESCOP is closely related to the footwear industry and allied trades because projects and services of a wide nature are developed in which the companies are involved; that is the case of the transfer of knowledge and technologies; or the development of specific projects.

<http://www.inescop.com>

15. *AIJU – Technological Institute of Toy*

Aiju is a private, non-profit-making association committed to pursuing the following objectives: Promoting Technological Innovation, Research and Development; Increasing competitiveness of companies; Improving product quality. Aiju promotes Technological Innovation as a tool to improve Business Development and Competitiveness.

<http://www.aiju.info>

16. *AITEM – Technological Institute Company*

AITEM's objective is the realization of activities address to the fostering, improvement and strengthening of industrial processes and giving services that contribute to encourage the competitiveness of all the enterprises which form the industrial Valencian network.

<http://www.aitem.es/>



2. Market actors – productive system.

- Big & Medium Sized Companies
Some big companies have had specific implications of the Valencian economy. The active industrial sector have been updated following an active concentration of small cooperation, increasing their size and reaching
- SMEs
99,88% of companies are SME. The Technological Centres have been a solution to make collective R&D
- Start-ups
 1. NTBFs
 2. Entrepreneurs

3. Interface organisms

- University side
 - ✓ Science
 - University-Enterprise Foundations: well reputed, long tradition (between 10/20 years) They managed knowledge transfer contract, as well as the student training staffs in the companies and the postgraduate courses.
 - *FUNDEUN – Alicante*



- *FUE UJI - Castellón*
- *CTT- UPV – Valencia*
- *ADEIT – UVEG - Valencia*
- OTRIs: Research Results Transfer Office, they manage the contract between companies (Research Centres), the patents and technology transfer contracts.
 - *5 Universities*
 - *Technological Institutes*
 - *CSIC Research Institutes*
 - *The University-Enterprise Valencian Foundations are recognised by the National Government as OTRI too*
- ✓ Technology: At this level during the last three years several networks have been promoted in order to concentrate similar organizations in the same forum, to promote synergy and cooperation: Technological Institutes Network, University Research Institutes Network & ScienceParks Network.
 - *RUVID – Valencian Universities Network*
 - *REDIT – Technological Institutes in the Valencian Community Network*
- Industry side
 - ✓ Enterprise Associations; gather all entrepreneurial associations of Valencia Community. Both, sectorial ones on territory formed.



- *CIERVAL*
 - *CEV*
 - *Sectorial associatoin*s Chamber of Commerce; all of them are members of this body that coordinates their action.
 - *High Council of Chambers of the Valencian Community*
- ✓ BICs; following the BIC model defined by EBN with the support of the European Commission. Five BIC's are operating in the Valencian region.
- *CEEI Castellón*
 - *CEEI Valencia*
 - *CEEI Alcoy*
 - *CEEI Elche*
 - *CEEI Alicante*
- ✓ Technological & Science Parks
- *Technological Park of Valencia the initial one. Most of the technological initiatives are located here. It is mostly full of : innovative research companies with advanced services.*
 - *Technical city of the Innovation and MedPark Alicante; all public are also creating their scientific technological park, where they are going to locate both: research centres and companies.*
 - *CPI – Innovation Polytechnic City*



- *University of Valencia Science Park*
- ✓ Professional bodies
- ✓ Trade Unions
- ✓ Financing Institutions
 - Banks
 - Saving Banks: very well connected to the territory and population. They count with the layout neutral.
 - Bank Foundations. Through their foundation many sponsored actions are being promoted or training, scholarship but also for entrepreneurs, start-up, etc.
- 4. Governance (Policy-makers and public institutions defining and executing policies).
The Valencian Community Region has many competency on industrial, employment and territory and so, although the framework legislation is being decided at national level, each autonomy designs and executes its own policies.
Public Administration
 - ✓ At national level the following institutions are related to the 3 interest areas of RUISNET project:
 - *Ministry of Economy and Finance*
 - *Ministry of Buildings*
 - *Ministry of Education and Science*
 - *Ministry of Work and Social Matters*
 - *Ministry of Industry, Tourism and Trade*



- ✓ At regional level is highly significant the creation of a new regional Ministry putting together “Company-University-Science” as an example of the importance of this strategy for the region.
 - *Council of 'Enterprise, University and Science*
 - *Other regional councils involved:*
 - *Council of Economy, Finance and Employment*
 - *Council of Territory and Housing*
 - *Presidency. High Council Adviser R+D*
 - Regional Public Bodies
 - Industrial Policy
 - *IMPIVA*
 - Territorial Policy
 - *SEPIVA*
 - Employment & Continuous Training
 - *SERVEF*
 - Foreign investment and Internationalization
 - *IVEX*
 - Local Development
 - ✓ County council
 - *County council of Valencia*



- *County council of Castellón*
- *County council of Alicante*
- ✓ Community
- ✓ Local Councils