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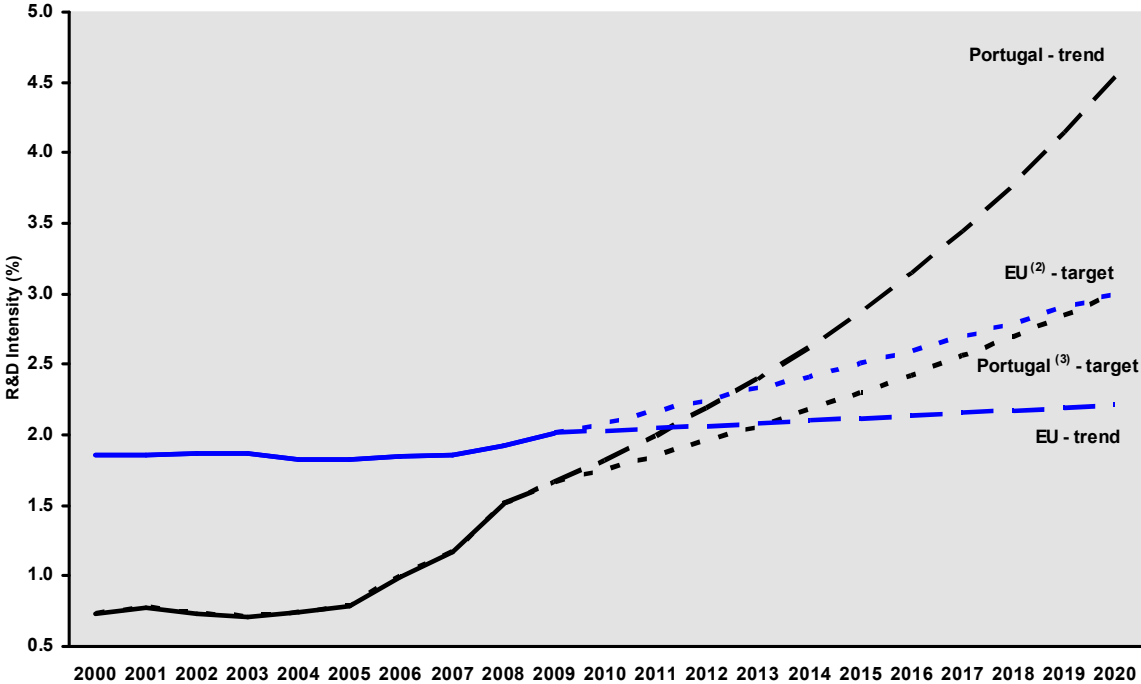
COMMISSION STAFF WORKING PAPER
Innovation Union Competitiveness report 2011

Progress towards meeting the Europe 2020 R&D intensity target

The figures for Portugal on R&D intensity (GERD/GDP) are 1.66% in 2009 (0.71% public + 0.78% private). This compares to 0.73% in 2000, having had a very high average growth rate of 10.2% for the period 2000-2009. The main feature for this period is the strong growth of the private expenditure (0.28% of GDP in 2000) becoming higher than the public expenditure since 2006 onwards. Despite the crisis, the government spending on R&D increased in 2009 to 205 million Euro. In order to increase its economic competitiveness by raising its productivity and changing the structure of exporting enterprises, Portugal will have to maintain its efforts in increasing its investments in Research and Innovation.

Portuguese authorities have recognised this and have set an ambitious, albeit realistic set of R&D targets for 2020: R&D intensity should account for 2.7% - 3.3%, of which 1.0% - 1.2% in the public sector and 1.7% - 2.1% in the private sector.

Portugal - R&D Intensity projections, 2000-2020 ⁽¹⁾



Source: DG Research and Innovation

Innovation Union Competitiveness report 2011

Data: DG Research and Innovation, Eurostat

Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity 2000-2009.

(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.

(3) PT: This projection is based on a tentative R&D Intensity target of 3.0% for 2020.

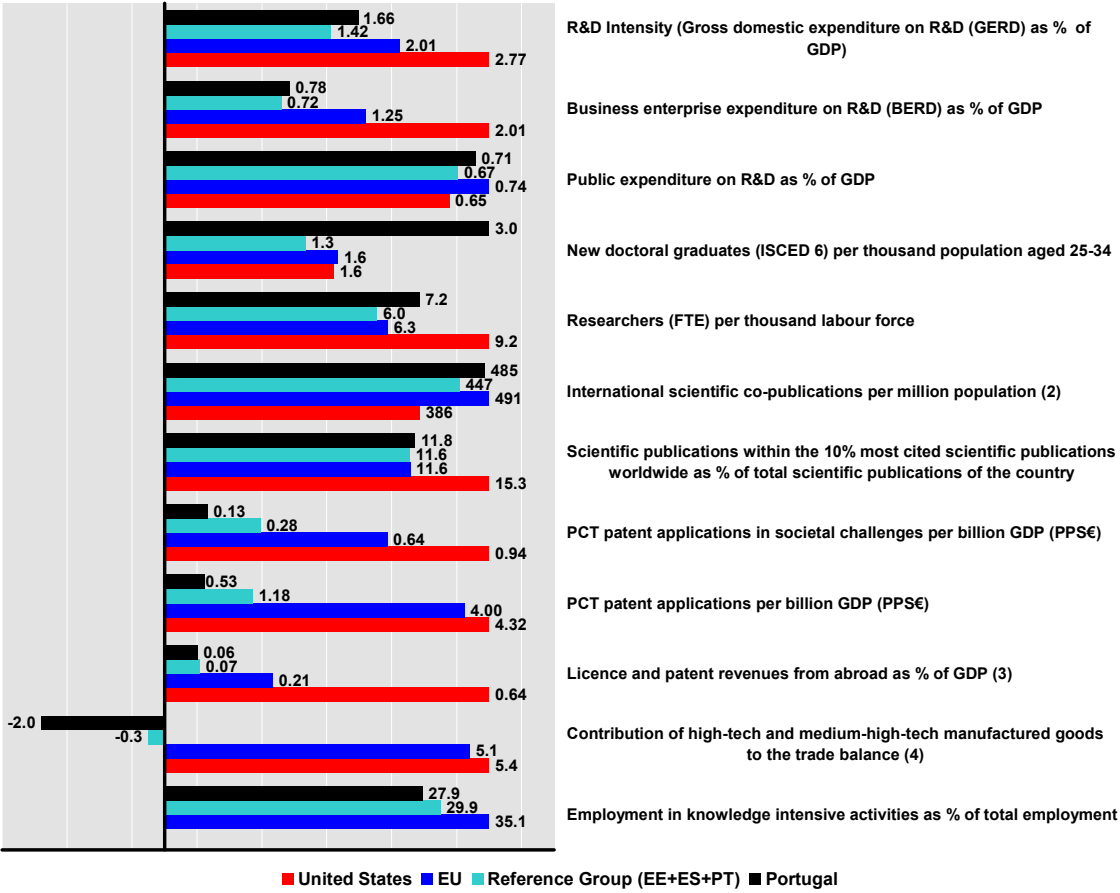
Research and Innovation Performance

The Portuguese research and innovation system is characterised by a growing private sector share in both financing and performance, although enterprises are still investing about 2/3 of

the EU average on R&D. Portugal is outperforming in doctoral graduates and employed researchers, as a result of the important resources provided by the State, having exceeded the EU average on these resources. However, tertiary and upper secondary education attainment is still low, although improving. On the international scientific co-publications and their citation worldwide, Portugal has also progressed well and reached about the EU average – although remaining at less than 1/8 of the EU level in patent applications. Employment in knowledge-intensive activities remains weak which, in conjunction with the general industrial structure of the country, leads to a negative contribution of high-tech and medium-high-tech manufactured goods to the trade balance.

Portugal

R&D profile, 2009⁽¹⁾



Source: DG Research and Innovation

Data: Eurostat, OECD, Science Metrix / Scopus (Elsevier)

Notes: (1) The values refer to 2009 or to the latest available year.

(2) The EU value refers to the median rather than to the average.

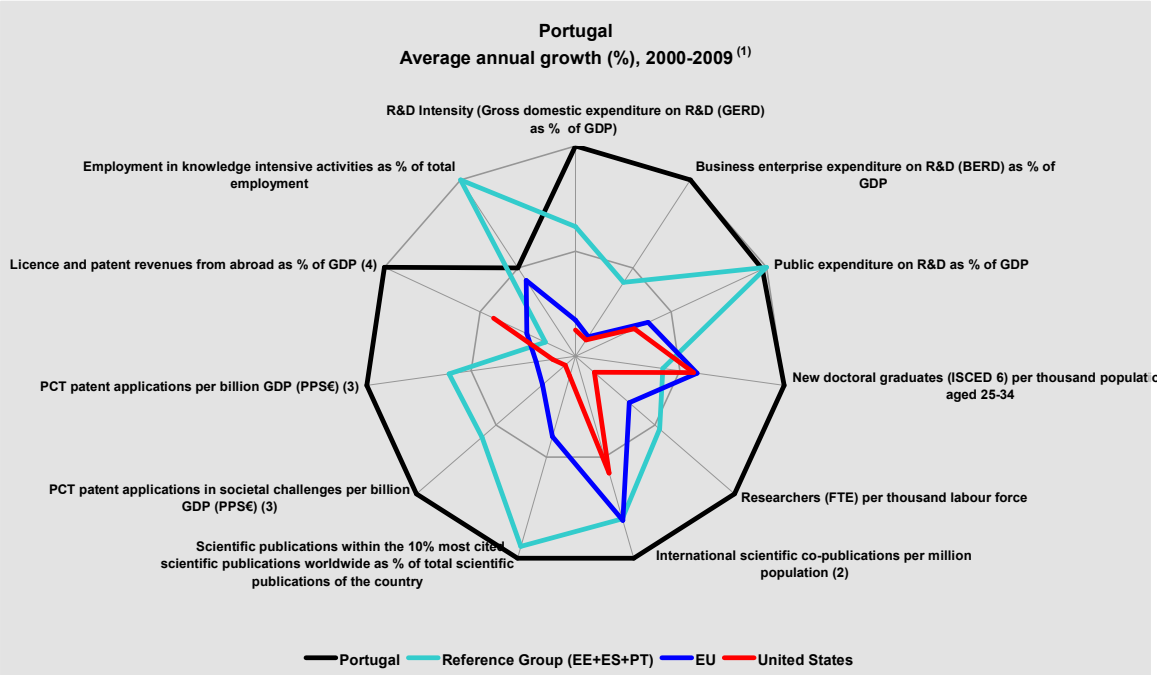
(3) EU refers to extra-EU.

(4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU.

(5) Elements of estimation were involved in the compilation of the data.

The Portuguese innovation framework presents some strengths and more weaknesses. Under macroeconomic imbalances, public budget austerity and a large rate of unemployment, improving the competitiveness of national enterprises is one of the key challenges.

All indicators but one improved significantly in the period 2000-2009. Portugal is ranking well in international scientific co-publications, high-speed broadband lines and SMEs introducing innovations. However, notably, business enterprise expenditure in R&D, enterprise survival rate after two years and PCT patent applications remain well under the EU average. Employment in knowledge-intensive activities remains low, under other European countries and the EU average. This type of employment has not much improved over the period under analysis. This, in conjunction with the negative contribution of high-tech and medium-high-tech manufactured goods to the trade balance, shows the need of more high-tech and medium-tech innovative enterprises, notably in emerging domains.



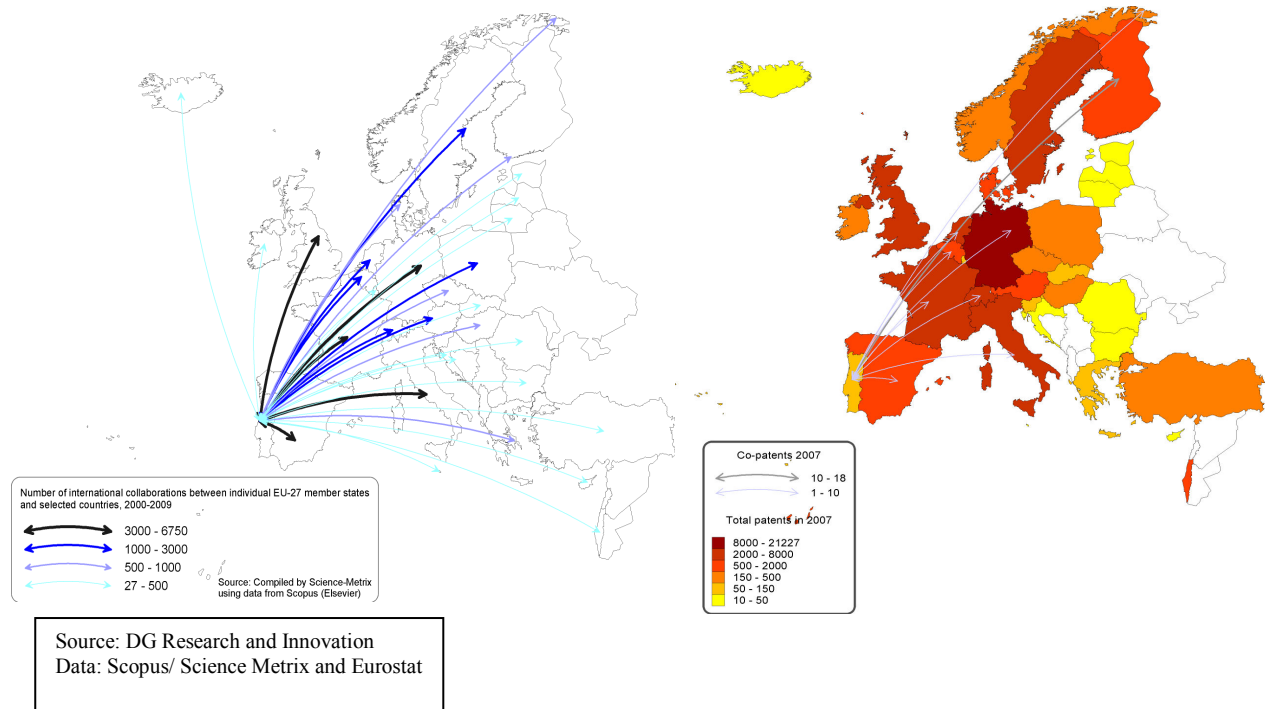
Source: DG Research and Innovation
 Innovation Union Competitiveness Report 2011
 Data: Eurostat, OECD, Science Metrix / Scopus (Elsevier)
 Notes: (1) Growth rates which do not refer to 2000-2009 refer to growth between the earliest available year and the latest available year over the period 2000-2010.
 (2) The EU value refers to the median rather than to the average.
 (3) Average annual growth refers to real growth.
 (4) EU refers to extra-EU.
 (5) Elements of estimation were involved in the compilation of the data.

Participation in the European Research Area: scientific and technological collaborations

Portugal is a small and open country. The research system has a tradition of hosting researchers of other countries and promoting the participation of young researchers in other countries through bi- and multilateral agreements with other European countries. The International Iberian Nanotechnology Laboratory, jointly launched with Spain, is an example of such openness. A joint programme with Spain was launched promoting research projects in nanosciences and nanotechnologies and a cooperation agreement with Spain and France was concluded to launch a call for joint projects in knowledge-based bio-economy. Portugal is integrated in enlarging networks of scientific and technological cooperation, particularly with Spain, the United Kingdom, France, Germany and Italy. However, the absolute level of technological cooperation remains low as compared with scientific cooperation, pleading for scientific policies to encourage further its development.

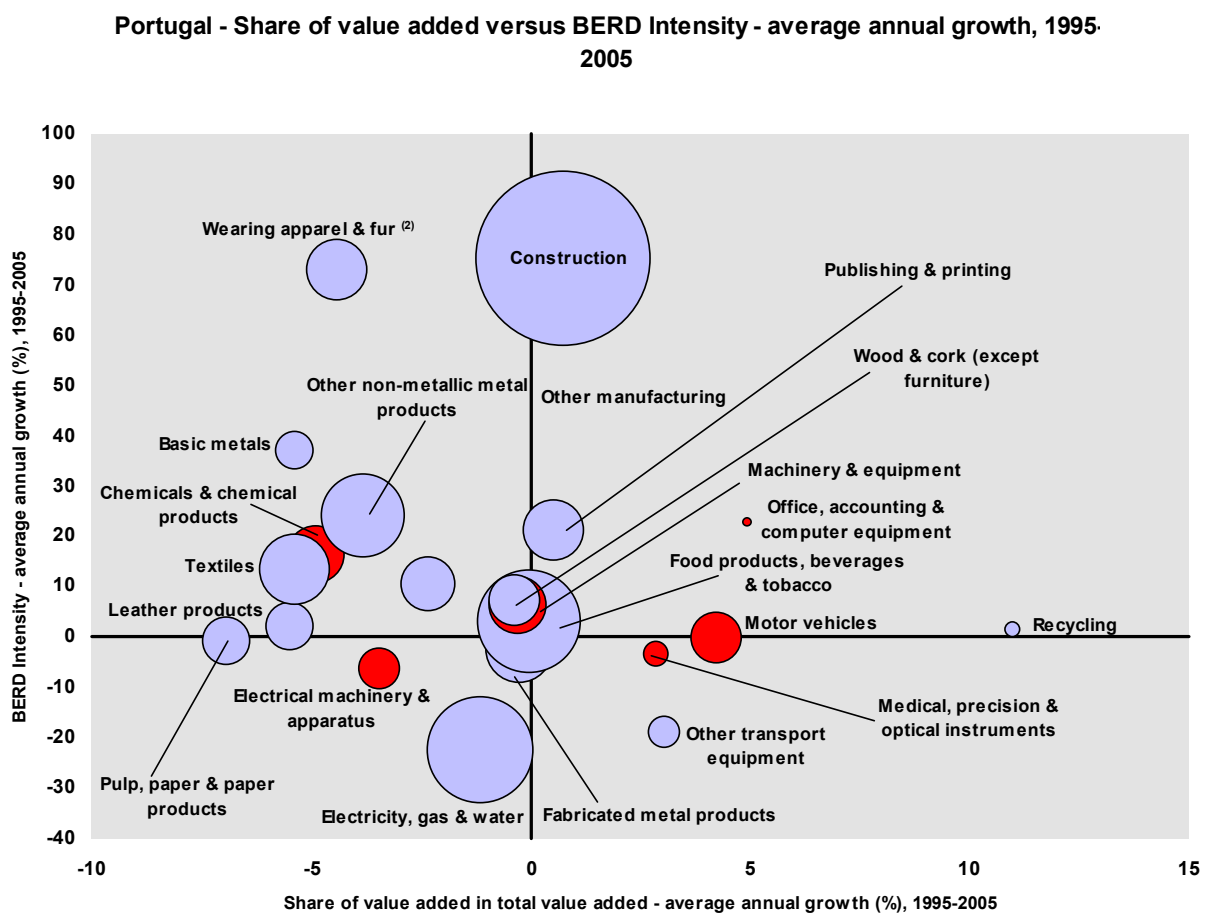
Co-publications between Portugal and European countries in 2000-2009

Co-invented patent applications between Portugal and European countries, 2007



Structural change towards more knowledge-intensive economy

Portugal has a low dynamics of knowledge-intensive firms which has not contributed to the expected growth of value added to the economy. High-tech and medium-high-tech sectors that have moderately increased their share in the total value-added are: Office, accounting and computing machinery, Motor vehicles, and Medical, precision and optical instruments. Other sectors have reduced their share of value added, like the Chemicals and chemical products sector, the Electrical machinery and apparatus, and the Radio, TV and communication equipment sector. Recycling has had a greater growth in the share of value added. The strong increase in BERD intensity for Construction and Wearing apparel and fur sectors demonstrates the potential of progress in traditional sectors. The highest decrease in BERD intensity occurs in Electricity, gas and water.



Source: DG Research and Innovation

Innovation Union Competitiveness report 2011

Data: OECD

Notes: (1) High-Tech and Medium-High-Tech sectors are shown in red. 'Other transport equipment' includes High-Tech, Medium-High-Tech and Medium-Low-Tech.

(2) 'Wearing apparel and fur': average annual growth refers to 1996-2005.

(3) 'Coke, refined petroleum, nuclear fuel' and 'Rubber and plastics' are not included on the graph due to unavailability of data.

(4) 'Radio, TV and communication equipment' is not visible on the graph.

FP7 Key facts and figures

Applications:

As of 2011/03/16, a total of

- 4.280 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 5.764 applicants from Portugal (2,16% of EU-27*) and
- requesting EUR 1.426,35m of EC contribution (1,62% of EU-27*)

Among the EU-27* Portugal (PT) ranks:

- 13th in terms of number of applicants and
- 14th in terms of requested EC contribution

Success rates:

- The PT applicant success rate of 19,7% is lower than the EU-27* applicant success rate of 21,6%.
- The PT EC financial contribution success rate of 15,9% is lower than the EU-27* rate of 20,7%.

Specifically, following evaluation and selection, a total of

- 853 proposals were retained for funding (19,9%)
- involving 1.138 (19,7%) successful applicants from Portugal and
- requesting EUR 226,77m (15,9%) of EC financial contribution

Among the EU-27*, Portugal (PT) ranks:

- 18th in terms of applicants success rate and
- 15th in terms of EC financial contribution success rate

Signed grant agreements

As of 2011/03/16, Portugal (PT) participates in

- 716 signed grant agreements
- involving 9.309 participants of which 960 (10,31%) are from Portugal
- benefiting from a total of EUR 2.502,09m of EC financial contribution of which EUR 205,65m (8,22%) is dedicated to participants from Portugal.

Among the EU-27* in all FP7 signed grant agreements, Portugal (PT) ranks:

- 14th in number of participations and
- 14th in budget share

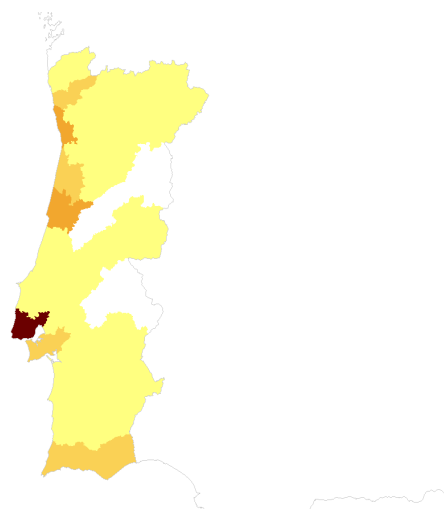
SME performance and participation

- The PT SME applicant success rate of 16,61% is lower than the EU-27* SME applicant success rate of 19,33%.
- The PT SME EC financial contribution success rate of 14,12% is lower than the corresponding EU-27* rate of 18,26%.

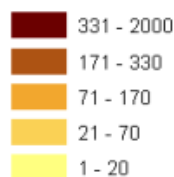
Specifically,

- 1.764 PT SME applicants requesting EUR 384,02m

**Nr. of Researchers as % of population Rank in EU-27*	N/A	0,40%
Innovation scoreboard (2008)	- 16th	
- Below EU-27 average		
- Moderate Innovator		
Nr. of FP7 applicants (% EU-27*)	5.764	
(2,16%)	266.507	
Req. EC contribution by FP7 applicants in EUR million	1.426,35	
(% EU-27*)	88.295	
(1,62%)		
Nr. of successful FP7 applicants (% EU-27*)	1.138	
(1,92%)	59.199	
Req. EC contribution by successful FP7 applicants in EUR million	226,77	
(% EU-27*)	18.262,02	
(1,24%)		
Success rate FP7 applicants	19,7%	21,6%
Success rate		
FP7 EC contribution	15,9%	20,7%
Nr. of FP7 grant holders (% EU-27*)	960	
(1,87%)	51.279	
EC contribution to FP7 grant holders in EUR million	205,65	
(% EU-27*)	16.578,15	
(1,24%)		
Nr. of FP7 coordinators (% of grant holders)	139	
(14,48%)	9.383	
(18,30%)		
Nr. of FP7 SME grant holders (% grant holders)	204	
(21,25%)	8.845	
(17,25%)		
EC contribution to FP7 SME grant holders in EUR million	43,23	
(% of grant holders)	2.207,73	
(21,02%)		
(13,32%)		



- 293 (16,61%) successful SMEs requesting EUR 54,21m (14,12%)



In signed grant agreements, as of 2011/03/16,

- 204 PT SME grant holders, i.e., 21,25% of total PT participation
- EUR 43,23m, i.e., 21,02% of total PT budget share

Top 3 collaborative links with:

- DE - Germany (973)
- UK - United Kingdom (863)
- IT - Italy (806)

PT - Portugal - most active FP7 research priority areas by number of applicants applying for the research projects						
FP7 priority area	Nr. of applicants	Requested EC contribution by applicants (M euro)	Nr. of mainlisted applicants	Success Rate (applicants)	Requested EC contribution by mainlisted applicants (M euro)	Success Rate (requested EC contribution)
Information and Communication Technologies	1.228	410,63	181	14,74 %	63,51	15,47 %
Marie-Curie Actions	766	n/a	195	25,46 %	n/a	n/a
Research for the benefit of SMEs	626	77,29	111	17,73 %	12,78	16,54 %
Environment (including Climate Change)	454	104,86	70	15,42 %	14,60	13,92 %
Transport (including Aeronautics)	424	89,06	114	26,89 %	21,93	24,62 %
Food, Agriculture and Fisheries, and Biotechnology	334	82,16	58	17,37 %	10,42	12,68 %

PT - Portugal - most active FP7 research priority areas by EC contribution granted to the research projects				
FP7 Priority Area	Number of grant holders	% of all PT grant holders	EC contribution (EUR million)	% of total EC contribution to PT
Information and Communication Technologies	182	18,96%	56,88	27,66 %
Marie-Curie Actions	149	15,52%	23,40	11,38 %
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	75	7,81%	19,38	9,42 %
ERC	13	1,35%	19,00	9,24 %
Transport (including Aeronautics)	86	8,96%	16,43	7,99 %
Health	48	5,00%	11,49	5,59 %

PT - Portugal - participation in the FP7 research projects by organisation activity type									
Activity Type	Nr. of applicants	Requested EC contribution by applicants (M euro)	Nr. of mainlisted applicants	Success rate (applicants)	Requested EC contribution by mainlisted applicants (M euro)	Success rate (requested contribution)	Nr. of grant holders	EC contribution to grant holders	% of total EC contribution to grant holders
HES	1.961	458,33	343	17,49%	64,69	14,12%	276	57,71	28,06%
PRC	1.639	385,03	304	18,55%	60,99	15,84%	265	49,18	23,91%
REC	1.397	312,10	316	22,62%	59,45	19,05%	306	79,13	38,48%
OTH	353	56,51	67	18,98%	7,70	13,63%	50	5,74	2,79%
PUB	268	34,25	92	34,33%	10,94	31,93%	63	13,89	6,75%
SME	1.764	384,02	293	16,61%	54,21	14,12%	204	43,23	21,02%

HES - Higher or secondary education, PRC - Private for profit (excl. education), REC - Research organisations, OTH - Others, PUB - Public body (excl. research and education),

PT - Portugal - the most active NUTS3 regions, by EC contribution granted to the FP7 research projects				
PT - Portugal region	Number of grant holders	% of all PT - Portugal grant holders	EC contribution (M euro)	% of total EC contribution to PT
Grande Lisboa (PT171)	469	48,85%	105,41	51,26%
Grande Porto (PT114)	165	17,19%	31,98	15,55%
Baixo Mondego (PT162)	86	8,96%	17,88	8,70%
Baixo Vouga (PT161)	46	4,79%	10,81	5,26%
Península de Setúbal (PT172)	43	4,48%	11,03	5,36%

PT - Portugal - most active organisations in terms of EC contribution granted to the FP7 research projects				
Legal Name	Number of Participations	% of all PT grant holders	EC contribution (M euro)	% of total EC contribution to PT grant holders
INSTITUTO SUPERIOR TECNICO (IST)	57	5,94%	13,56	6,60%
FUNDACAO CALOUSTE GULBENKIAN	29	3,02%	11,88	5,78%
INSTITUTO DE TELECOMUNICACOES (IT)	28	2,92%	9,74	4,74%
UNIVERSIDADE DO MINHO	32	3,33%	8,46	4,12%
UNIVERSIDADE DO PORTO (UPORTO)	35	3,65%	7,78	3,78%

NOTES:

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FP7 proposal and application figures are valid as of the 2011/03/16

FP7 grant agreements and participation figures are valid as of the 2011/03/16

*EU-27 includes the 27 country-members and JRC as a separate entity

**E-STAT Reference year: 2007

**European Innovation Scoreboard is available at the website of [DG Enterprise and Industry](#)