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ADVANCED MONITORING AND COORDINATION OF EU R&D POLICIES AT REGIONAL LEVEL

Targeted Analysis 2013/2/18

Regional report - ANDALUSIA

Annex to Final Report | Version 10/12/2012



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Synthesis of the territorial and R&D system

Andalusia's regional GDP per capita is well below the Spanish and the European average. However, over the last 30 years, the region has undergone changes and addressed serious historical gaps in terms of physical, educational and health infrastructures. Andalusia displays partly positive trends about global welfare. However, challenges are still numerous in the path towards the convergence to the most advanced European regions. The major challenge is high unemployment, especially among the young people. From the sectoral point of view, the region is shaped by tourism, agriculture and a number of mature industries like furniture, marble manufacturing and so on. Interestingly, evolving high-tech sectors can be observed in the field of new agro food clusters, aeronautics, and renewable energies. However, the RTDI indicators of Andalusia are mostly below the national and the EU level.

Another strong feature of Andalusia's development pattern is the dynamism of both the coastal strip and an inner axis of medium-sized cities. Concerning the former, as the rest of the Spanish littoral, the Andalusian seashore has evolved to rising figures in demographic and economic terms. Such a functional shift was based on several factors, one of them being crucial: climate conditions, which took to unexpected levels the development of residential, touristic and leisure functions and also it has created a highly competitive production of fruits, vegetables and other agricultural products grown in greenhouses, which acts as a driver of active business networks/clusters (inputs providers, agro-industries, exporting firms, service companies, etc.) (cf. Zoido Naranjo/Caravaca Barroso 2005).

Rural areas show a mixed economic trend, between areas which can be considered as emergent thanks to their dynamism and competitive capacity (i.e. local productive systems), and stagnant areas which still cannot find answers to current socio-economic logics. Main villages have improved their social infrastructures and facilities, raising living standards. When looking at the majority of studied variables, a major part of regional rural areas appears as stagnant, with insufficient socioeconomic dynamics, a depopulation trend and deterioration of some natural resources. Andalusian mountainous areas are undergoing a more than secular process of reconversion, from a diversified economy favouring food self sufficiency to a new functional linking with nearer more populated areas, cities and coastal areas, which involves demographical regression and the reduction or extinction of many industrial and agricultural activities. To a large extent, a requalification of resources – such as the protection of high-value natural spaces, the improvement of habitability, facilities and building in population settlements – has recently occurred in these areas. While there has been a global recovery of handicraft activities and agricultural products with denomination origin, tourism functions and services have developed unequally (cf. Zoido Naranjo/Caravaca Barroso 2005).

Intra-regional socio-economic Disparities in Andalusia (selected Indicators)

Coefficient of variation of GDP per capita 2008 (in %)	Coefficient of variation of the yearly average GDP per capita growth rate 1998-08 (in %)	Coefficient of variation of the unemployment rate 2009 (in %)	Coefficient of variation of the population dynamics 2005-09 (in %)
10.16	11.56	7.06	77.44

Remark: disparity calculations based on NUTS-3 level data

(Source: own creation and calculations; based on data from EUROSTAT 2011)

Andalusia's major R&D sectors are (although there are mostly comparatively small) sustainable energy, food production, aerospace (there is a rather large cluster of aerospace multi-nationals and SMEs), ICT, and the life sciences and biotechnology sector. Less innovative but also important is tourism. Politically chosen (by the PAIDI, see section 3.2) to be the main future research areas are: aeronautics, biotechnologies and bio-engineering, health sciences, ICT, nanotechnologies and advanced materials, and tourism (cf. MARCHESE/POTTER 2010). In general, the region's RTDI sector is clearly is not sufficiently business-oriented.

The region's innovativeness in relation to the other regions within Spain, measured by the number of patents applied at the EPO, ranks in the upper third. In European context the region's innovativeness is rather weak. In 2007, the employment in R&D (FTE) was equivalent to 11.0% of the overall Spanish R&D personnel. The R&D personnel (FTE) per 1,000 employees amount to 6.9. This figure is well below the Spanish (10.0) and the EU-27 average (11.0). Regarding the business orientation of both the R&D expenditures and the R&D personnel (FTE) (37.1%, 26.0%), Andalusia underperforms Spain (55.9%, 43.5%) and the EU-27 mean (63.7%, 52.1%) (cf. EUROSTAT 2011).

In 2007, the region's per capita spending on R&D ranks in the lower third compared to the other Spanish regions. The region's R&D intensity was 1.02%, thus being below both the national average (1.27%) and the EU-27 mean (1.85%). The region's R&D productivity amounts to merely 0.06, thus being below the Spanish (0.13) and the EU-27 average (0.27) (cf. EUROSTAT 2011).

Impact evaluation

Main findings

The following section analyses the research profile of the region by considering the capability to attract research funding in the Seventh Framework Program and the characteristics of the network generated by the programs. Moreover, we also consider the employment profile of the Region in the period 2004-2009, by paying particular attention to knowledge intensive and research dynamic sectors, as well as the patents produced in the region in the period 2002-2007.

As specified in the methodological section, it is not possible to assess the impact of European funding on the region. Nevertheless, programs, patenting and employment represents different and complementary stages in which research activity is developed and exploited. Thus, by using this data, it is possible to i) assess the coherence existing at the regional level among these different phases and ii) identify the most promising sectors.

Andalusia is very low attractive of FP 7 funds, when compared to the national and European average, both in terms of number of projects and the amount of funds attracted. The areas of Seville and Granada attract the large majority of funds. The participants are mostly Research (38%) and Private for profit institutions (32%), as well as Higher Education Institutions (28%). The regional actors are particularly attractive in the theme "Energy", above European and Spain average. Most research partner organizations are located in Germany (11,7%), Italy (10%) and United Kingdom (9,8%). The most important organizations in the regional FP7 network are the IPTS, the University of Granada and the CSIC.

In terms of employment, the region is mostly specialized in medium (55%) and low (33%) knowledge intensive sectors, while high knowledge sectors only sum up 12% of the employees.

The patenting activity is concentrated in Chemistry and some fields in Electrical Engineering.

In sum, the region appears rather weak both in terms of research potential and the research exploitation, considering the marginal role played by knowledge intensive and R&D intensive fields. The most promising interaction may likely occur between economic sectors "Farming", "Agricultural products", in which the region is highly specialized, and research field in the "Food, Agriculture and Biotechnology" field, where the regional actors are rather attractive of FP7 funds.

General statement of the regional participation in the FP7

Headquarter effect

The headquarter effect analysis revealed 73 ingoing participations in the region, and 7 outgoing participations. No headquarter effect was identified for 76% of regional participations. Most of the ingoing participations were subtracted from Madrid (26 participations).

The majority of ingoing participations (90%) came from Research Organisations. Outgoing participations on the other hand, came from Private Commercial Organisations. All other types of actors are not affected by the headquarter effect.

Rate of participation of the region in the FP 7

Regional actors in Andalusia accounted for a total of 304 participations in FP7, 79 coordination and 105mln€ in EC funding (5.9%, 7% and 7.1% respectively of the national total). The weight of the region in total national FP7 funding (7.1%) is below its weight in the gross domestic expenditure on R&D (11%).

During on R&D the 2007 – 2011 period, Andalusia received a yearly average of 21€mln year in FP7 financing, representing approximately 1.3% of the region's average yearly R&D effort (1.5bn€ in R&D).

Overall, the rate of participation, the leadership rate¹ and the contribution received are aligned with the European average and Spanish standard (Table 1).

Table 1 –Participation in the FP 7: comparison with country and European average

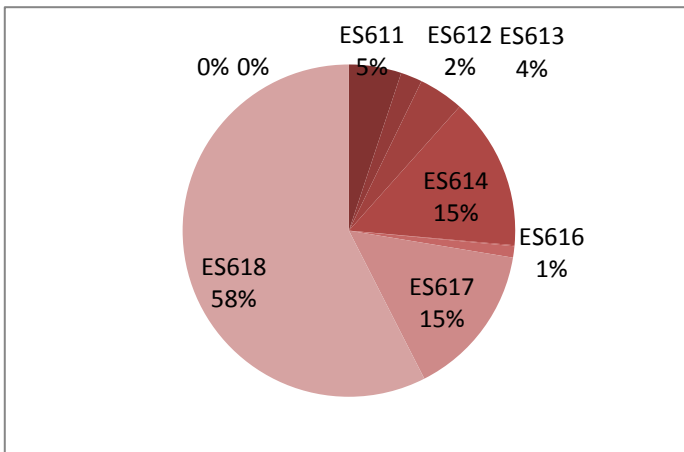
	ANDALUSIA	SPAIN	EUROPE
leadership rate	26%	22%	19%
collaborations per 100.000 population	3.6	11.0	13.9
coordination per 100.000 population	0.9	2.4	2.6
€ contribution per inhabitant	12.5	31.4	44.4
average funding per project	346260	285231	318255

Distribution of funding at infra-regional level

The majority of regional participations and coordination are located in Sevilla (44% and 43%) and Granada (20% and 29% respectively). Malaga comes in third with 16% of regional participations and 9% or coordination. As seen in the following table, the infra-regional distribution of FP7 funding is roughly equal to that of participations and coordination. Sevilla (ES618) is by far the main beneficiary of FP7 funding in the region (58% of the total regional funding). Granada and Malaga follow, having received 15% each of total FP7 funding.

¹ It represents an estimation of the strength of the regional actors, it is given by the ratio between the number of projects in which the regional actors play the role of coordinator and the number of projects in which the regional actors are in the position of partner.

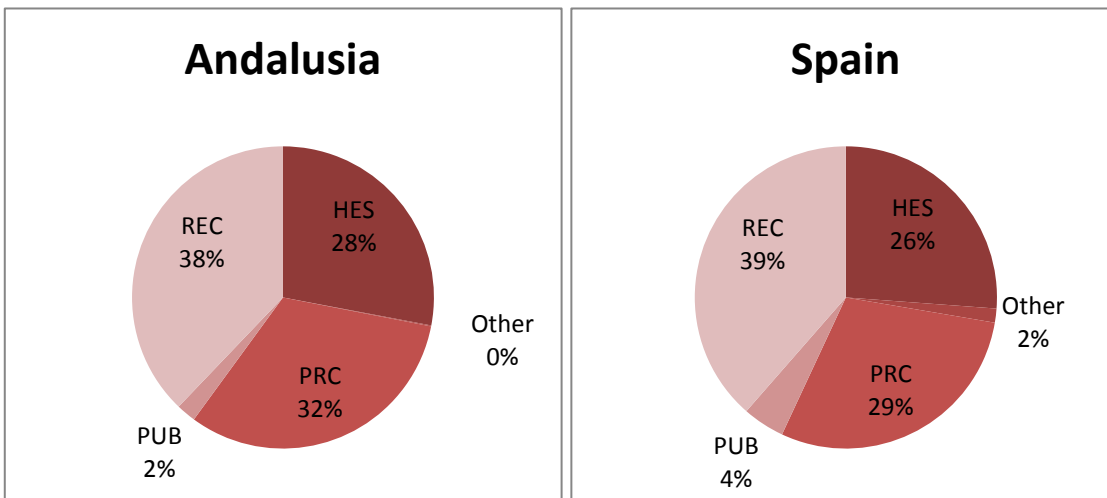
Figure 1: EC contribution distribution within the region



Distribution of funding by participant type

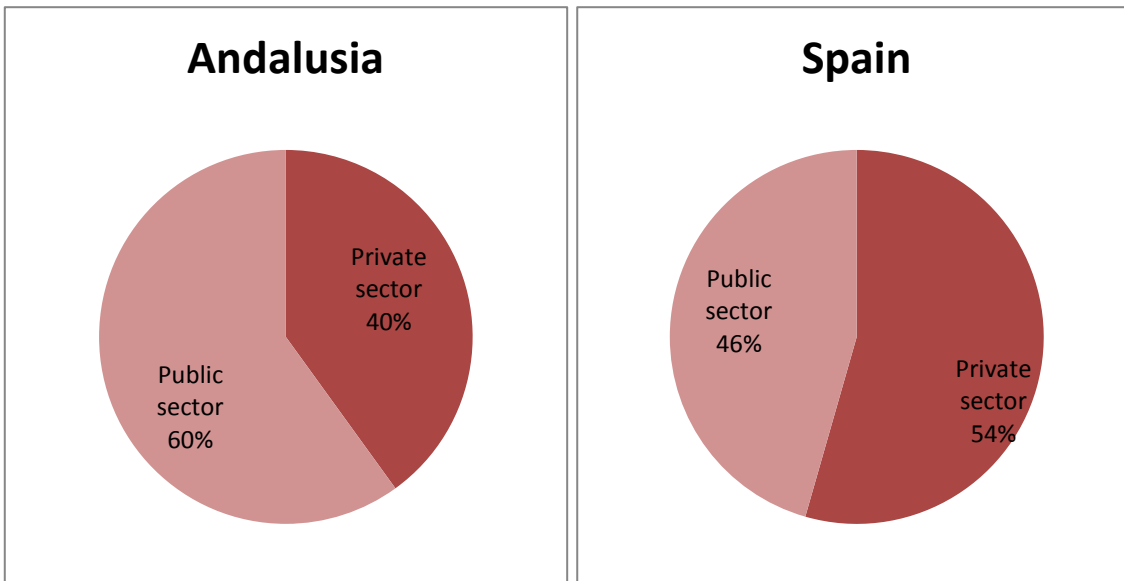
The structure of participation is very similar between the regional and national level as illustrated by the following figures. The share of Private Commercial Organisations (PRC) is slightly higher in Andalusia than in the rest of Spain.

Figure 2: Participation typology: a comparison between regional and national level



At the regional level, the share of participations coming from private organisations (commercial and non-profit) is lower (40%) than for public organisations (60%). This contrasts the situation at the national level, where private organisations account for 54% of participations and public organisations account for 46%. The following figures present the distribution of FP7 funding among both types of organisations.

Figure 3: Distribution of participations according to legal type: a comparison between regional and national level

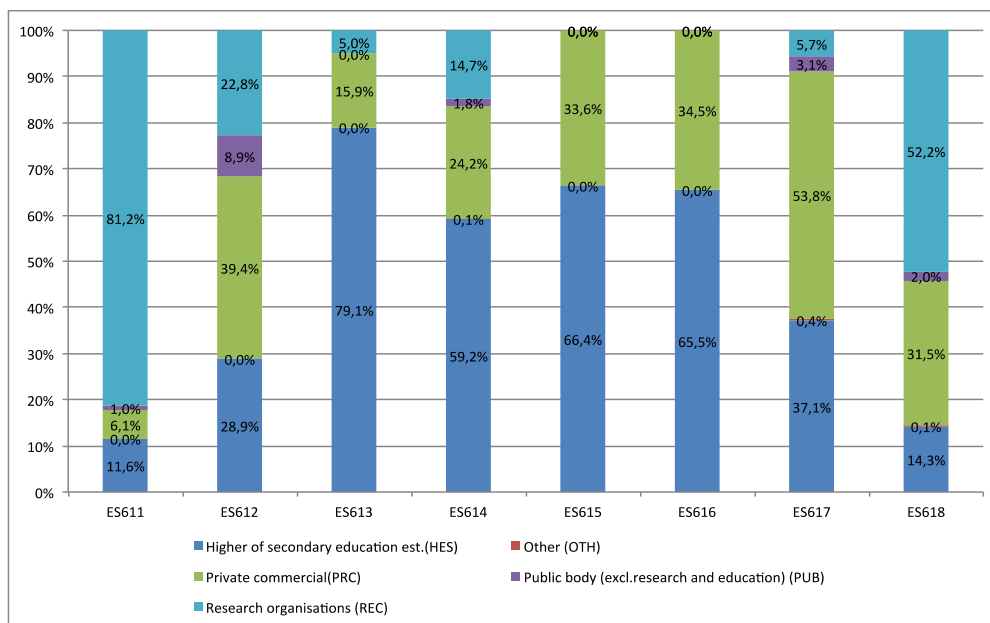


In terms of FP7 funding, Research Organisations tend to outperform other types of participants. At the regional level, this group accounted for only 30% of participations, while receiving 38% of the total FP7 regional funding. Higher of secondary education establishments on the other hand account for 34% of participations, while benefiting from 28% of the total regional FP7 funding.

Distribution of funding by participant type at infra-regional level

The distribution of FP7 funding by participant type at the infra-regional level varies considerably. HES in Granada the main beneficiaries of FP7 funding are Higher of secondary education establishments (60%). In Sevilla, 52% of funding goes to Research Organisations. Overall however, the level of funding of public bodies in the region is extremely low (Figure 4).

Figure 4: Distribution of FP7 funding at the infra-regional level by type of participant

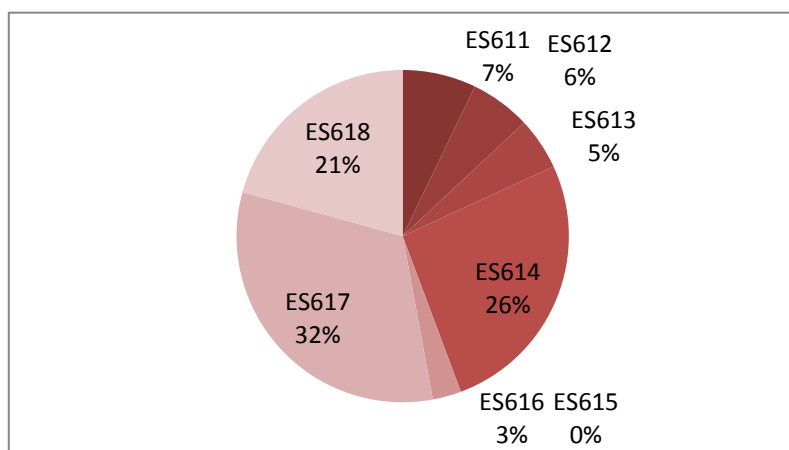


SMES' participation in FP7

During the 2007-2011 period, SMEs in Andalusia accounted for 64 participations in FP7 projects and 14mln€ in funding (6.1% and 6.2% of the national total respectively). This is roughly equal to the regional share of overall participations in Spain (5.9% see above). Private commercial SME participations represent close to the entire sum of regional SME participations (97%), while public SMEs account for the remaining 3%. This gap is considerably lower at the national level (80% vs. 20%).

Figure 5 presents the infra-regional distribution of SME funding in FP7. SMEs in Malaga and Granada account for well over half of the total SME funding in the region (32% and 26% respectively).

Figure 5: EC contribution for SMEs within the region



Distribution of funding by programme and by theme

COOPERATION programs represent the largest share of funding (61mil) and projects (176), followed by CAPACITIES (26 mil and 65 projects), PEOPLE - Marie Curie actions (11 mil, 59 projects,) and IDEAS (6 mil, 4 projects). In terms of thematic specialization within the COOPERATION program, the themes attracting more funding are *Energy* (29%), *Information and communication technologies* (23%) and *Health* (15%). The relative weight of each thematic area largely reflects the amount of funding pre-allocated by the European Union to each Theme. The comparison with country and European attractiveness of funds per inhabitant provides a better insight as to the regional scientific specialization: Andalusia is less attractive in almost all types of programs, with the exception of Energy (Table 2).

A more detailed description of the thematic specialization in the FP 7 is presented in section 2.4.

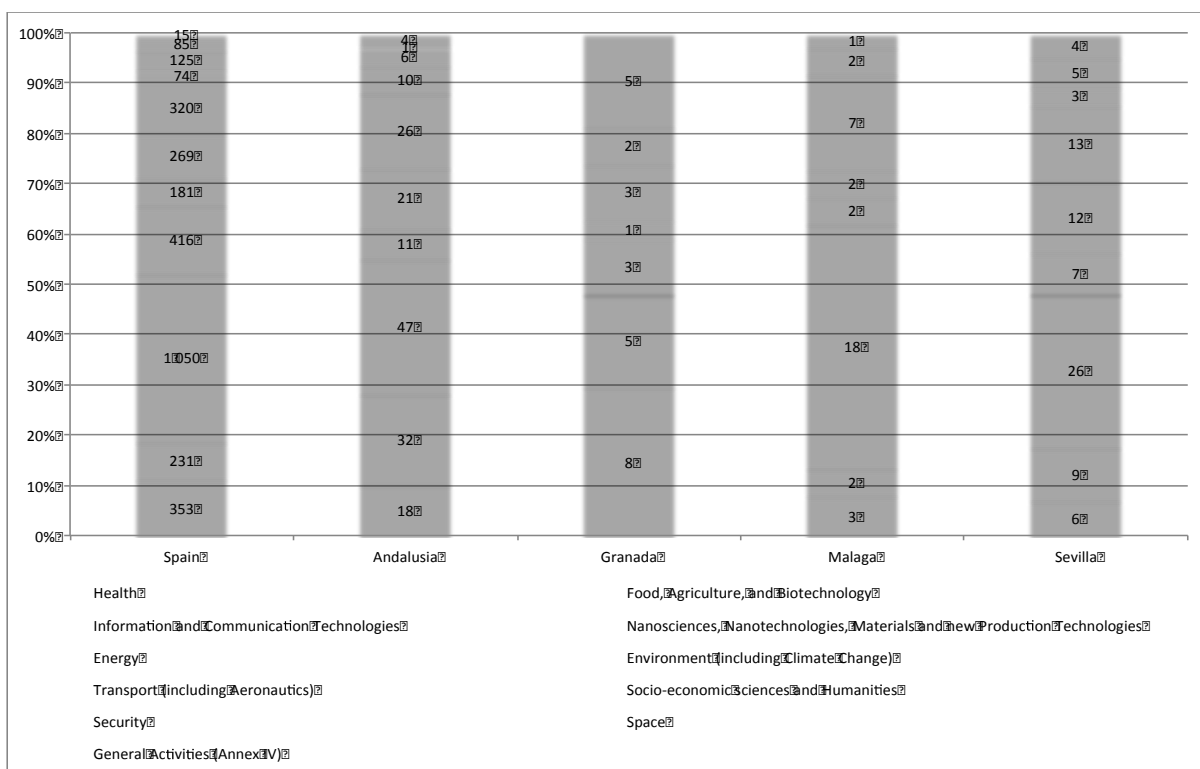
Table 2 – Thematic distribution of projects and funding

Num.	PROG SPEC	Theme	Nbr.	REGION		Attractiveness compared (contribution)	
				EC contribution		COUNTRY	EU
1	COOPERATION	Health	18	9'453'946	15%	0.42	0.21
2	COOPERATION	Food, Agriculture, and Biotechnology	32	6'465'381	11%	0.69	0.45
3	COOPERATION	Information and Communication Technologies	47	14'160'421	23%	0.23	0.18
4	COOPERATION	Nanosciences, Nanotechnologies, Materials and new Production Technologies	11	2'582'809	4%	0.11	0.10

5	COOPERATION	Energy	21	17'619'416	29%	1.08	1.23
6	COOPERATION	Environment (including Climate Change)	26	4'418'253	7%	0.42	0.26
7	COOPERATION	Transport (including Aeronautics)	10	2'663'395	4%	0.20	0.11
8	COOPERATION	Socio-economic sciences and Humanities	6	1'200'328	2%	0.56	0.26
9	COOPERATION	Security			0%	0.00	0.00
10	COOPERATION	Space	1	284'540	0%	0.07	0.04
11	COOPERATION	General Activities (Annex IV)	4	2'466'935	4%	10.49	0.67
	COOPERATION	TOTAL	176	61'315'424		0.35	0.25
12	IDEAS	European Research Council	4	6'044'360			
13	PEOPLE	Marie-Curie Actions	59	11'535'775			
14	CAPACITIES	Research Infrastructures	10	4'174'422	16%	0.42	0.21
15	CAPACITIES	Research for the benefit of SMEs	31	3'856'331	15%	0.27	0.39
16	CAPACITIES	Regions of Knowledge	7	950'055	4%	0.71	1.03
17	CAPACITIES	Research Potential	2	5'448'825	21%	3.53	1.74
18	CAPACITIES	Science in Society	6	868'288	3%	0.53	0.36
19	CAPACITIES	Coherent development of research policies	3	9'639'150	37%	47.60	29.20
20	CAPACITIES	Activities of International Cooperation	6	1'430'484	5%	3.05	1.20
	CAPACITIES	TOTAL	65	26'367'555		0.90	0.70
21	Euratom	Fusion Energy					
22	Euratom	Nuclear Fission and Radiation Protection					
			545	192'946'095			

The following figure 6 presents the distribution of participations at the infra-regional level, by FP7 theme (only for COOPERATION); for the top three infra-regional territories. Granada has particularly high level of participations in the field of Health, while Malaga stands out for if high number of participation in Information and Communication Technologies.

Figure 4: Distribution of infra-regional participations by COOPERATION sub-theme (top three infra-regional participants)



Networking: collaboration in the FP 7

Main partner countries of the region

Regional actors tend to cooperate mostly with other organizations outside the region. Partners in the region counts around 9%, nationals 7%, whereas 84% are located in other European regions. The most important countries in terms of collaborations are Germany (11.7%), Italy (10%) and UK (9.8%); whereas if single regions are considered, the most important are the Ile de France (4.6%) and Comunidad de Madrid (2.7%) (Table 3).

Table 3 – Spatial distribution of collaborations

Partner countries	n	% of total
DE	312	11.7%
IT	268	10.0%
UK	263	9.8%
FR	245	9.2%
ES	200	7.5%
NL	157	5.9%
BE	93	3.5%
EL	91	3.4%
CH	89	3.3%
AT	74	2.8%
DK	60	2.2%
SE	60	2.2%
NO	53	2.0%
PT	53	2.0%
FI	52	1.9%

Partner regions	n	% of total
Ile de France	123	4.6%
Comunidad de Madrid	72	2.7%
Baden-Württemberg	60	2.2%
Nordrhein Westfalen	59	2.2%
Lazio	56	2.1%
Vlaams Gewest	55	2.1%
Bayern	52	1.9%
South East England	51	1.9%
Attiki	48	1.8%
Zuid Holland	47	1.8%
Lombardia	45	1.7%
Wien	45	1.7%
Etelä-Suomi	40	1.5%
Hovedstaden	37	1.4%
London	37	1.4%

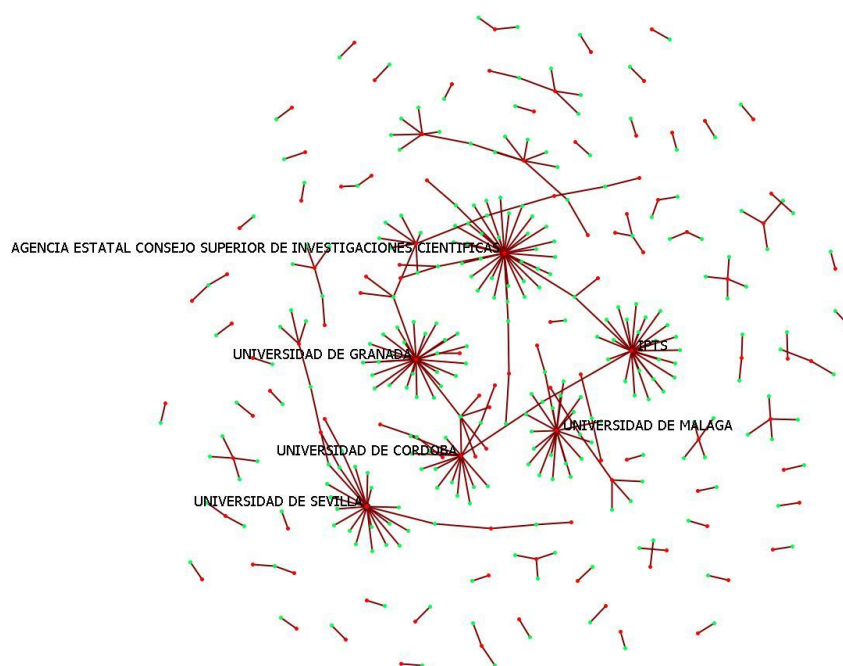
Network of the regional collaborations in the FP7

Figure 7 visually represents the network of regional collaborations in the FP 7. The names of the most important actors are underlined. The network appears rather dispersed, which is in part comprehensible because we only consider collaboration in one type of project, and centred around a few central actors connected with each other: CSIC², universities of Granada and Cordoba, the IPTS.

² AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

Figure 7–FP 7 network and its main features

Meta Network



powered by ORA, CASOS Center @ CMU

Measure	Value
Number of nodes (organizations)	111
Number of edges (cooperations)	164
Density	0.026
Components of 1 node (isolates)	61
Components of 2 nodes (dyadic isolates)	9
Components of 3 or more nodes	4
Characteristic path length	2.809
Clustering coefficient	0.415
Network levels (diameter)	7
Network fragmentation	0.964
Krackhardt connectedness	0.036
Krackhardt efficiency	0.306

Main regional actors involved in FP7 networks

The next chart shows which organizations that is repeatedly top-ranked in a series of centrality measures³. The value shown is the percentage of measures for which it was ranked in the top three. The table 4 following represents three key measures to approximate the importance of the actors in the network⁴.

³ Total degree centrality, In-degree centrality, Out-degree centrality, Eigenvector centrality, Eigenvector centrality per component, Closeness centrality, In-Closeness centrality, Betweenness centrality, Hub centrality, Authority centrality, Information centrality, Clique membership count, Simmelian ties, Clustering coefficient.

⁴ For a definition of these measures see the Methodological Section.

Figure 8 –More central organizations in the regional FP7 network

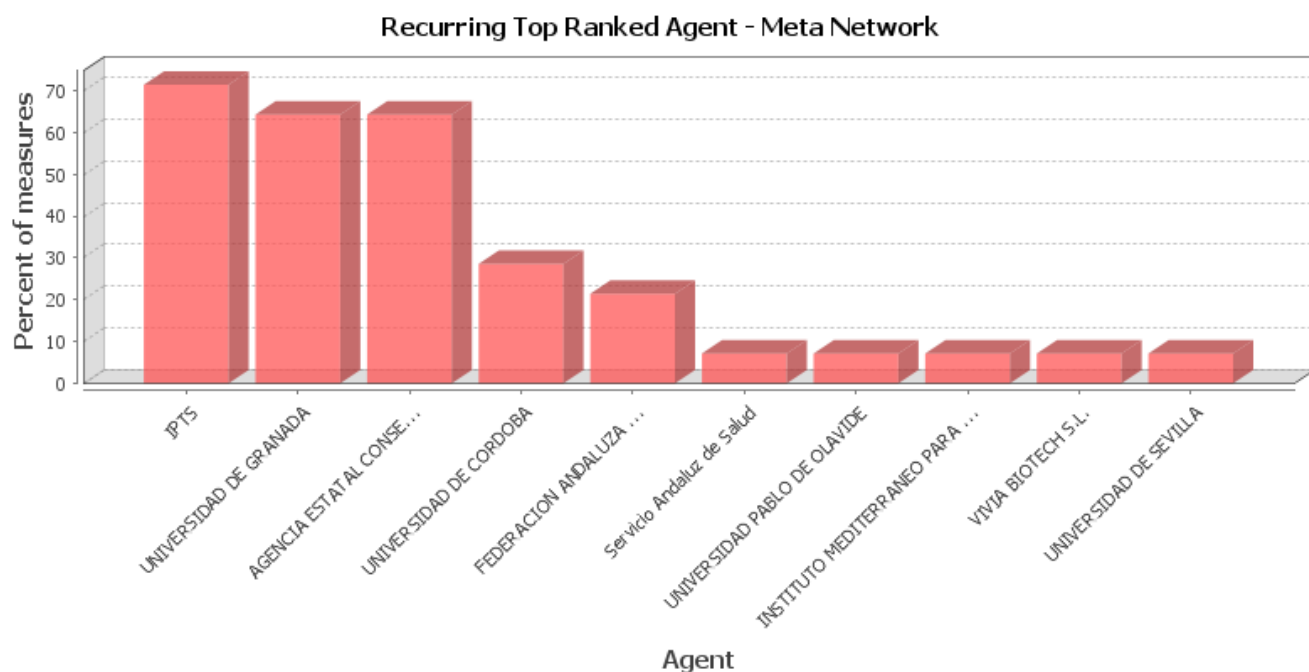


Table 4 – Centrality measures: top actors in the FP 7

Rank	HUB centrality		Betweenness centrality		Total degree centrality	
	1	AGENCIA ESTATAL (CSIC)	1.4	UNIVERSIDAD DE CORDOBA	95	AGENCIA ESTATAL (CSIC)
2	IPTS	0.14	UNIVERSIDAD DE GRANADA	83	UNIVERSIDAD DE GRANADA	36
3	FEDERACION ANDALUZA DE ASOCIACIONES DE GANADO CAPRINO DE RAZA PURA, CABRANDALUSIA	0.05	IPTS	78	IPTS	28
4	ASOCIACION DE EXPORTADORES DE ACEITUNAS DE MESA ASEMESA	0.04	AGENCIA ESTATAL (CSIC)	65	UNIVERSIDAD DE SEVILLA	24
5	JOLCA S.A	0.04	BIOAZUL	34	UNIVERSIDAD DE CORDOBA	22
6	DOMCA S.A	0.04	SEVILLA GLOBAL S.A.	18	UNIVERSIDAD DE MALAGA	20
7	VIRCELL SL	0.04	UNIVERSIDAD DE SEVILLA	8	BIOAZUL	12
8	UNIVERSIDAD DE CORDOBA	0.01	Centro de Estudios Materiales y Control de Obras S.A.	4	UNIVERSIDAD PABLO DE OLAVIDE	9
9	UNIVERSIDAD DE GRANADA	0	FUNDACION ANDALUZA PARA EL DESARROLLO AEROESPACIAL	4	UNIVERSIDAD DE CADIZ	7
10	AGENCIA ANDALUZA DEL AGUA	0	UNIVERSIDAD PABLO DE OLAVIDE	1	FUNDACION ANDALUZA PARA EL DESARROLLO AEROESPACIAL	6

Main actors in the region in terms of leading collaboration

The three main actors in terms of leading collaboration are the CSIC, the University of Granada and the IPTS. The most locally oriented of the three appears the University of Granada. When IPTS is leader, no regional actor is involved; considering also the data on collaboration as partner, it clearly emerge that the IPTS is a strong actor but it is weakly integrated in the Regional FP 7 network⁵. Of course, FP7 have a pan European orientation and one should not expect a deep local involvement; even though, such data may indicate that also in other collaborative arenas there is a potential for a better integration of IPTS and other similar pivotal actors.

Table 5 – Top three organizations for projects led and participation as partner

focus on the top three coordinators

Type	leader	n° as leader	as partner	location of partners		
				region	country	EU
REC	AGENCIA ESTATAL C.S.I.C.	22	13	1	4	52
HES	UNIVERSIDAD DE GRANADA	11	16	1	3	22
REC	IPTS	6	19	0	0	6

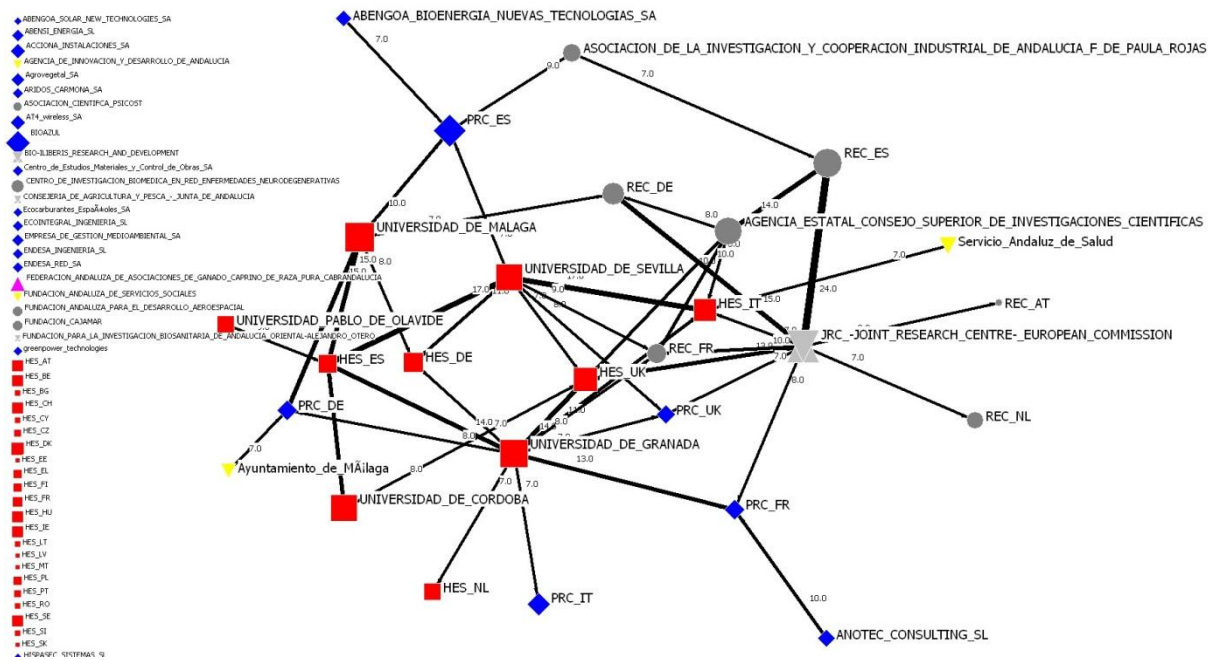
focus on the top three partners

Type	leader	n° as partner	as leader	location of leaders		
				region	country	EU
REC	IPTS	19	6	0	0	19
HES	UNIVERSIDAD DE MALAGA	16	3	0	2	14
HES	UNIVERSIDAD DE GRANADA	16	11	2	0	13

The following Social Network Analysis reveals the links between the main research players in the region and their partners in Europe. European partners are not displayed individually, but have instead been regrouped by type of organisation and country of origin. The shape of the nodes indicates the type of organisation represented (circles = research organisations, squares = higher education establishments, rhombus = private commercial organisations, triangles = other). The figure only displays the most important collaboration patterns, while excluding collaborations that are too weak to be significant⁶. The size of the nodes indicates the importance of the player in terms of centrality (number of participations linking them to other partners); and the width of lines represents the intensity of collaboration between the partners represented in the figure.

⁵ Hub centrality is still positive for IPTS because it collaborates with two other regional partners in the « solid » project, where none of these organizations is leader.

⁶ This has been determined using a minimum value of frequency of collaborations (>6).



Outputs – employment and patenting in the region

Employment

In this section we examine the distribution of employment in the region across sectors with special attention on identifying those where the region has a particular specialisation and/or where there are trends of growth and decline in employment. Figure 9 makes a basic breakdown of employment into sectors that can be classified as ‘high’, ‘medium’ and ‘low’ knowledge and technology intensive using the Eurostat and OECD’s classification into technology and knowledge intensive groups (see annex 1). Further, Table 6 shows figures on employment growth and relative specialisation with respect to Spain and Europe for each of these broad groupings of sectors.

Figure 9 - Share of regional employment 2009

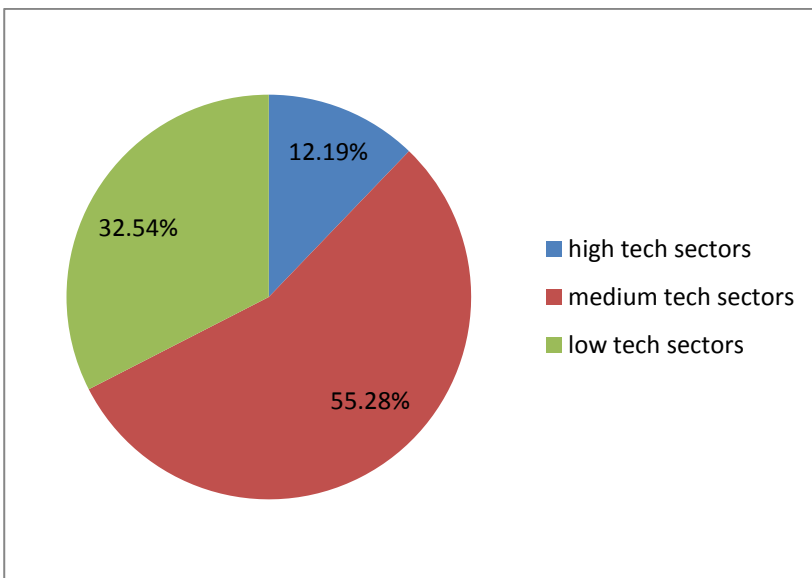


Table 6 –Employment and specialization (2009)

	Share of regional employment 2009	Specialization with respect to Europe (2009)	Specialization with respect to Spain(2009)
high R&D sectors	12,19%	0,74	0,89
medium R&D sectors	55,28%	0,92	0,93
low R&D sectors	32,54%	1,39	1,20

Employment in Andalusia is dominated by medium technology intensive sectors (55%), with low and high technology sectors accounting for 12% and 32% of employment respectively. The specialisation figures tell the most interesting story because they show how Andalusia is positioned relative to Spain and Europe. Here we see that Andalusia is relatively less specialised in high and medium tech sectors and more specialised in low tech sectors with respect to both Spain and Europe. In Table 7 this analysis is continued sector-by-sector (in 2009).

Table 7 – Employment specialization by sector and Knowledge intensity (2009)

	Share of regional employment 2009	Specialization with respect to Europe	Specialization with respect to Spain	R&D intensity
Financial services	6,18%	0,74	0,86	HIGH R&D INTENSITY
Education and knowledge creation	4,35%	1,06	1,07	
IT	0,87%	0,37	0,65	
Aerospace	0,53%	1,04	2,01	
Biotech	0,15%	0,94	1,30	
Pharmaceuticals	0,11%	0,11	0,15	
Construction materials	27,01%	2,56	1,31	MEDIUM R&D INTENSITY
Transportation and logistics	6,17%	0,81	0,92	
Processed food	4,40%	0,68	0,86	
Business services	4,18%	0,46	0,82	
Building fixtures, equipment and services	2,82%	0,92	0,95	
Telecom	2,59%	0,87	0,77	
Entertainment	1,61%	0,98	0,94	
Maritime	1,45%	1,97	0,89	
Metal manufacturing	1,20%	0,22	0,34	
Chemical products	0,79%	1,36	0,75	
Construction	0,68%	0,59	0,83	
Automotive	0,67%	0,20	0,26	
Production technology	0,39%	0,16	0,35	
Heavy Machinery	0,39%	0,34	0,53	
Lighting and electrical equipment	0,29%	0,45	0,74	
Plastics	0,27%	0,21	0,27	
Medical devices	0,14%	0,20	0,54	
Power generation and transmission	0,13%	0,31	0,45	
Instruments	0,06%	0,11	0,36	

Sporting, recreational and children's goods	0,03%	0,09	0,18	LOW TECH AND KNOWLEDGE INTENSITY
Tourism and hospitality	7,13%	1,61	1,13	
Farming and animal husbandry	6,96%	3,09	1,60	
Agricultural products	6,56%	3,89	2,07	
Distribution	4,83%	1,51	1,21	
Media and publishing	1,73%	0,59	0,63	
Tobacco	1,60%	5,24	2,54	
Furniture	1,28%	0,90	1,00	
Paper products	1,06%	0,52	0,64	
Apparel	0,58%	0,27	0,49	
Textiles	0,33%	0,22	0,41	
Jewellery and precious metals	0,22%	0,96	1,59	
Stone quarries	0,11%	0,88	0,70	
Oil and gas	0,06%	0,13	1,24	
Leather products	0,04%	0,21	0,52	
Footwear	0,03%	0,05	0,06	

Data on employment for Andalusia were only available for recent years and no trend could be investigated.

Patents

Table 8 and figures 10 and 11 show the degree of specialization by sector of patenting, for EPO applications from 2002 to 2007. Patents are regrouped by domain and sub-field. Fractional counting is used for distributing patents across fields.

Andalusia clearly emerge as specialized in Chemistry and some sub-fields of the Electrical Engineering domain, even if the share of patents on the national aggregate is very small in all domains.

Table 8 – patents by domain and sub-field

dm	lib_domaines	n	lib_fields	n° patents	field weight*	country weight**	specialisation index ***
1	Electrical engineering	1	Electrical machinery, apparatus, energy	2.00	2.35%	0.17%	0.55
1	Electrical engineering	2	Audio-visual technology	0.75	0.88%	0.13%	0.42
1	Electrical engineering	3	Telecommunications	1.00	1.18%	0.23%	0.76
1	Electrical engineering	4	Digital communication	0.00	0.00%	0.00%	0.00
1	Electrical engineering	5	Basic communication processes	0.00	0.00%	0.00%	0.00
1	Electrical engineering	6	Computer technology	4.00	4.71%	1.01%	3.27
1	Electrical engineering	7	IT methods for management	1.00	1.18%	1.92%	6.21
1	Electrical engineering	8	Semiconductors	0.00	0.00%	0.00%	0.00
2	Instruments	9	Optics	0.50	0.59%	0.30%	0.98
2	Instruments	10	Measurement	2.67	3.14%	0.46%	1.49
2	Instruments	11	Analysis of biological materials	0.67	0.78%	0.62%	1.99
2	Instruments	12	Control	1.00	1.18%	0.16%	0.52
2	Instruments	13	Medical technology	5.50	6.47%	0.46%	1.50
3	Chemistry	14	Organic fine chemistry	4.73	5.57%	1.66%	5.38
3	Chemistry	15	Biotechnology	8.75	10.29%	3.56%	11.53
3	Chemistry	16	Pharmaceuticals	9.67	11.37%	1.34%	4.34
3	Chemistry	17	Macromolecular chemistry, polymers	0.67	0.78%	0.76%	2.47
3	Chemistry	18	Food chemistry	6.51	7.66%	1.39%	4.48
3	Chemistry	19	Basic materials chemistry	4.27	5.03%	1.52%	4.92
3	Chemistry	20	Materials, metallurgy	2.70	3.18%	1.06%	3.44
3	Chemistry	21	Surface technology, coating	0.00	0.00%	0.00%	0.00
3	Chemistry	22	Micro-structural and nano-technology	0.00	0.00%	0.00%	0.00
3	Chemistry	23	Chemical engineering	3.48	4.10%	0.67%	2.17
3	Chemistry	24	Environmental technology	0.50	0.59%	0.09%	0.29
4	Mechanical engineering	25	Handling	3.50	4.12%	0.14%	0.47
4	Mechanical engineering	26	Machine tools	1.25	1.47%	0.19%	0.60
4	Mechanical engineering	27	Engines, pumps, turbines	0.50	0.59%	0.10%	0.33
4	Mechanical engineering	28	Textile and paper machines	0.00	0.00%	0.00%	0.00
4	Mechanical engineering	29	Other special machines	4.10	4.82%	0.23%	0.75
4	Mechanical engineering	30	Thermal processes and apparatus	0.75	0.88%	0.09%	0.30
4	Mechanical engineering	31	Mechanical elements	3.08	3.63%	0.33%	1.08
4	Mechanical engineering	32	Transport	5.00	5.88%	0.25%	0.81
5	Other fields	33	Furniture, games	1.67	1.96%	0.06%	0.18
5	Other fields	34	Other consumer goods	2.25	2.65%	0.12%	0.39
5	Other fields	35	Civil engineering	2.53	2.98%	0.06%	0.21

* ratio: (n° of patents of the region in field x) / (total patents of the region)

** ratio: (n° of patents of the region in field x) / (n° of patents of the country in field x)

*** ratio: (patenting weight of field x in the region) / (patenting weight of field x in the country)

Figure 10 – Patenting by domain: total share

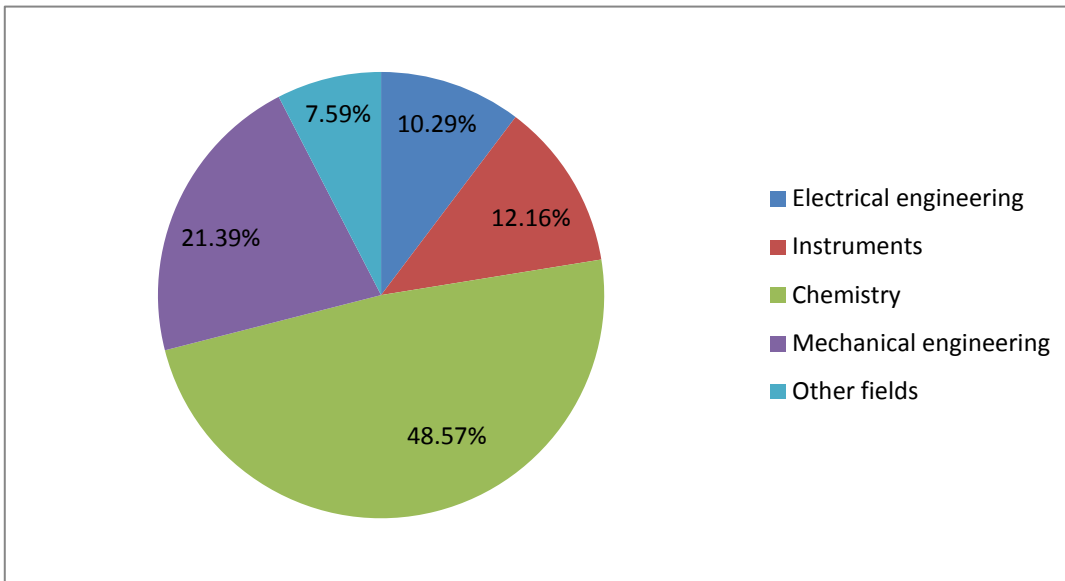


Figure 11 - Patenting by domain: specialization

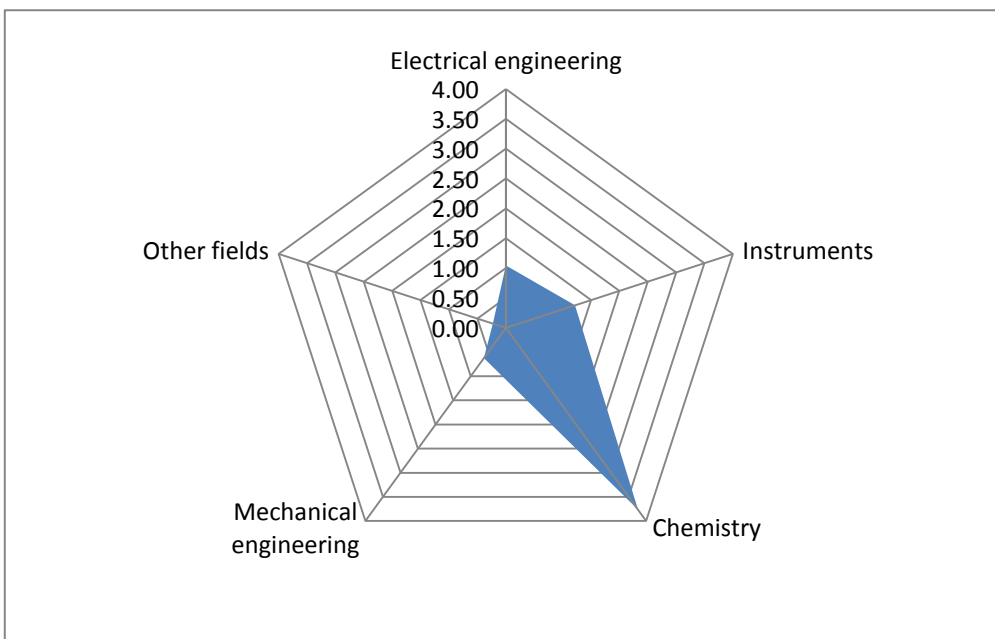


Table 9 shows the most important patenting subjects.

Table 9 – Most important applicants

name	count
POLLERT HEINER	5
GAGNER PHILIP	4
PETROQUIMICA ESPANOLA S A PETR	4
GONZALEZ ARMANDO	4
UNIV SEVILLA	4
CORNEZ JASON	4
PULEVA BIOTECH S A	3
DELGADO LOZANO MIGUEL ANGEL	3
BERNA TEJERO JOSE LUIS	3

CONSEJO SUPERIOR INVESTIGACION	3
RODRIGUEZ BAREA FRANCISCO	3
CROSBIE KEVIN	3
EADS CONSTRUCCIONES AERONAUTIC	3
GONCALVES ALMEIDA JOSE LUIS	3
TOVA HOLGADO ENRIQUE	3

Annex 1 - Regional Research and technological specialisation in FP7

Context

FP7 allocates a total of EUR 32 413 million to the Cooperation specific programme. This funding is mainly aimed at supporting cooperation between universities, industry, research centres and public authorities through collaborative research projects. As of October 2011, 3 725 projects were funded through the FP7 cooperation programme representing a total of 14.5€bn.

The FP7 cooperation programme covers 11 themes (Cf. Box 1) which themselves cover a number of research areas. For the purposes of this study, 188 research areas have been selected in order to perform a regional specialization analysis of each theme.

Box 1 The 11 themes of the FP7 cooperation programme (and the number of research areas for each of them)

- Health (13 research areas)
- Food, Agriculture, and Biotechnology (17 research areas)
- Information and Communication Technologies (12 research areas)
- Nanosciences, Nanotechnologies, Materials and new Production Technologies (16 research areas)
- Energy (8 research areas)
- Environment (including Climate Change) (9 research areas)
- Transport
 - Aeronautics (17 research areas)
 - Surface transport (15 research areas)
- Socio-economic sciences and Humanities (18 research areas)
- Space (5 research areas)
- Security (7 research areas)

Methodological aspects

The specialization analysis aims to establish regional profiles based on thematic participation in the cooperation programme of FP7. The principle of the specialization analysis is to compare, within a theme, the budget breakdown into research areas between the European, national and regional levels.

The perimeter of the analysis only concerns research activities. In order to improve the relevance of the specialization analysis, cross-cutting activities, support actions to improve international collaborations, to promote SMEs or for NCP activities are not taken into account.

The specialization analysis is conditioned by the creation of a clean and reliable regional monitoring tool which takes into account headquarter effects. This was done during as part of the second component of the AMCER, which allowed validating the FP participations of each of the nine regions covered by the project.

The specialization analysis has been carried out for each theme of the cooperation programme. As an underlying hypothesis, we consider there is no asymmetry of information within a theme. This means that we consider national and regional stakeholders to be equally informed about all the research areas and funding opportunities covered in the theme.

In order to avoid the appearance of a mass effect of some research areas against others, the share (weight) of the area within the theme is not considered in the specialization profile. Instead, the European profile is considered as the baseline (Base 100) for regional and national comparisons. The specialization profile is established by measuring the spread between the EU baseline and national or regional EC funding distribution among the research areas.

In other words, this methodology allows identifying which research areas are over-represented and under-represented among all research areas. This provides information regarding the preferences of national and regional research communities in terms of priority research areas. It should be taken into account however, that the analysis does not consider the possible existing competition between European, national and regional funding opportunities at the stakeholder level.

Remarks on the specialisation indexes

The analysis does not constitute a performance indicator. Instead, it presents the differences in terms of distribution of funding among research areas at the national and regional level, compared to the FP standard, and regardless of the total funding weight of each research area. A comparison between the national profile and the EU profile illustrates the national and regional specialization trends. A comparison can also be carried out between national and regional specialization profiles, allowing to know if the regional specialization profile follows the national profile. The difference between profiles can be unlighted by national or regional experts aware of the territorial.

In order to identify areas of specialization, readers must identify the specialization index provided for each research area. If the 'specialisation index' is above the European 100 base, it can be stated that the region or country is specialized in that particular research area. On the other hand, if the specialization index stands below 100, the area is underrepresented and there is no indication of specialization in this area.

For each theme covered by the FP7 cooperation programme, the three following sets of information are provided:

- i) The overall EU budget distribution by research area
- ii) The specialisation profile at the national and regional level, providing a picture of specialisation trends for the two levels. A comparison between the two levels can give information on regional specialisation trends (and highlight strategic initiatives taken at regional level).
- iii) The ranking of research areas at the national and regional levels, according their specialisation scores. The table ranks the research areas according to their specialization score (in base 100) at the national and regional level (left and right column respectively). If the score is above 100, the area is over represented in comparison to the European standard, providing an indication on the specialization trend of the country or the region.

Health

Table 1 Budget breakdown in research areas at the FP cooperation specific-programme level

Rk	Research area	%
1	Translational research in other major diseases	21.6%
2	Translational research in major infectious diseases: To confront major threats to public health	19.1%
3	Integrating biological data and processes: large-scale data gathering, systems biology	17.6%
4	Innovative therapeutic approaches and interventions	10.0%
5	Research on the brain and related diseases, human development and ageing	8.3%
6	Detection, diagnosis and monitoring	6.7%
7	High-throughput research	4.0%
8	Translating the results of clinical research outcome into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and new health therapies and technologies	2.9%
9	International public health & health systems	2.6%
10	Quality, efficiency and solidarity of healthcare systems including transitional health systems	2.6%
11	Health promotion	2.1%
12	Suitability, safety, efficacy of therapies	1.3%
13	Specific international cooperation actions for health system research	1.1%

Figure 5 Specialisation profiles of Spain and Andalusia

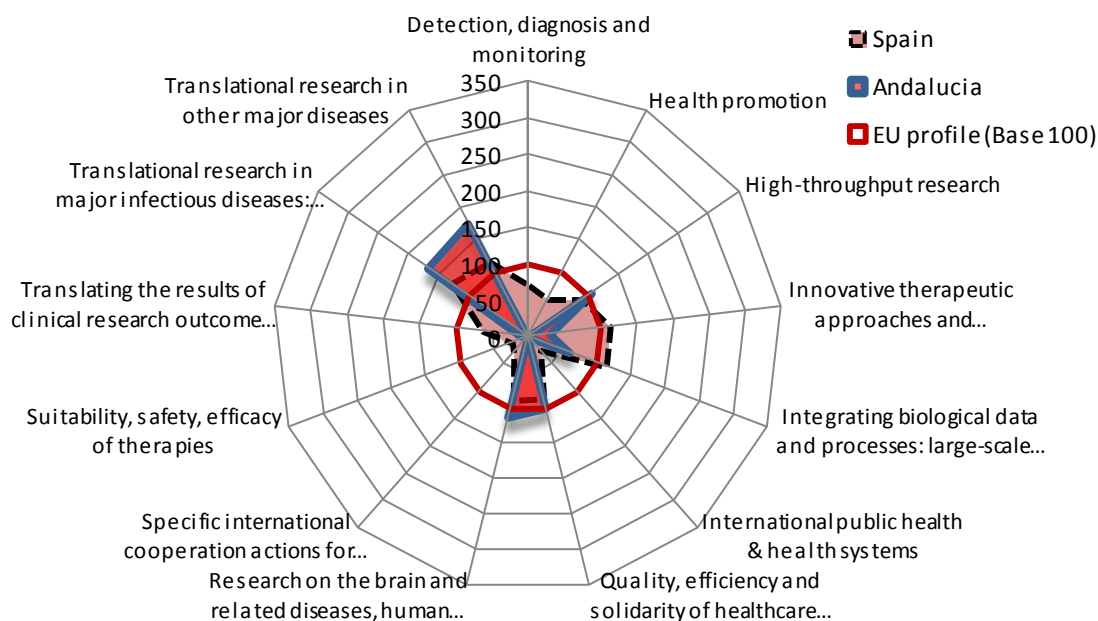


Table 2 Specialisation ranking for Spain and Andalusia

Rk	Spain	Index base 100	Rk	Andalucía	Index base 100
1	Translational research in major infectious diseases: To confront major threats to public health	128	1	Translational research in major infectious diseases: To confront major threats to public health	176
2	Translational research in major infectious diseases: To confront major threats to public health	115	2	Translational research in major infectious diseases: To confront major threats to public health	166
3	Integrating biological data and processes: large-scale data gathering, systems biology	115	3	Research on the brain and related diseases, human development and ageing	113
4	Innovative therapeutic approaches and interventions	113	4	High-throughput research	106
5	High-throughput research	89	5	Quality, efficiency and solidarity of healthcare systems including transitional health systems	101
6	Research on the brain and related diseases, human development and ageing	89	6	Integrating biological data and processes: large-scale data gathering, systems biology	61
7	Quality, efficiency and solidarity of healthcare systems including transitional health systems	86	7	Innovative therapeutic approaches and interventions	31
8	Detection, diagnosis and monitoring	70	8	Translating the results of clinical research outcome into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and new health therapies and technologies	10
9	Translating the results of clinical research outcome into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and new health therapies and technologies	64			
10	Health promotion	57			
11	Specific international cooperation actions for health system research	31			
12	INTERNATIONAL PUBLIC HEALTH & HEALTH SYSTEMS	24			
13	Suitability, safety, efficacy of therapies	24			

Food, Agriculture, and Biotechnology

Table 3 Budget breakdown in research areas

Rk	Research area	%
1	Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection	18.4%
2	Socio-economic research and support to policies	9.8%
3	Nutrition	8.8%
4	Optimised animal health production and welfare across agriculture, fisheries and aquaculture	8.8%
5	Marine and fresh-water biotechnology (blue biotechnology)	8.1%
6	Food processing	7.1%
7	Food quality and safety	6.4%
8	Novel sources of biomass and bioproducts	6.3%
9	Enabling Research	6.0%
10	Industrial biotechnology: novel high added-value bio-products and bio-processes	5.4%
11	Environmental impacts and total food chain	4.2%
12	Consumers	3.3%
13	Environmental biotechnology	3.0%
14	Emerging trends in biotechnology	2.3%
15	The Ocean of Tomorrow	1.5%
16	Biorefinery	0.5%
17	Energy Efficiency in Agriculture	0.1%

Figure 6 Specialisation profiles of Spain and Andalucía

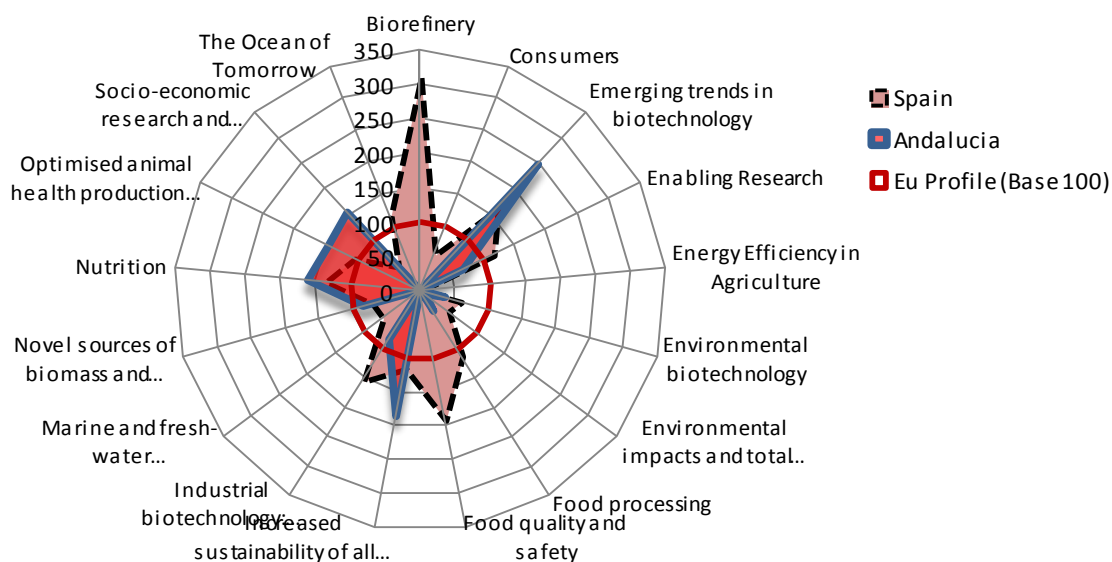


Table 4 Specialisation ranking for Spain and Andalucía

Rk	Spain	Index base 100	Rk	Andalusia	Index base 100
1	Biorefinery	311	1	Emerging trends in biotechnology	248
2	Food quality and safety	192	2	Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection	187
3	Emerging trends in biotechnology	162	3	Nutrition	160
4	Industrial biotechnology: novel high added-value bio-products and bio-processes	155	4	Socio-economic research and support to policies	153
5	Nutrition	136	5	Optimised animal health production and welfare across agriculture, fisheries and aquaculture	145
6	The Ocean of Tomorrow	118	6	Novel sources of biomass and bioproducts	84
7	Enabling Research	116	7	Industrial biotechnology: novel high added-value bio-products and bio-processes	84
8	Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection	116	8	Enabling Research	68
9	Food processing	112	9	Environmental biotechnology	37
10	Optimised animal health production and welfare across agriculture, fisheries and aquaculture	105	10	Food processing	36
11	Novel sources of biomass and bioproducts	71	11	Environmental impacts and total food chain	10
12	Marine and fresh-water biotechnology (blue biotechnology)	67			
13	Environmental biotechnology	60			
14	Consumers	56			
15	Environmental impacts and total food chain	50			
16	Socio-economic research and support to policies	47			

Information and Communication Technologies

Table 5 Budget breakdown in research areas

Rk	Research area	%
1	Pervasive and Trustworthy network and service infrastructures	26.4%
2	Components, systems, engineering	21.6%
3	Towards sustainable and personalised healthcare	9.2%
4	Cognitive systems, interaction, robotics	9.0%
5	Digital libraries and content	8.8%
6	ICT for mobility, environmental sustainability and energy efficiency	8.5%
7	Future and emerging technologies	8.3%
8	ICT for Independent Living, Inclusion and Governance	3.1%
9	Smart Factories/virtual factories	2.4%
10	Future Internet experimental facility and experimentally-driven research	1.1%
11	ICT for the Fully Electric Vehicle	1.0%
12	Exa-scale computing, software and simulation	0.4%

Figure 7 Specialisation profiles of Spain and Andalucía

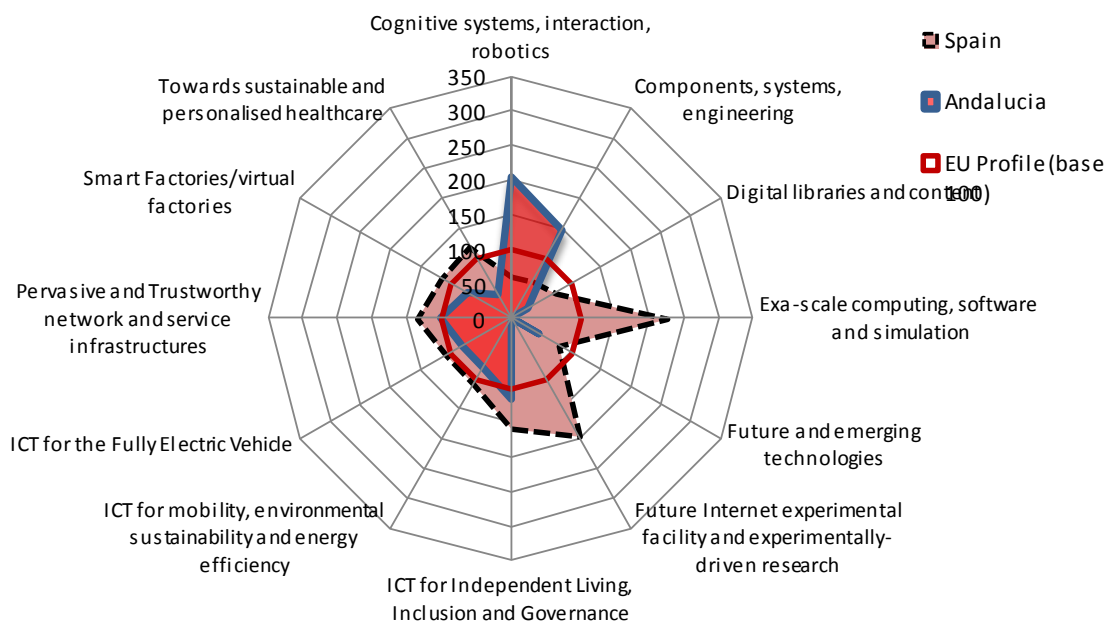


Table 6 Specialisation ranking for Spain and Andalusia

Rk	Spain	Index base 100	Rk	Andalusia	Index base 100
1	Digital libraries and content	224	1	Cognitive systems, interaction, robotics	203
2	Future and emerging technologies	197	2	Components, systems, engineering	146
3	Future Internet experimental facility and	160	3	ICT for Independent Living, Inclusion and	117

experimentally-driven research			Governance		
4	ICT for the Fully Electric Vehicle	135	4	Pervasive and Trustworthy network and service infrastructures	102
5	Smart Factories/virtual factories	120	5	ICT for mobility, environmental sustainability and energy efficiency	82
6	Pervasive and Trustworthy network and service infrastructures	116	6	ICT for the Fully Electric Vehicle	82
7	ICT for Independent Living, Inclusion and Governance	109	7	Smart Factories/virtual factories	73
8	ICT for mobility, environmental sustainability and energy efficiency	107	8	Future and emerging technologies	46
9	Towards sustainable and personalised healthcare	100	9	Towards sustainable and personalised healthcare	39
10	Exa-scale computing, software and simulation	79	10	Digital libraries and content	27
11	Components, systems, engineering	74			
12	Cognitive systems, interaction, robotics	62			

Nanosciences, Nanotechnologies, Materials and new Production Technologies

Table 7 Budget breakdown in research areas

Rk	Sub theme	Research area	%
1	Nanosciences	Nanotechnology for benefiting environment, energy and health	12.9%
2	New production	Adaptive production systems	12.1%
3	Nanosciences	Maximising the contribution of Nanotechnology on sustainable development	9.4%
4	Materials	Innovative materials for advanced applications	8.5%
5	New production	Rapid transfer and integration of new technologies into the design and operation of manufacturing processes	7.8%
6	Materials	Using engineering to develop high performance knowledge-based materials	7.6%
7	New production	Exploitation of the convergence of technologies	7.6%
8	New production	Development and validation of new industrial models and strategies	6.0%
9	Materials	Enabling R&D in Nanostructured materials	5.8%
10	Materials	Advances in chemical technologies and materials processing	5.7%
11	Materials	Structuring actions/new materials	4.6%
12	Nanosciences	Ensuring the safety of Nanotechnology	4.1%
13	New production	Networked production	3.7%
14	Integration	Substantial innovation in the European medical industry: development of nanotechnology-based systems for in-vivo diagnosis and therapy (in coordination with topic HEALTH-2007-2.4.1-7 and HEALTH-2007-1.2-3 in Theme 1 Health)	2.6%
15	Integration	Smart materials for applications in the sectors of construction and of machinery and production equipment	0.8%
16	Integration	Sustainable new products and markets through bioproduction of green forest-based chemicals and materials	0.7%

Figure 8 Specialisation profiles of Spain and Andalucía

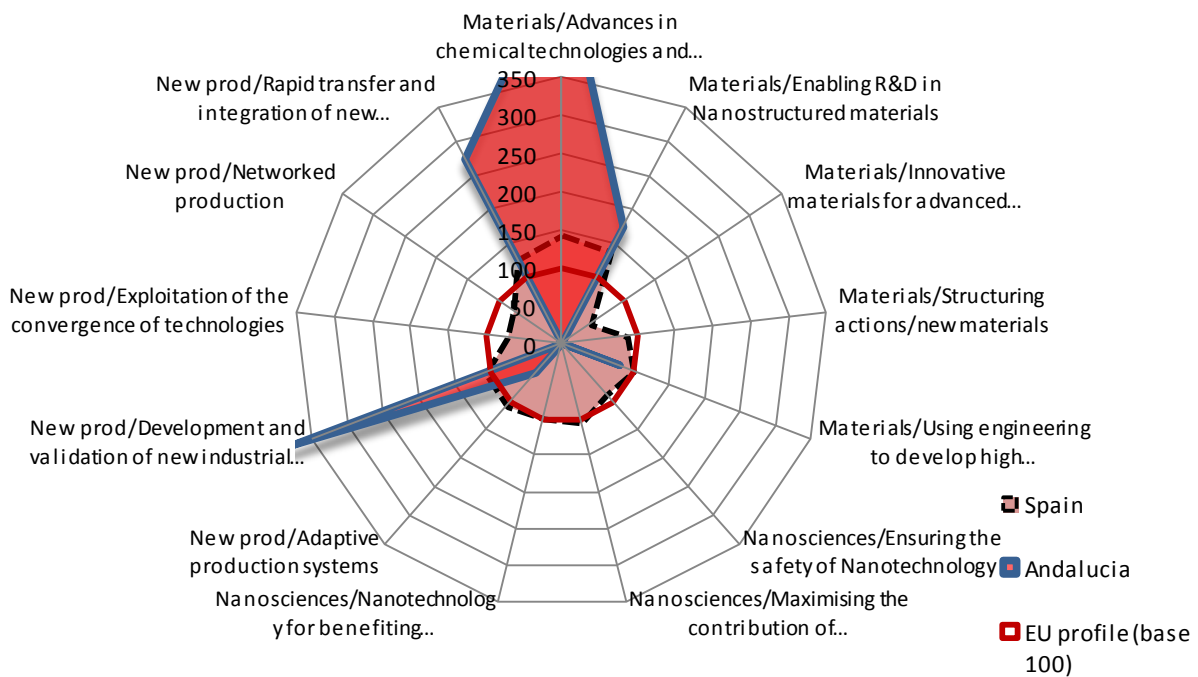


Table 8 Specialisation ranking for Spain and Andalucía

Rk	Spain	Index base 100	Rk	Andalusia	Index base 100
1	Materials/Advances in chemical technologies and materials processing	144	1	Materials/Advances in chemical technologies and materials processing	517
2	Materials/Enabling R&D in Nanostructured materials	137	2	New prod/Development and validation of new industrial models and strategies	379
3	New prod/Rapid transfer and integration of new technologies into the design and operation of manufacturing processes	126	3	New prod/Rapid transfer and integration of new technologies into the design and operation of manufacturing processes	274
4	New prod/Adaptive production systems	108	4	Materials/Enabling R&D in Nanostructured materials	173
5	New prod/Development and validation of new industrial models and strategies	107	5	Materials/Using engineering to develop high performance knowledge-based materials	81
6	Nanosciences/Maximising the contribution of Nanotechnology on sustainable development	106	6	New prod/Adaptive production systems	52
7	Nanosciences/Nanotechnology for benefiting environment, energy and health	100			
8	Materials/Using engineering to develop high performance knowledge-based materials	100			
9	Nanosciences/Ensuring the safety of Nanotechnology	88			
10	Materials/Structuring actions/new materials	86			
11	New prod/Networked production	78			
12	New prod/Exploitation of the convergence of technologies	73			
13	Materials/Innovative materials for advanced applications	46			

Energy

Table 9 Budget breakdown in research areas

Rk	Research area	%
1	Renewable electricity generation	31.5%
2	Renewable fuel production	21.0%
3	Smart energy networks	13.7%
4	Energy efficiency and savings	13.3%
5	CO2 capture and storage technologies for zero emission power generation	9.4%
6	Clean coal technologies	5.9%
7	Hydrogen and fuel cells	3.1%
8	Knowledge for energy policy making	2.1%

Figure 9 Specialisation profiles of Spain and Andalusia

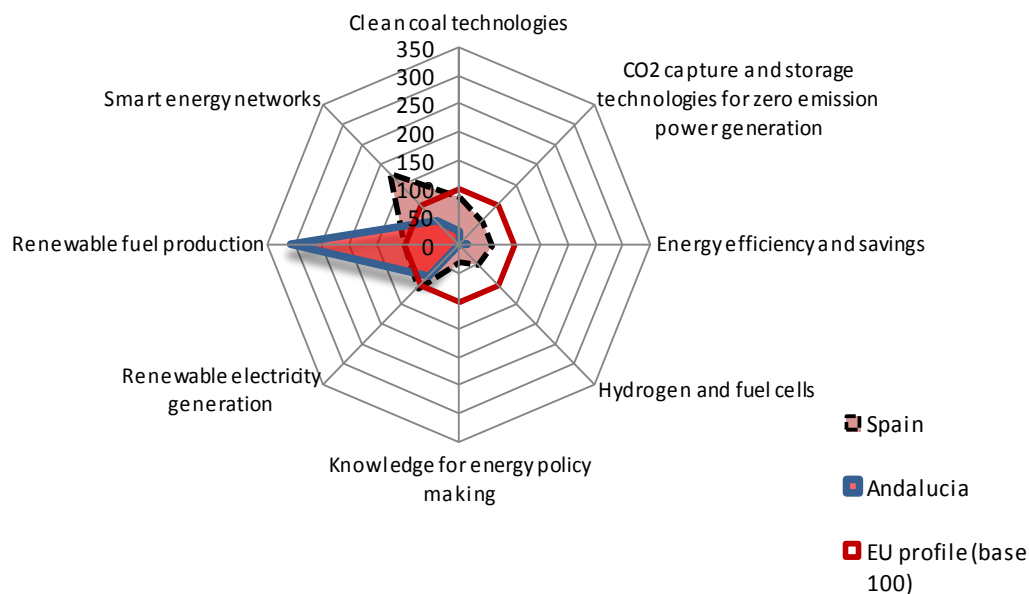


Table 10 Specialisation ranking for Spain and Andalusia

Rk	Spain	Index base 100	Rk	Andalusia	Index base 100
1	Smart energy networks	180	1	Renewable fuel production	306
2	Renewable electricity generation	107	2	Renewable electricity generation	78
3	Renewable fuel production	101	3	Smart energy networks	57
4	Clean coal technologies	86	4	Clean coal technologies	22
5	CO2 capture and storage technologies for zero emission power generation	59	5	Energy efficiency and savings	14
6	Energy efficiency and savings	59			
7	Hydrogen and fuel cells	47			
8	Knowledge for energy policy making	29			

Environment (including Climate Change)

Table 11 Budget breakdown in research areas

Rk	Sub theme	Research area	%
1	Climate change, pollution, and risks	Pressures on environment and climate	19.5%
2	Sustainable management of resources	Conservation and sustainable management of natural and man-made resources and biodiversity	17.4%

3	Environmental technologies	Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment	17.1%
4	Climate change, pollution, and risks	Environment and Health	10.4%
5	Earth observation and assessment tools for sustainable development	Earth and ocean observation systems and monitoring methods for the environment and sustainable development	9.7%
6	Sustainable management of resources	Management of marine environments	9.0%
7	Climate change, pollution, and risks	Natural hazards	7.0%
8	Earth observation and assessment tools for sustainable development	Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation	6.8%
9	Environmental technologies	Protection, conservation and enhancement of cultural heritage, including human habitat	3.2%

Figure 10 Specialisation profiles of Spain and Andalusia

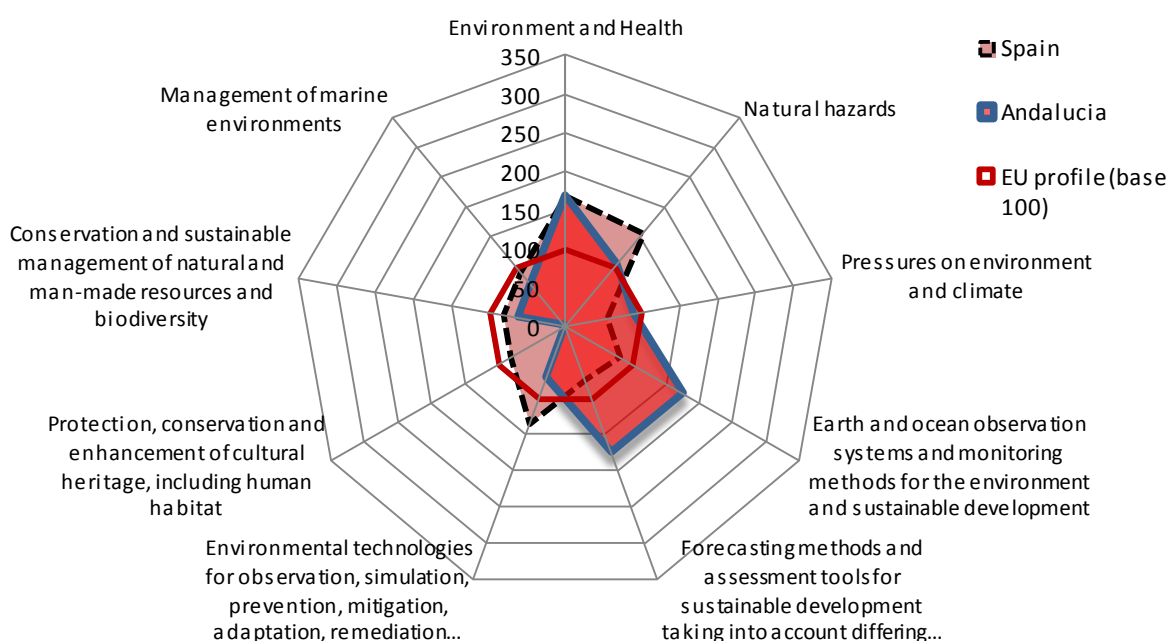


Table 12 Specialisation ranking for Spain and Andalusia

Rk	Spain	Index base 100	Rk	Andalusia	Index base 100
1	Environment and Health	169	1	Earth and ocean observation systems and monitoring methods for the environment and sustainable development	175
2	Natural hazards	156	2	Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation	175
3	Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment	136	3	Environment and Health	168
4	Management of marine environments	91	4	Natural hazards	103

5	Protection, conservation and enhancement of cultural heritage, including human habitat	82	5	Pressures on environment and climate	89
6	Conservation and sustainable management of natural and man-made resources and biodiversity	81	6	Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment	72
7	Earth and ocean observation systems and monitoring methods for the environment and sustainable development	81	7	Management of marine environments	70
8	Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation	75	8	Conservation and sustainable management of natural and man-made resources and biodiversity	61
9	Pressures on environment and climate	54	9	Protection, conservation and enhancement of cultural heritage, including human habitat	31

Transport (Aeronautics)

Table 13 Budget breakdown in research areas

Rk	Research area	%
1	Propulsion	21.9%
2	Aerostructures	15.1%
3	Design Systems and Tools	8.8%
4	Systems and Equipment	8.6%
5	Production	7.0%
6	Flight Physics	6.5%
7	Avionics	4.2%
8	Maintenance	3.9%
9	Novel Air Transport Vehicles	3.9%
10	Airports	3.8%
11	Human Factors	3.5%
12	Green Air Transport Operations	3.3%
13	Guidance and Control	2.6%
14	Systems	2.3%
15	Personal air transport systems	2.0%
16	Lift	1.7%
17	Interior space	1.0%

Figure 11 Specialisation profiles of Spain and Andalucía

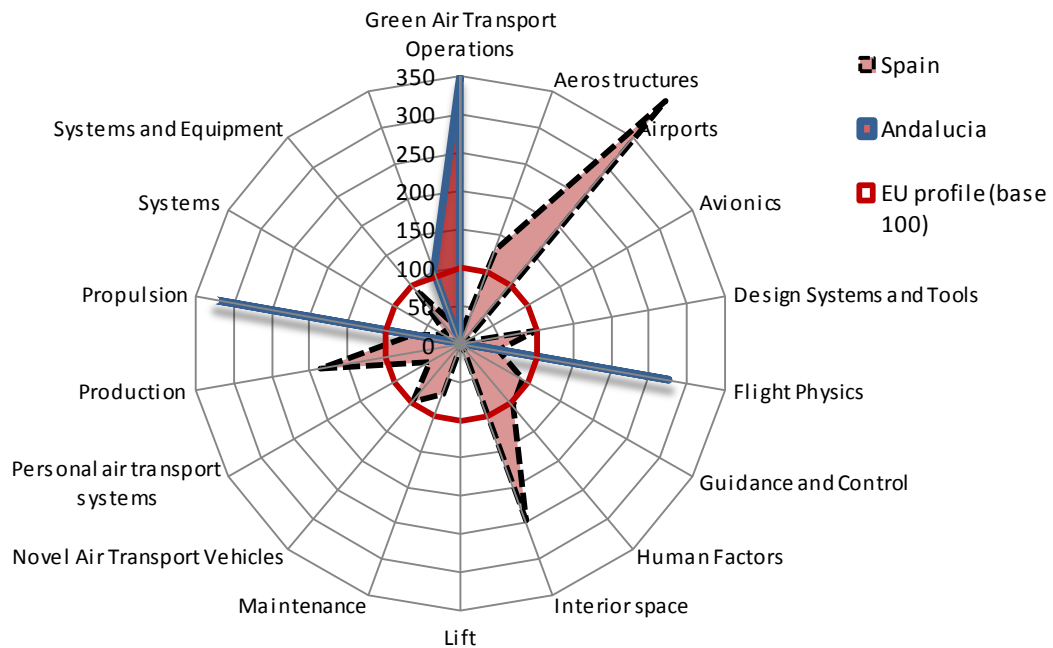


Table 14 Specialisation ranking for Spain and Andalusia

Rk	Spain	Index base 100	Rk	Andalucía	Index base 100
1	Airports	414	1	Green Air Transport Operations	348
2	Interior space	246	2	Propulsion	323
3	Production	187	3	Flight Physics	276
4	Aerostructures	131			
5	Human Factors	104			
6	Design Systems and Tools	100			
7	Novel Air Transport Vehicles	99			
8	Guidance and Control	92			
9	Systems and Equipment	92			
10	Maintenance	70			
11	Propulsion	66			
12	Flight Physics	49			
13	Personal air transport systems	48			
14	Systems	23			
15	Green Air Transport Operations	16			

Transport (Surface transport)

Table 15 Budget breakdown in research areas

Rk	Research area	%
1	The greening of products and operations	24.0%
2	Integrated safety and security for surface transport systems	21.2%
3	Competitive surface transport products and services	12.1%
4	Innovative strategies for clean urban transport (CIVITAS Plus II)	10.8%
5	Logistics and intermodal transport	7.7%
6	New transport and mobility concepts	7.4%
7	Interoperability and Safety	4.1%
8	Environment-friendly and efficient industrial processes	3.0%
9	Maritime and inland waterway transport	2.9%
10	High quality public transport	2.7%
11	Policy support	1.6%
12	Integrated electric auxiliaries and on-board systems	1.0%
13	Socio-economic issues	0.8%
14	Electrical machines	0.4%
15	Optimised thermal engine development and integration	0.4%

Figure 12 Specialisation profiles of Spain and Andalucía

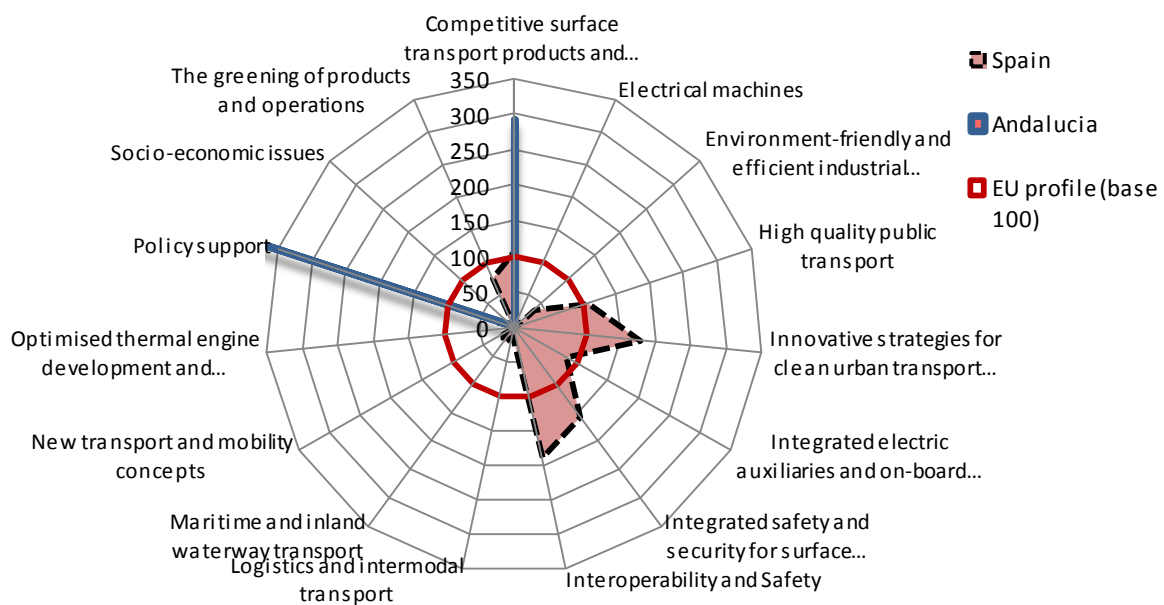


Table 16 Specialisation ranking for Spain and Andalusia

Spain			Andalusia		
Rk			Rk		
1	Interoperability and Safety	188	1	Policy support	557
2	Innovative strategies for clean urban transport (CIVITAS Plus II)	178	2	Competitive surface transport products and services	291
3	Integrated safety and security for surface transport systems	156			
4	High quality public transport	109			
5	Competitive surface transport products and services	109			
6	Integrated electric auxiliaries and on-board systems	84			
7	The greening of products and operations	77			
8	Environment-friendly and efficient industrial processes	37			
9	Maritime and inland waterway transport	26			
10	Policy support	25			
11	New transport and mobility concepts	19			
12	Logistics and intermodal transport	13			

Socio-economic sciences and Humanities

Table 17 Budget breakdown in research areas

Rk	Research area	%
1	Socio-economic development trajectories	16.1%
2	Participation and Citizenship in Europe	9.0%
3	Interactions and interdependences between world regions and their implications	9.0%
4	Societal trends and lifestyles	8.2%
5	Diversities and Commonalities in Europe	7.8%
6	Changing role of knowledge throughout the economy	6.5%
7	Regional, territorial and social cohesion	6.5%
8	Conflicts, peace and human rights	6.1%
9	Structural changes in the European knowledge economy and society	5.9%
10	Cultural interactions in an international perspective	5.2%
11	Demographic changes	3.7%
12	Foresight activities	3.7%
13	Strengthening policy coherence and coordination in Europe	3.0%
14	Europe's changing role in the world	2.8%
15	Developing better indicators for policy	2.5%
16	Provision of underlying official statistics	1.7%
17	Use of indicators and related approaches for the evaluation of research policies and programmes	1.2%

Figure 13 Specialisation profiles of Spain and Andalusia

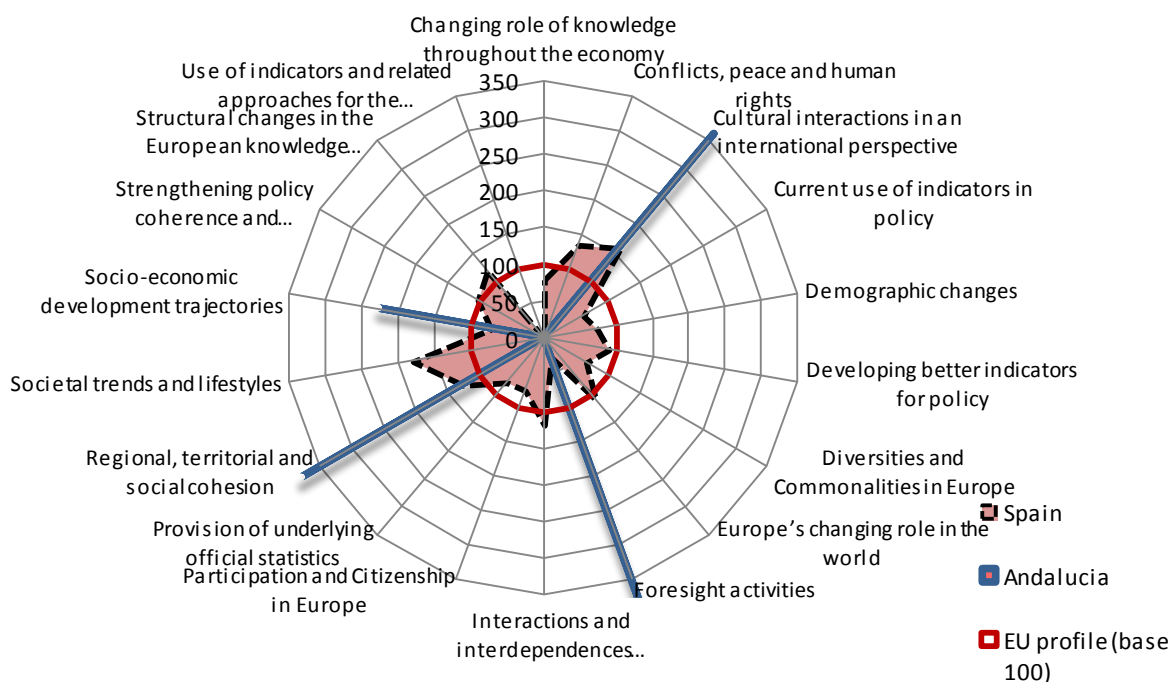


Table 18 Specialisation ranking for Spain and Andalusia

Rk	Spain	Index base 100	Rk	Andalusia	Index base 100
1	Societal trends and lifestyles	180	1	Foresight activities	537
2	Cultural interactions in an international perspective	159	2	Regional, territorial and social cohesion	381
3	Conflicts, peace and human rights	135	3	Cultural interactions in an international perspective	361
4	Regional, territorial and social cohesion	127	4	Socio-economic development trajectories	228
5	Structural changes in the European knowledge economy and society	120			
6	Interactions and interdependences between world regions and their implications	117			
7	Europe's changing role in the world	108			
8	Strengthening policy coherence and coordination in Europe	104			
9	Developing better indicators for policy	89			
10	Changing role of knowledge throughout the economy	80			
11	Provision of underlying official statistics	78			
12	Participation and Citizenship in Europe	75			
13	Socio-economic development trajectories	73			

14	Demographic changes	73
15	Diversities and Commonalities in Europe	65
16	Current use of indicators in policy	61
17	Foresight activities	27

Space

Table 19 Budget breakdown in research areas

Rk	Research area	%
1	(Pre-)operational validation of GMES services and products	56.2%
2	Research to support space science and exploration	14.9%
3	Research to support space transportation and key technologies	13.9%
4	Continuity of GMES services in the areas of Marine and Atmosphere	8.0%
5	Research into reducing the vulnerability of space assets	7.0%

Figure 14 Specialisation profiles of Spain and Andalusia

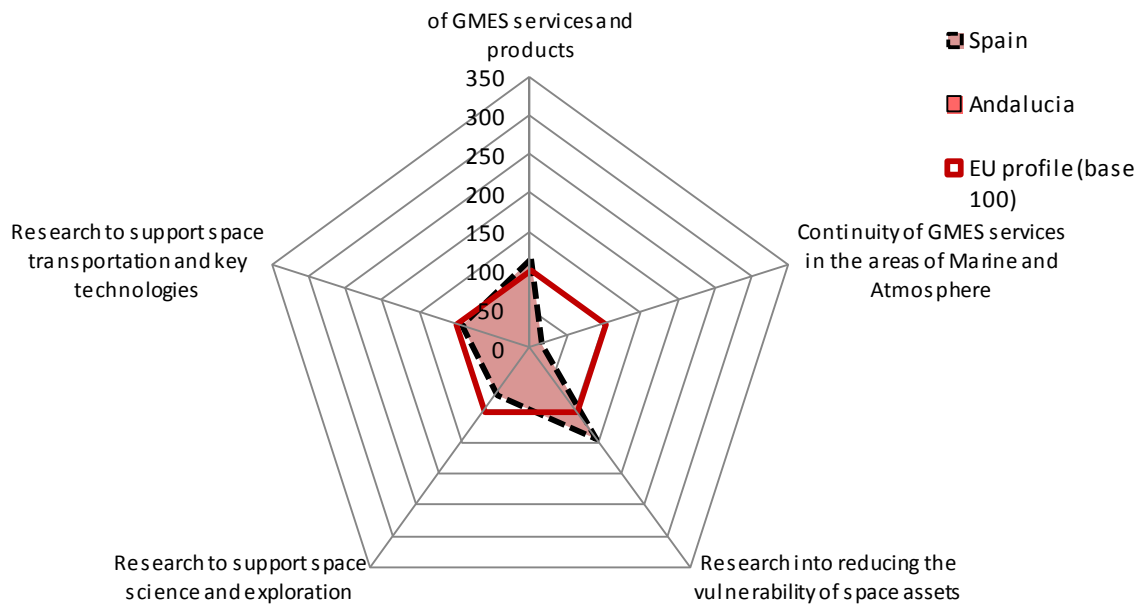


Table 20 Specialisation ranking for Spain and Andalusia

Rk	Spain	Index base 100	Rk	Andalucía	Index base 100
1	Research into reducing the vulnerability of space assets	144			
2	(Pre-)operational validation of GMES services and products	115			
3	Research to support space transportation and key technologies	94			
4	Research to support space science and exploration	75			
5	Continuity of GMES services in the areas of Marine and Atmosphere	15			

Security

Table 21 Budget breakdown in research areas

Rk	Research area	%
1	Intelligent surveillance and enhancing border security	23.3%
2	Restoring security and safety in case of crisis	22.2%
3	Increasing the Security of citizens	19.4%
4	Increasing the Security of infrastructures and utilities	17.9%
5	Security and society	8.6%
6	Security Research coordination and structuring	4.3%
7	Security systems integration, interconnectivity and Interoperability	4.2%

Figure 15 Specialisation profiles of Spain and Andalucía

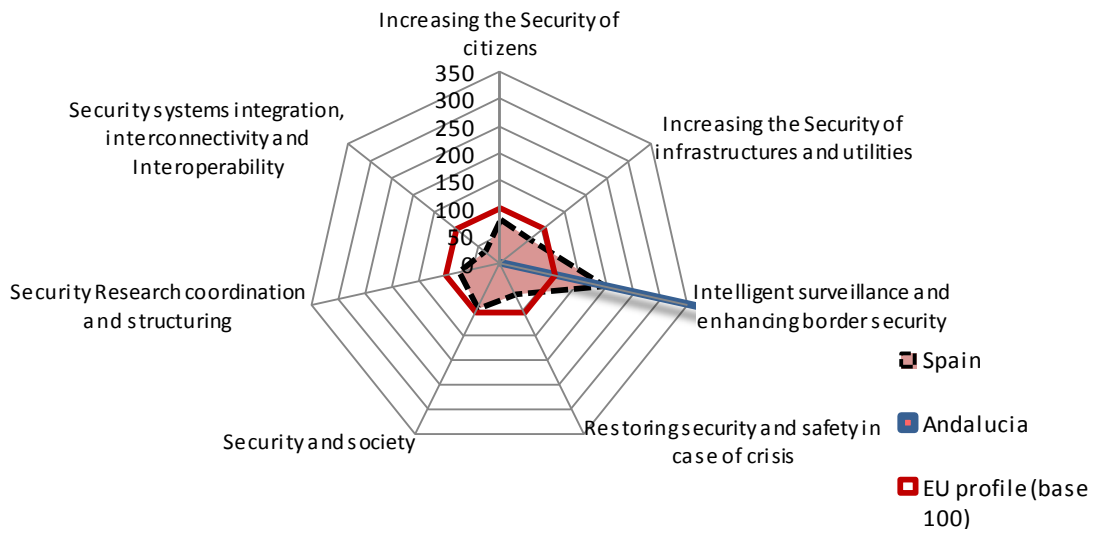


Table 22 Specialisation ranking for Spain and Andalucía

Rk	Spain	Index base 100	Rk	Andalucía	Index base 100
1	Intelligent surveillance and enhancing border security	194	1	Intelligent surveillance and enhancing border security	429
2	Security and society	94			
3	Increasing the Security of citizens	79			
4	Security Research coordination and structuring	77			
5	Increasing the Security of infrastructures and utilities	68			
6	Restoring security and safety in case of crisis	65			
7	Security systems integration, interconnectivity and Interoperability	34			

Annex 2 – FP7 participation scoreboard

This section covers all the indicators produced for the FP7 after validation of the list of participations. It is structured around the following sub-sections:

- i. Headquarter analysis
- ii. Main regional indicators
- iii. Regional participant typology
- iv. Regional thematic specialisation
- v. International cooperation

Headquarter analysis

This section presents the results of the headquarter effect analysis for the focussed region. The following table presents number of modified participations of the region, after elimination the existing headquarter effect. The total number of participations in the region is estimated by adding the total number of participations with no headquarter effect, to the ingoing participations (participations previously attributed to an outside region⁷, but now attributed to the focussed region).

Table 23 Overall result of the Headquarter analysis

Type of participation	Nbr of participations
(1) Nbr of participation with no headquarter effect	231
(2) Nbr of ingoing participations	73
(3) Nbr of outgoing participations	7
Total nbr of participations (1)+(2)	304

The following table presents a breakdown of the previous table by geographical origin of participations. The second and third columns indicate the NUTS II territory from which the participation is added or subtracted. In the case of incoming participations, the focussed region⁸ gains a participation, while the impacted region loses one. The opposite is true of outgoing participations.

Table 24 Participation localisation detail (ingoing participations, outgoing participations and static participations)

Participation flow	Regions with participations to subtract	Regions with participation to add	Number of participations concerned	Total	%		
in	DEA23	ES611	1	73	24,0%		
in	ES300	ES611	3				
in	ES300	ES612	1				
in	ES300	ES613	3				
in	ES300	ES614	8				
in	CH011	ES617	1				
in	ES	ES617	1				
in	ES300	ES617	2				
in	ES243	ES618	1				
in	ES300	ES618	26				
in	ES620	ES618	1				
in	EU	ES618	25				
out	ES618	ES243	1			7	2,3%
out	ES614	ES300	1				
out	ES618	ES300	5				
no Headquarter effect			232	231	76,0%		
Total (after correction)				304	100,0%		

The following table presents the distribution of participations (ingoing, outgoing, no headquarter effect) by participant typology (HES, OTH, PRC, PUB, REC).

⁷ Impacted region.

⁸ The region being analysed in the current scoreboard.

Table 25 Typology of Ingoing, Outgoing and Static participations

Organisation type	Ingoing participations		Outgoing participations		Static participations	
HES		0,0%		0,0%	103	44,6%
OTH		0,0%		0,0%	3	1,3%
PRC	4	5,5%	7	100,0%	89	38,5%
PUB	3	4,1%		0,0%	11	4,8%
REC	66	90,4%		0,0%	25	10,8%
	73	100,0%	7	100,0%	231	100,0%

Regional indicators

This section presents a set of indicators allowing to compare and characterise the participation of the region in FP7, in light of national indicators. It also presents the distribution of EC funding at an infra-regional level (N-1 if the focus region is considered as N).

Andalucia in the FP7

The following table gives an overview of the weight of the region at national level in terms of number of participations, number of coordinations and volume of funding received. It allows to compare regional figures (and their weight at the national level), to national figures (and their weight at the European level).

Table 26 Share of the region at national level

	Andalucia	ES	FP	% in ES61 in ES	% in ES in FP
Nbr of participations in projects	304	5194	69719	5,9%	7,4%
Nbr of coordinations	79	1136	12929	7,0%	8,8%
EC contribution	105 263 115	1 481 492 021	22 188 391 959	7,1%	6,7%

Participant Typology

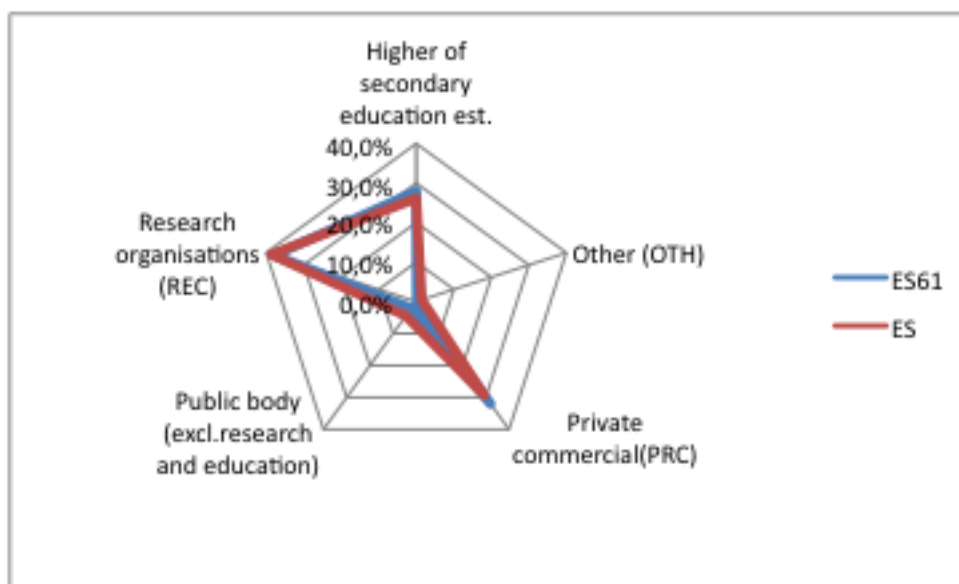
The following table presents the distribution of participations, coordinations and EC contributions according to the different types of participants. A comparison of the distribution of participants between the regional and national level allows to identify the particularities of the focussed region.

Table 27 Participation typology-comparison between regional and national level

	Andalucia				Spain			
	Nbr of participations in projects	Nbr of coordinations	EC contribution	%	Nbr of participations in projects	Nbr of coordinations	EC contribution	%
Higher of secondary education est.(HES)	103	30	29 426 489	28,0%	1348	394	387 560 796	26,2%
Other (OTH)	3		143 190	0,1%	140	13	21 699 400	1,5%
Private commercial(PRC)	93	9	33 636 169	32,0%	1576	169	434 389 194	29,3%
Public body (excl.research and education) (PUB)	14	1	2 193 816	2,1%	304	24	66 142 040	4,5%
Research organisations (REC)	91	39	39 863 451	37,9%	1819	536	571 700 592	38,6%
Total	304	79	105 263 115	100,0%	5187	1136	1 481 492 021	100,0%

The following diagram compares the weight of the different types of participants in the region to the national average.

Figure 16 Participation typology-graphical comparison between national and regional profile (acc. EC contrib. distribution)



The table below presents the distribution of participants by legal type (private/public).

Table 28 Distribution of participations according the legal type-comparison between regional and national level

	Private organisations	Andalucia		Spain	
		Nbr	EC contrib	nbr	EC contrib
Private	PRC	93	33 636 169	1578	434724166,59
	PNP	29	8 499 982	1243	371733814,96
	total private	122	42 136 151	2 821	806 457 982
Public	Commercial	3	688 898	46	8376225,44
	PNP	179	62 438 066	2327	666657814,43
	total public	182	63 126 964	2 373	675 034 040
TOTAL	304	105 263 115	5 194	1 481 492 021	

SME participation

This section aims to give an overview on the participation of SMEs in the FP7. The following table presents the levels of participation of SMEs at the infra-regional, regional, national and European level.

Table 29 Number of funded SME

	Total Andalucia	Total Spain	Total FP	ES611	ES612	ES613	ES614
Nbr of participations in projects	64	1 050	11 545	4	3	6	19
EC contribution	14 459 130	231 491 203	2 873 556 998	1 035 056	851 121	732 813	3 787 318

	Total Andalucia	Total Spain	Total FP	ES615	ES616	ES617	ES618
Nbr of participations in projects	64	1 050	11 545	1	1	13	17
EC contribution	14 459 130	231 491 203	2 873 556 998	2 600	399 742	4 653 546	2 996 934

The table below presents the distribution of SME participations according to their legal status (private profit and non-profit organisations).

Table 30 Distribution of SME among private profit and private non profit organisations

	Andalucia		Spain	
	Nbr	Ec Contrib		
PRC	62	13 724 045	848	183 468 592
PNP	2	735 085	202	48 022 610
TOTAL	64	14 459 130	1050	231 491 203

Regional participation among themes and activities of the programme

This section aims at providing information regarding the specialisation of the regions according to participations across FP7 themes. The level of specialisation of the region can be measured by comparing the levels of participation for each theme to the national and European averages.

Table 31 Participations among FP7 themes and activities-comparison of the distribution at Programme level, national level and regional level

			FP		Spain		Andalucia	
N°	PROG SPEC	Theme	nbr	EC contrib	nbr	EC contrib	nb r	EC contrib
1	COOPERATION	Health	6 580	38 311 701 807	353	127 292 782	18	9 453 946
2	COOPERATION	Food, Agriculture, and Biotechnology	3 611	12 817 896 001	231	52 201 925	32	6 465 381
3	COOPERATION	Information and Communication Technologies	13 492	58 405 354 567	1 050	351 240 031	47	14 160 421
4	COOPERATION	Nanosciences, Nanotechnologies, Materials and new Production Technologies	4 881	23 146 425 481	416	133 457 580	11	2 582 809
5	COOPERATION	Energy	2 378	11 337 341 986	181	91 113 192	21	17 619 416
6	COOPERATION	Environment (including Climate Change)	4 592	17 622 383 238	269	58 213 751	26	4 418 253
7	COOPERATION	Transport (including Aeronautics)	5 445	33 527 717 656	320	75 424 663	10	2 663 395
8	COOPERATION	Socio-economic sciences and Humanities	1 515	3 354 155 783	74	11 947 708	6	1 200 328
9	COOPERATION	Security	1 590	8 610 533 867	125	44 459 241		
10	COOPERATION	Space	1 449	8 715 567 065	85	21 915 018	1	284 540
11	COOPERATION	General Activities (Annex IV)	148	518 736 687	15	1 316 238	4	2 466 935
12	IDEAS	European Research Council	2 269	3 639 388 962	136	180 228 979	4	6 044 360
13	PEOPLE	Marie-Curie Actions	9 470	10 482 594 761	766	154 651 108	59	11 535 775
14	CAPACITIES	Research Infrastructures	3 921	24 495 071 212	245	55 512 032	10	4 174 422
15	CAPACITIES	Research for the benefit of SMEs	4 485	5 835 382 440	639	78 604 055	31	3 856 331
16	CAPACITIES	Regions of Knowledge	588	807 707 785	77	7 532 333	7	950 055
17	CAPACITIES	Research Potential	239	263 079 464	11	8 638 301	2	5 448 825
18	CAPACITIES	Science in Society	1 125	1 997 280 671	71	9 253 396	6	868 288

8	TIES																	
19	CAPACI TIES	Coherent development of research policies	100	107 921 641	9	1 133 134	3	9 639 150										
20	CAPACI TIES	Activities of International Cooperation	584	1 038 085 306	20	2 627 529	6	1 430 484										
21	Euratom	Fusion Energy	64	129 596 277	5	184 409												
22	Euratom	Nuclear Fission and Radiation Protection	1 236	4 136 186 414	96	14 544 616												
			69 762	22 189 556 770	5 194	1 481 492 021	30 4	105 263 115										

Intraregional indicators

This section presents an overview the participation of infra-regional territories in FP7.

The following table presents a general overview of the distribution of participations, coordinations and EC contribution within the region (at Nuts n-1). The higher concentration of participation within specific territories usually reflects the presence of a stronger number of research organisations.

Table 32 distribution of the funded participations and EC contribution within the territory

	ES6 11	%	ES6 12	%	ES6 13	%	ES6 14	%	ES6 15	%	ES6 16	%	ES6 17	%	ES6 18	%	Total ES6 1	%
Nbr of participations in projects	13	4,3 %	14	4,6 %	24	7,9 %	61	20,1 %	4	1,3 %	5	1,6 %	48	15,8 %	135	44,4 %	304	100,0 %
Nbr of coordinations	1	1,3 %	6	7,6 %	6	7,6 %	23	29,1 %	0,0 %	0,0 %	2	2,5 %	7	8,9 %	34	43,0 %	79	100,0 %
EC contribution (€Mln)	5 372 479	5,1 %	2 157 896	2,1 %	4 612 065	4,4 %	15 626 049	14,8 %	143 040	0,1 %	1 157 979	1,1 %	15 633 922	14,9 %	60 559 685	57,5 %	105 263 115	100,0 %

The following table gives presents a break-down of infra-regional participations according to participant types (HES, OTH, PRC, PUB, REC).

Table 33 Intra regional participations and participation profile according the activity type

ES611				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	4		624 036	11,6%
OTH				0,0%
PRC	3		327 757	6,1%
PUB	1		55 705	1,0%
REC	5	1	4 364 981	81,2%
Total	13	1	5 372 479	100,0%
ES612				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	6	4	623 807	28,9%
OTH				0,0%
PRC	3		851 121	39,4%
PUB	1		191 850	8,9%
REC	4	2	491 118	22,8%
Total	14	6	2 157 896	100,0%
ES613				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	15	5	3 647 153	79,1%
OTH				0,0%
PRC	6		732 813	15,9%
PUB				0,0%
REC	3	1	232 099	5,0%
Total	24	6	4 612 065	100,0%
ES614				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	27	11	9 249 373	59,2%
OTH	1		11 640	0,1%
PRC	19	2	3 787 318	24,2%
PUB	1		282 400	1,8%
REC	13	10	2 295 318	14,7%
Total	61	23	15 626 049	100,0%
ES615				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	1		95 000	66,4%
OTH				0,0%
PRC	2		48 040	33,6%
PUB				0,0%
REC	1		0	0,0%
Total	4	0	143 040	100,0%
ES616				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	4	2	758 237	65,5%
OTH				0,0%
PRC	1		399 742	34,5%
PUB				0,0%
REC				0,0%
Total	5	2	1 157 979	100,0%
ES617				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	19	3	5 794 081	37,1%
OTH	1		69 550	0,4%
PRC	23	3	8 405 300	53,8%
PUB	3		477 833	3,1%
REC	2	1	887 158	5,7%
Total	48	7	15 633 922	100,0%
ES618				
Participant type	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	27	5	8 634 802	14,3%
OTH	1		62 000	0,1%
PRC	36	4	19 084 078	31,5%
PUB	8	1	1 186 028	2,0%
REC	63	24	31 592 777	52,2%
Total	135	34	60 559 685	100,0%

The following table presents the distribution of infra-regional participations by FP7 themes.

Table 34 Participations among FP7 themes and activities at intra regional level (Nuts n-1)

Num	PROG SPEC	Theme	ES611		ES612		ES613		ES614	
			nbr	EC contrib	nbr	EC contrib	nbr	EC contrib	nbr	EC contrib
1	COOP	Health			1	241 318			8	3 955 627
2	COOP	Food, Agriculture and Fisheries, and Biotechnology	6	1 406 886	2	94 700	7	1 499 302	5	1 387 447
3	COOP	Information and Communication Technologies							3	1 052 370
4	COOP	Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP					1	372 363	1	345 836
5	COOP	Energy	1	57 719			3	269 190	3	1 019 552
6	COOP	Environment (including Climate Change)	1	55 705	1	218 192	2	858 509	2	474 073
7	COOP	Transport (including Aeronautics)							5	1 053 496
8	COOP	Socio-economic sciences and Humanities					1	128 750		
9	COOP	Space								
10	COOP	Security								
11	COOP	General Activities								
12	CAPACITIE S	Research Infrastructures							1	1 499 280
13	CAPACITIE S	Research for the benefit of SMEs	1	195 917	7	988 302	6	1 300 136	23	3 742 165
14	CAPACITIE S	Regions of Knowledge	3	3 420 080						
15	CAPACITIE S	Research Potential	1	236 172	3	615 384	3	105 705	9	1 020 875
16	CAPACITIE S	Science in Society					1	78 110	1	75 328
17	CAPACITIE S	Support for the coherent development of research policies								
18	CAPACITIE S	Activities of International Cooperation								
20	PEOPLE	Marie-Curie Actions								
21	IDEA	European Research Council								
22	EURATOM	Fusion Energy								
23	EURATOM	Nuclear Fission and Radiation Protection								
			13	5 372 479	14	2 157 896	24	4 612 065	61	15 626 049

Num	PROG SPEC	Theme	ES615		ES616		ES617		ES618	
			nbr	EC contrib	nbr	EC contrib	nbr	EC contrib	nbr	EC contrib
1	COOP	Health					3	4 002 656	6	1 254 345
2	COOP	Food, Agriculture and Fisheries, and Biotechnology	1	45 440			2	430 618	9	1 600 988
3	COOP	Information and Communication Technologies					18	4 716 214	26	8 391 837
4	COOP	Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP					2	506 702	7	1 357 908
5	COOP	Energy					2	1 220 434	12	15 052 521
6	COOP	Environment (including Climate Change)					7	889 465	13	1 922 309
7	COOP	Transport (including Aeronautics)					2	952 941	3	656 958
8	COOP	Socio-economic sciences and Humanities							5	1 071 578
9	COOP	Space								

10	COOP	Security					1	284 540		
11	COOP	General Activities							4	2 466 935
12	CAPACITIE S	Research Infrastructures							3	4 545 080
13	CAPACITIE S	Research for the benefit of SMEs			2	447 074	3	1 020 931	17	3 841 250
14	CAPACITIE S	Regions of Knowledge	1	95 000			1	298 861	5	360 481
15	CAPACITIE S	Research Potential	2	2 600	2	446 628	5	866 589	6	562 378
16	CAPACITIE S	Science in Society							5	796 617
17	CAPACITIE S	Support for the coherent development of research policies							2	5 448 825
18	CAPACITIE S	Activities of International Cooperation			1	264 277	1	374 421	4	229 590
20	PEOPLE	Marie-Curie Actions							3	9 639 150
21	IDEA	European Research Council					1	69 550	5	1 360 934
22	EURATOM	Fusion Energy								
23	EURATOM	Nuclear Fission and Radiation Protection								
			4	143 040	5	1 157 979	48	15 633 922	135	60 559 685

International cooperation

This section aims at giving an overview of the main partners and collaboration themes of the focussed region at the European level. The following indicators have been calculated on the basis of all projects including at least one participant from the focussed region.

The following table presents the partner regions of the focussed region.

Table 35 Partner regions

Partner regions	nb participations	% of total
Ile de France	123	4,6%
Comunidad de Madrid	72	2,7%
Baden-Württemberg	60	2,2%
Nordrhein Westfalen	59	2,2%
Lazio	56	2,1%
Vlaams Gewest	55	2,1%
Bayern	52	1,9%
South East England	51	1,9%
Attiki	48	1,8%
Zuid Holland	47	1,8%
Lombardia	45	1,7%
Wien	45	1,7%
Etelä-Suomi	40	1,5%
Hovedstaden	37	1,4%
London	37	1,4%

The table below presents the main partner organisations of the focussed region.

Table 36 Partner organisations

Partner organisations	nb participations	% of total
FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V	22	0,8%
INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	20	0,2%
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	19	0,2%
CONSIGLIO NAZIONALE DELLE RICERCHE	17	0,1%
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	16	0,1%
DANMARKS TEKNISKE UNIVERSITET	14	0,1%

DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV	14	0,1%
WAGENINGEN UNIVERSITEIT	14	0,1%
Eidgenössische Technische Hochschule Zürich	13	0,1%
STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK	12	0,1%
Københavns Universitet	10	0,1%
STIFTELSEN SINTEF	9	0,1%
COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	9	0,1%
AARHUS UNIVERSITET	9	0,1%
VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	9	0,1%

Table 37 European collaboration themes

Region	Energy	Region	Environment (including Climate Change)	Region	Food, Agriculture, and Biotechnology	Region	General Activities (Annex IV)	Region	Health	Region	Information and Communication Technologies
ES30	10	NL33	14	NL22	19	NO01	2	FR10	12	FR10	26
FR10	9	ES51	12	FR10	17	ES21	2	AT13	7	ES30	23
BE2	9	FR10	10	BE2	17	FR10	1	DE2	6	DEA	21
EL30	6	DK01	10	UKM	11	ES22	1	FI18	5	DE1	16
BE1	6	UKK	10	FI18	9	EL30	1	ES30	5	DE2	15
NL22	5	DE1	8	ITD5	9	BE3	1	CH01	5	ITE4	15
UKM	5	UKI	8	NL33	8	AT12	1	FR71	5	NL41	13
UKF	5	BE2	7	DK01	8	ITD3	1	ITD5	4	ITC4	12
DE1	4	BE1	7	ITE4	7	ES11	1	DK01	4	UKI	11
UKJ	4	UKJ	7	IE02	7	EL23	1	ITE4	4	DE3	10
NL41	4	ITE4	7	ITC4	7	FR	1	UKJ	4	UKJ	9
LTo	4	FI18	7	DK04	7	FR43	1	CH04	4	PT17	8
DEA	3	IE02	7	UKJ	6	NL22		DEA	4	CH04	7
DE2	3	ITD5	7	FR82	6	BE2		ITE1	4	IL	7
ITC4	3	BG41	7	DE4	6	UKM		IL	4	ITD3	7
DK01	3	UA	7	NO01	6	FI18		DE1	4	IE02	7
ITE1	3	FR82	6	HU10	6	ITD5		UKI	4	ES51	7
UKK	3	MA	6	DE9	6	NL33		SE11	4	AT13	6
PT17	3	EG	6	ES62	6	DK01		ITD3	3	BE2	6
UKD	3	AT13	6	ES51	5	ITE4		BE2	3	ITD2	6
Total général	196		417		409		14		203		399

Étiquettes de lignes	Nanosciences, Nanotechnologies, Materials and new Production Technologies	Étiquettes de lignes	Security	Étiquettes de lignes	Socio-economic sciences and Humanities	Étiquettes de lignes	Transport (including Aeronautics)	
DE1	9	ES30	2	NL33	5	FR10	15	
ES21	8	DEA	1	AT13	4	EL30	7	
ES30	7	AT13	1	DE1	2	UKJ	7	
FR10	6	SE11	1	UKD	2	FR62	7	
ITC4	6	DE9	1	DE4	2	ITC1	5	
BE2	6	NL22	1	NL22	1	DE2	5	
NL32	5	LT00	1	ES21	1	DE1	4	
DEA	4	DE1		FR10	1	DEA	4	
NL41	4	ES21		EL30	1	ITC4	4	
CH01	4	FR10		DK01	1	UKF	4	
FI18	4	ITC4		UKE	1	IE02	4	
DED	4	BE2		US	1	ES51	4	
ES52	4	NL32		PL12	1	RO32	4	
ITC1	4	NL41		EL12	1	DK	4	
FI19	4	CH01		ITD5	1	ITF3	3	
AT13	3	FI18		BG41	1	ITE4	3	
EL30	3	DED		UKM	1	NL33	2	
Étiquettes de lignes	Nanosciences, Nanotechnologies, Materials and new Production Technologies	Étiquettes de lignes	Security	Étiquettes de lignes	Socio-economic sciences and Humanities	Étiquettes de lignes	Transport (including Aeronautics)	Étiquettes de lignes
HU10	3	ES52		NL11	1	AT13	2	OVERALL TOTAL
NO06	3	ITC1		FR52	1	UKD	2	
DK01	3	FI19		MTO0	1	ES21	2	
	168		8		31		159	2004

The following table provides the most frequent European coordinators of participants from the focussed region in FP7.

Table 38 The main coordinators of regional participants

FREQUENT COORDINATORS	Nb coordinations
INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	8
FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V	6
TEKNOLOGIAN TUTKIMUSKESKUS VTT	3
ALMA MATER STUDIORUM-UNIVERSITA DI BOLOGNA	3
ASOCIACION DE INVESTIGACION DE MATERIALES	3

PLASTICOS Y CONEXAS - AIMPLAS	
VEREIN ZUR FOERDERUNG DES TECHNOLOGIETRANSFERS AN DER HOCHSCHULE BREMERHAVEN E.V.	3
KUNGLIGA TEKNISKA HOEGSKOLAN	2
UNIVERSIDAD POLITECNICA DE MADRID	2
STIFTELSEN SINTEF	2
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	2
UNIVERSITAET DUISBURG-ESSEN	2
CENTRE DE COOPERATION INTERNATIONAL EN RECHERCHE AGRONOMIQUE POUR LE DEVELOPPEMENT	2
UNIVERSITEIT VAN AMSTERDAM	2
CONSIGLIO NAZIONALE DELLE RICERCHE	2
TWI LIMITED	2
DANMARKS TEKNISKE UNIVERSITET	2

Annex 3 – CIP ICT participation scoreboard

I. ES61 in CIP ICT PSP	ES51	ES	CIP ICT	% of ES61 in ES	% of ES in CIP ICT
Nbr of participations in projects	20	246	2141	8,1%	11,5%
Nbr of coordinations	1	25	128	4,0%	19,5%
EC contribution	2 225 204	35 677 799	304 167 499	6,2%	11,7%

II. Participant Typology/or organisation type	ES61				ES				CIP ICT PSP			
	Nbr of participations in projects	Nbr of coordinations	EC contribution	%	Nbr of participations in projects	Nbr of coordinations	EC contribution	%	Nbr of participations in projects	Nbr of coordinations	EC contribution	%
HES	2		101723	4,6%	40	5	6 760 482	18,9%	345	14	48 931 144	16,1%
OTH	2		158406	7,1%	18	1	2 855 015	8,0%	230	14	33 768 401	11,1%
PRC	6		393389	17,7%	97	15	16 413 774	46,0%	835	78	116 503 789	38,3%
PUB	8		1168645	52,5%	50	1	5 807 554	16,3%	425	26	67 392 659	22,2%
REC	2	1	403041	18,1%	41	3	3 840 974	10,8%	306	22	37 571 506	12,4%

Total	20	1	222520 4	10 0%	246	25	356777 99	10 0%	2141	154	304167 499	10 0%
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III. Participant Typology/Public-Private organisations	ES61			ES			CIP ICT PSP		
	Nbr of participations in projects	EC contribution	%	Nbr of participations in projects	EC contribution	%	Nbr of participations in projects	EC contribution	%
Private commercial (PRC)	6	393 389	17,7 %	97	16 413 774	46,0 %	842	117 814 939	38,7 %
Private non Profit (PNP)	4	561 447	25,2 %	55	6 600 228	18,5 %	442	56 873 668	18,7 %
Total Private organisations	10	954836	42,9 %	152	23 014 002	64,5 %	1 284	174 688 607	57,4 %
Public Commercial (PUC)			0,0%	10	776 727	2,2%	120	15 166 682	5,0%
Governmental (GOV)	10	1 270 368	57,1 %	84	11 887 070	33,3 %	737	114 312 210	37,6 %
Total Public organisations	10	1270368	57,1 %	94	12 663 797	35,5 %	857	129 478 892	42,6 %
Total	20	2225204	100,0%	246	35 677 799	100,0%	2 141	304 167 499	100,0%

IV SME/ legal type	ES61			ES			CIP ICT PSP		
Private commercial (PRC)	1	78 522	100,0%	26	3 475 543	68,3%	344	49 185 099	76,9%

Private non Profit (PNP)			0,0%	12	1 612 259	31,7%	59	14 769 538	23,1%
Total	1	78 522	100,0%	38	5 087 802	100,0%	403	63 954 637	100,0%

Annex 4 – CIP IEE participation scoreboard

I. ES61 in CIP IEE	ES61	ES	CIP IEE	% of ES61 in ES	% of ES in CIP IEE
Nbr of participations in projects	11	152	2443	7,2%	6,2%
Nbr of coordinations	2	12	235	16,7%	5,1%
EC contribution	1 115 682	15 159 024	241 453 630	7,4%	6,3%

Annex 5 – ERDF participation scoreboard

II Distribution of ErDF fundings within areas related to research and innovation				
-				
Themes	FOI codes	Measures	EC contrib.	EC contrib.
RTDI and linked activities	1	R&TD activities in research centres :	0	7 619 628
	2	R&TD infrastructure and centres of competence in a specific technology :	0	15 094 283
	5	Advanced support services for firms and groups of firms	0	0
	7	Investment in firms directly linked to research and innovation (...):	0	653 259
	74	Developing human potential in the field of research and innovation, in particular through post-graduate studies (...):	0	0

Innovation support for SMEs	3	Technology transfer and improvement of cooperation networks (...):	0	4 594 750
	4	Assistance to R&TD, particularly in SMEs (including access to R&TD services in research centres):	0	10 039 105
	6	Assistance to SMEs for the promotion of environmentally-friendly products and production processes (...):	0	2 463 713
	9	Other measures to stimulate research and innovation and entrepreneurship in SMEs:	0	20 119 244
	14	Services and applications for SMEs (e-commerce, education and training, networking, etc.):	0	3 294 477
	15	Other measures for improving access to and efficient use of ICT by SMEs:	0	858 616
ICT and related services	11	Information and communication technologies (...):	0	4 274 454
	12	Information and communication technologies (TEN-ICT):	0	0
	13	Services and applications for citizens (e-health, e-government, e-learning, e-inclusion, etc.):	0	23 945 664
Other	8	Other investment in firms:	0	276 311 195

Annex 7 – Cross thematic table

FP 7 - COOPERATION Theme	EC contribution		COUNTRY		EMPLOYMENT sector	% reg. Emp	spec. EU	spec country	PATENT DOMAIN	n	lib_fields	n° patents	field weight*	country weight**	spec. ***
				EU											
HEALTH	9.453.946	15%	0,42	0,21	Pharma	0,1%	0,11	0,15	CHEM	16	Pharma	9,67	11,37%	1,34%	4,34
					Med. devices	0,1%	0,20	0,54	Instr.	13	Med. Tech	5,50	6,47%	0,46%	1,50
FOOD	6.465.381	11%	0,69	0,45	Biotech	0,1%	0,94	1,30	CHEM	15	Biotech	8,75	10,29%	3,56%	11,53
					Processed food	4,4%	0,68	0,86	CHEM	18	Food chem.	6,51	7,66%	1,39%	4,48
					FARMING	7,0%	3,09	1,60							
					Agri PRODUCTS	6,6%	3,89	2,07							

ICT	14.160.421	23%	0,23	0,18	IT	0,9%	0,37	0,65	Elet.Eng	6	Computer tech.	4,00	4,71%	1,01%	3,27
						0,0%	0,00	0,00	Elet.Eng	7	IT	1,00	1,18%	1,92%	6,21
					Telecom	2,6%	0,87	0,77	Elet.Eng	3	Telecomm.	1,00	1,18%	0,23%	0,76
						0,0%	0,00	0,00	Elet.Eng	4	Digital com.				
						0,0%	0,00	0,00	Elet.Eng	5	Basic com.				
NANO	2.582.809	4%	0,11	0,10	Metal man.	1,2%	0,22	0,34	CHEM	20	Materials .	2,70	3,18%	1,06%	3,44
					Plastics	0,3%	0,21	0,27							
					Construction M.	27,0%	2,56	1,31							
					Lighting & e.e	0,3%	0,45	0,74	Elet.Eng	1	Elec. machinery	2,00	2,35%	0,17%	0,55
						0,0%	0,00	0,00	Elet.Eng	2	Audio-visual	0,75	0,88%	0,13%	0,42
						0,0%	0,00	0,00	Elet.Eng	8	Semiconductors				
					Chemical PR.	0,8%	1,36	0,75	CHEM	17	Macromolecular	0,67	0,78%	0,76%	2,47
						0,0%	0,00	0,00	CHEM	14	Organic chem.	4,73	5,57%	1,66%	5,38
						0,0%	0,00	0,00	CHEM	19	Basic materials	4,27	5,03%	1,52%	4,92
						0,0%	0,00	0,00	CHEM	21	Surface tech.				
						0,0%	0,00	0,00	CHEM	22	nano- technology				
						0,0%	0,00	0,00	CHEM	23	Chemical eng.	3,48	4,10%	0,67%	2,17
ENERGY	17.619.416	29%	1,08	1,23	Oil and gas	0,1%	0,13	1,24							
					Power g & t	0,1%	0,31	0,45							
Environment	4.418.253	7%	0,42	0,26		0,0%	0,00	0,00	CHEM	24	Envir. Tech.	0,50	0,59%	0,09%	0,29
Transport	2.663.395	4%	0,20	0,11	Transp & logistics	6,2%	0,81	0,92	Mech.Eng	32	Transport	5,00	5,88%	0,25%	0,81
					Automotive	0,7%	0,20	0,26							
					Distribution	4,8%	1,51	1,21							
SOCIO	1.200.328	2%	0,56	0,26	Financial services	6,2%	0,74	0,86							
					EDU	4,3%	1,06	1,07							

					Business services	4,2%	0,46	0,82							
Security						0,0%	0,00	0,00							
Space	284.540	0%	0,07	0,04	Aerospace	0,5%	1,04	2,01							
					FIXTURES	2,8%	0,92	0,95							
					Construction	0,7%	0,59	0,83	Other	35	Civil eng.	2,53	2,98%	0,06%	0,21
					Prod. TECH	0,4%	0,16	0,35							
					Entertainment	1,6%	0,98	0,94							
					Heavy Machinery	0,4%	0,34	0,53	Mech.Eng	25	Handling	3,50	4,12%	0,14%	0,47
						0,0%	0,00	0,00	Mech.Eng	26	Machine	1,25	1,47%	0,19%	0,60
						0,0%	0,00	0,00	Mech.Eng	27	Engines, ..	0,50	0,59%	0,10%	0,33
						0,0%	0,00	0,00	Mech.Eng	29	Other machines	4,10	4,82%	0,23%	0,75
						0,0%	0,00	0,00	Mech.Eng	31	Mech. elements	3,08	3,63%	0,33%	1,08
					Maritime	1,5%	1,97	0,89	Mech.Eng	30	Thermal	0,75	0,88%	0,09%	0,30
					Instruments	0,1%	0,11	0,36	Instr.	9	Optics	0,50	0,59%	0,30%	0,98
						0,0%	0,00	0,00	Instr.	10	Measurement	2,67	3,14%	0,46%	1,49
						0,0%	0,00	0,00	Instr.	11	bio. Analysis	0,67	0,78%	0,62%	1,99
						0,0%	0,00	0,00	Instr.	12	Control	1,00	1,18%	0,16%	0,52
					Sporting, recreational and children's goods	0,03%	0,09	0,18							
					Textiles	0,33%	0,22	0,41	Mech.Eng	28	Textile				
					Media and publishing	1,73%	0,59	0,63							
					Tourism and hospitality	7,13%	1,61	1,13							
					Paper products	1,06%	0,52	0,64							
					Furniture	1,28%	0,90	1,00	Other	33	Furniture	1,67	1,96%	0,06%	0,18
					Apparel	0,58%	0,27	0,49							
					Jewellery and precious metals	0,22%	0,96	1,59							

Tobacco	1,60%	5,24	2,54							
Leather products	0,04%	0,00	0,52							
Footwear	0,03%	0,00	0,06							
Stone quarries	0,11%	0,88	0,70							
				Other	34	Other	2,25	2,65%	0,12%	0,39

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