

# Innovation Union Competitiveness report 2011

Overall review of EU Member States and  
Associated countries





# Table of contents

---

<b>AT - Austria</b>	<b>3</b>	<b>LV - Latvia</b>	<b>137</b>
<b>BE - Belgium</b>	<b>11</b>	<b>LT - Lithuania</b>	<b>145</b>
<b>BG - Bulgaria</b>	<b>19</b>	<b>LU - Luxembourg</b>	<b>153</b>
<b>HR - Croatia</b>	<b>27</b>	<b>MT - Malta</b>	<b>161</b>
<b>CY - Cyprus</b>	<b>35</b>	<b>NL - Netherlands</b>	<b>169</b>
<b>CZ - Czech Republic</b>	<b>43</b>	<b>NO - Norway</b>	<b>177</b>
<b>DK - Denmark</b>	<b>51</b>	<b>PL - Poland</b>	<b>185</b>
<b>EE - Estonia</b>	<b>59</b>	<b>PT - Portugal</b>	<b>193</b>
<b>FI - Finland</b>	<b>67</b>	<b>RO - Romania</b>	<b>201</b>
<b>FR - France</b>	<b>75</b>	<b>SK - Slovakia</b>	<b>209</b>
<b>DE - Germany</b>	<b>83</b>	<b>SI - Slovenia</b>	<b>217</b>
<b>EL - Greece</b>	<b>91</b>	<b>ES - Spain</b>	<b>225</b>
<b>HU - Hungary</b>	<b>99</b>	<b>SE - Sweden</b>	<b>233</b>
<b>IS - Iceland</b>	<b>107</b>	<b>CH - Switzerland</b>	<b>241</b>
<b>IE - Ireland</b>	<b>115</b>	<b>TR - Turkey</b>	<b>249</b>
<b>IL - Israel</b>	<b>123</b>	<b>UK - United Kingdom</b>	<b>257</b>
<b>IT - Italy</b>	<b>129</b>		

# Overall review of EU Member States and Associated countries



As a final section of the report, a series of individual country notes are presented for all 27 Member States and 6 Associated Countries to the European cooperation<sup>1</sup>. Each note analyses the strengths and weaknesses of the national research and innovation system, its dynamics in the last decade and contribution to enhancing economic competitiveness and addressing societal challenges.

All country notes follow the same structure. The first (line) graph depicts the R&D intensity evolution in the last decade in both the analysed country and the EU, and projects this evolution up to 2020. In addition, the graph compares this past evolution to the progress that will be required to meet the 2020 target. The second (bars) graph presents the current performance of the research system and the third (radar) graph depicts its dynamic evolution. This analysis is based on a series of key indicators and compares the individual country to the EU, the United States and the average of a group of countries that share similar research

and innovation characteristics<sup>2</sup>. In order to analyse the participation of the country in the European Research Area, the note introduces two maps that present the degree of scientific co-publications and co-invented patents of the country with other European countries. In those cases where data is available, the note finishes with a brief study of the structural change towards a more research-intensive economy in the last 12 years. Finally, an overview is given of the country's participation in the 7th Framework Programme with key facts and figures. In a few countries, some information is given on the EU Structural Funds for research and innovation. A comprehensive overview of European Union cohesion policy and regional aid is given by DG Regional policy.

In order to enrich the analysis, in addition to the quantitative data gathered in these graphs, each country analysis benefits from further information and qualitative analysis covered in different sections of the IUC Report, as well as from other crucial information sources, such as ERAWATCH country profiles, the Innovation Trendchart or the OECD Science, Technology and Industry Outlook.

**Information on individual countries can also be found in the online version of the IUC report: [ec.europa.eu/iuc2011](http://ec.europa.eu/iuc2011)**

<sup>1</sup> An increasing number of international reports analysing research, innovation and competitiveness include country specific quantitative and qualitative assessment in the form of country profiles : e.g. Innovation Union Scoreboard 2010, OECD Outlook report 2010, European Commission report by DG Enterprise, *Member States competitiveness performance and policies*, JRC-IPTS ERAWATCH country profiles, European Commission DG Information Society *Europe's Digital Competitiveness Report 2010*, European Commission DG Employment Employment in Europe 2010.

<sup>2</sup> For more ample information on the construction of the reference groups, please see the chapter 'Diversity of European countries' of the IUC Report (Part New Perspectives, Chapter 1).

# COUNTRY PROFILE



## AT – Austria

### Progress towards meeting the Europe 2020 R&D intensity target

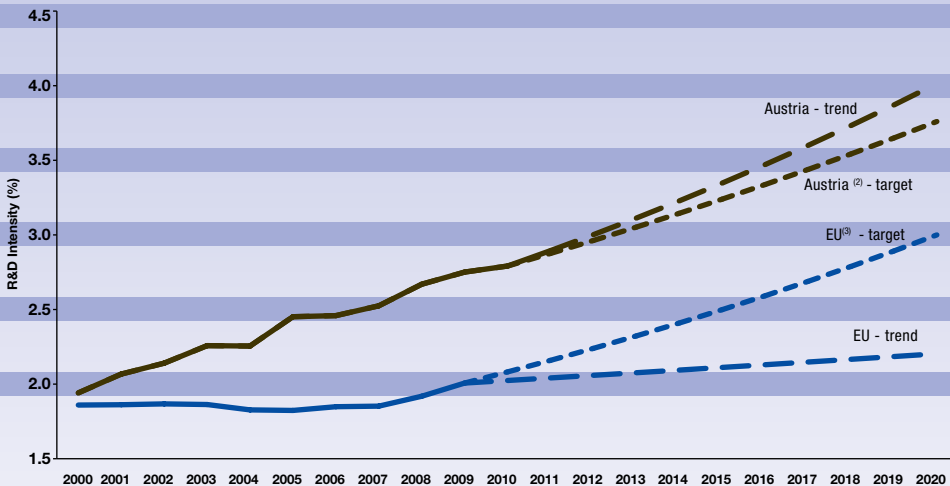
R&D intensity increased during the past decade, from 1.94% in 2000 to 2.79% of GDP in 2009. This trend is significantly higher than the EU average and has allowed Austria to approach the 3% R&D target set for 2010.

If the trend from the last decade continued, Austria would approach an R&D intensity of 4%, positioning the country at the world forefront, with values similar to countries like Sweden, Finland, South Korea or Japan.

Both public and private R&D increased in the last decade, and in the last years, public R&D increased anti-cyclically, compensating the decrease in the share of business R&D due to the economic crisis. The federal government sector increased its share in overall R&D expenditures from 28% in 2007 to 35% in 2010, while the percentage of gross R&D financed by industry decreased to 43%, in comparison to 49% in 2007.

### AUSTRIA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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 for 2000-2009 in the case of the EU and for 2000-2010 in the case of Austria.

(2) AT: This projection is based on a tentative R&D Intensity target of 3.76% for 2020.

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

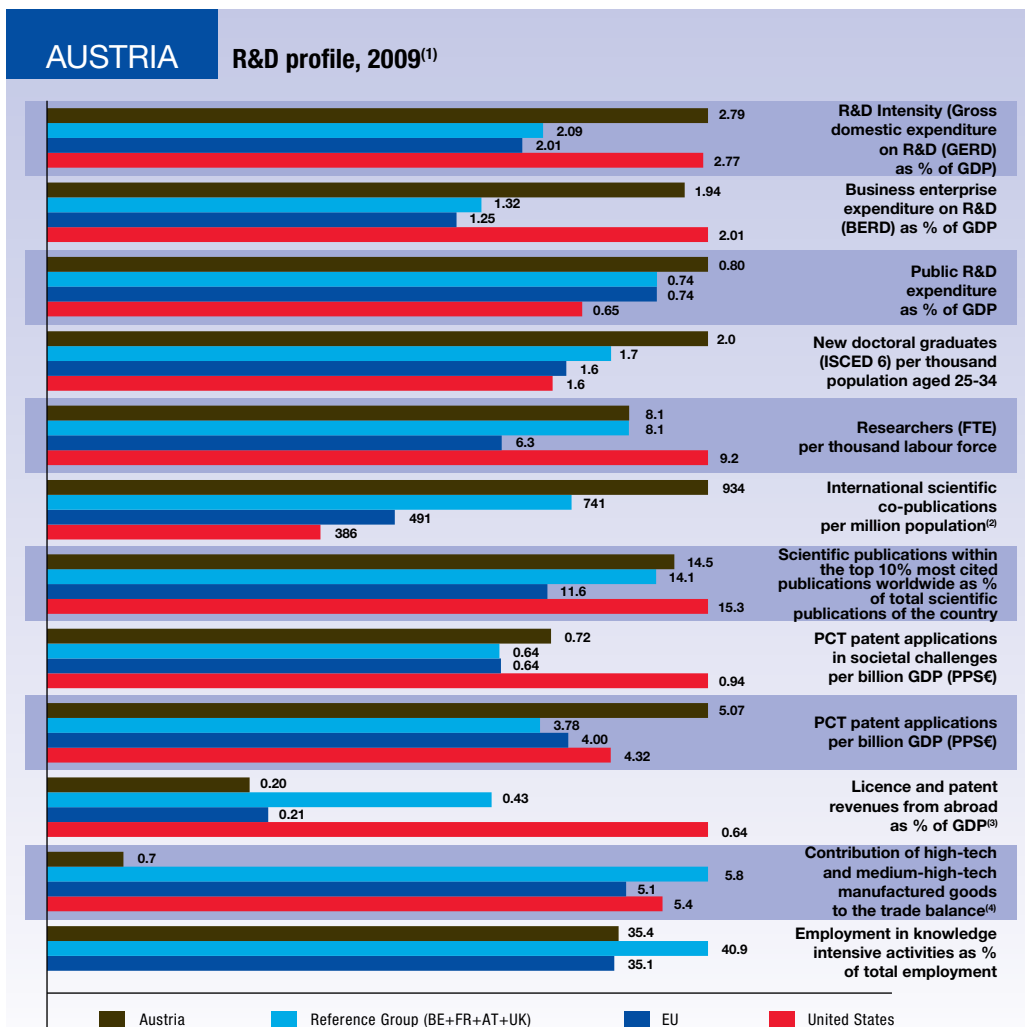
Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

The Austrian research and innovation system depicts a strong performance. The high R&D investments, especially in the private sector, are translated both into a high quality scientific production and a strong technological inventiveness capacity. In this respect, Austria outperforms the EU on average and approaches the United States in key indicators such as the share of high-impact publications or PCT patents. Strikingly enough, the translation of these efforts into purely economic terms does not appear clearly. In particular the contribution of high-tech and medium-tech manufactured goods to the trade balance outside of EU-27 is much lower than average. This situation has

been recognised by the Austrian authorities, who have launched (March 2011) a Research, Technology and Innovation Strategy with a 2020 perspective to upgrade the innovativeness level of the economy as a whole and become a country at the "technological frontier" leading to higher productivity gains.

From a dynamic perspective, in the last decade, Austria has significantly improved its scientific and technological competitiveness in virtually all dimensions, largely outperforming the EU or other similar research systems.



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.

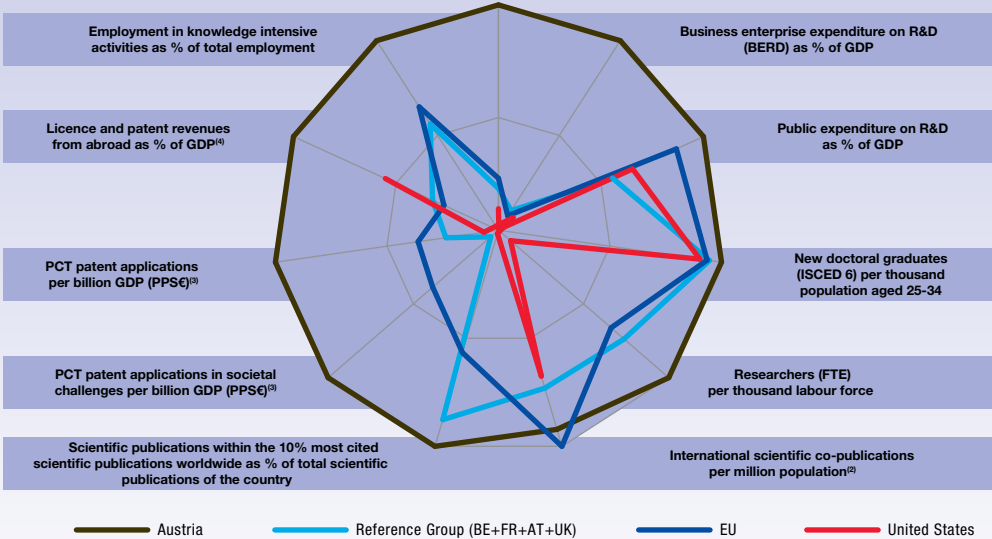
(5) Elements of estimation were involved in the compilation of the data.

Innovation Union Competitiveness Report 2011

# AUSTRIA

## Average annual growth (%), 2000-2009<sup>(1)</sup>

R&D Intensity (Gross domestic expenditure on R&D (GERD) as % of GDP)



Source: DG Research and Innovation

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.

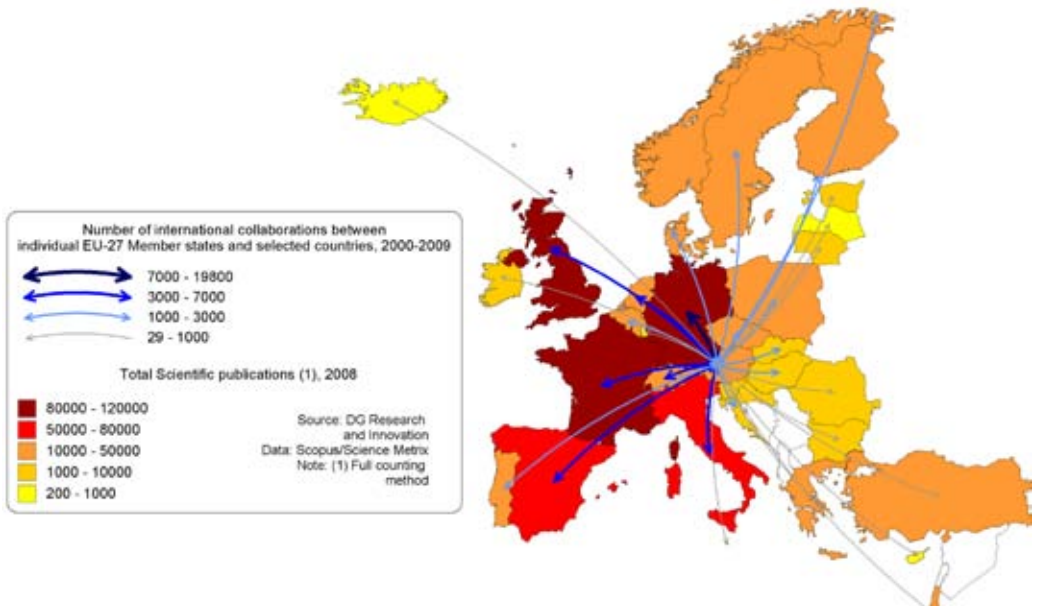
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

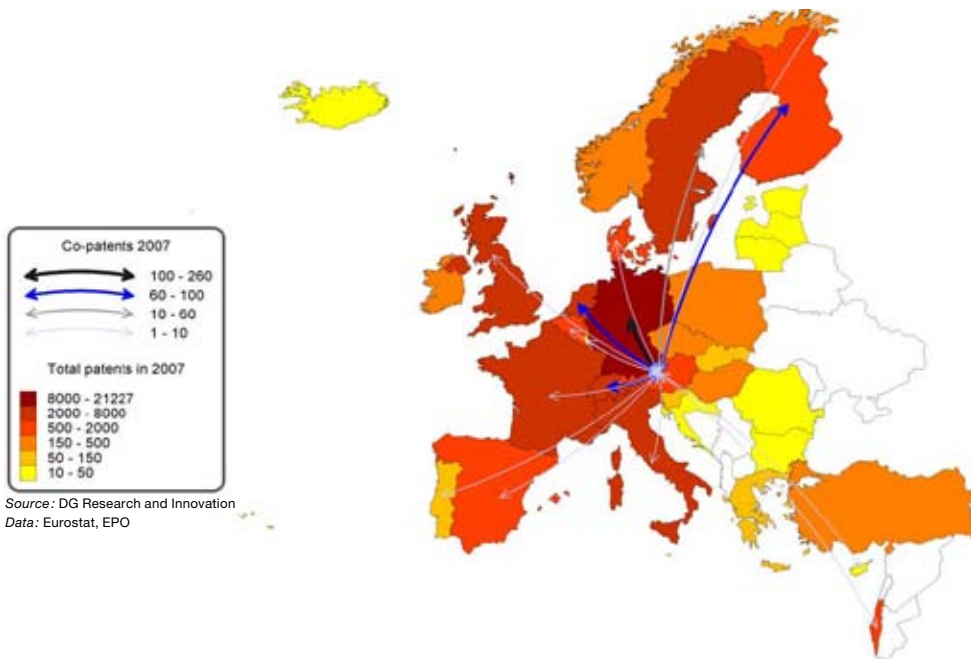
# AUSTRIA

## Co-publications between Austria and European Countries in 2000-2009



## AUSTRIA

## Co-invented patent applications between Austria and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO

### Participation in the European Research Area: Scientific and Technological collaborations

Austria is a rather small but open research and innovation system which can benefit from strong knowledge spillovers, as evidenced by the large number of increasing international scientific co-publications. If the main scientific partner is Germany, due to its size and the linguistic and historical ties between the two countries, Austria has significant collaborations with a number European country.

In terms of co-invented patents, the main technological partner is once again Germany, but Switzerland, the Netherlands and Finland also rank high in the list. In case of higher Industry –University cooperation, progress in co-patenting activity with countries such as France, Spain, the United Kingdom and Italy would allow Austria to take better benefit from scientific cooperation existing with these latter countries.

The geographical, historical and cultural factors that reflect in the industrial ties influence the technological cooperation pattern.

### Structural change towards a more knowledge-intensive economy

As mentioned earlier, private R&D intensity grew in Austria in the last decade in almost all sectors. To a large extent, this increase can be traced back to two main sources: (1) an increase of the importance of some medium-high and high tech sectors such as motor vehicles and chemicals and chemical products, in the overall Austrian economy, and (2) an increase in the research intensity, i.e. R&D investment as a percentage of total value added, of some key medium-high tech and high tech sectors such as electric machinery and apparatus, medical precision and optical instruments or machinery equipment. Despite this progress, the average R&D intensity of most Austrian manufacturing sectors remains similar to Germany, but slightly below leading countries such as Sweden or France<sup>3</sup>.

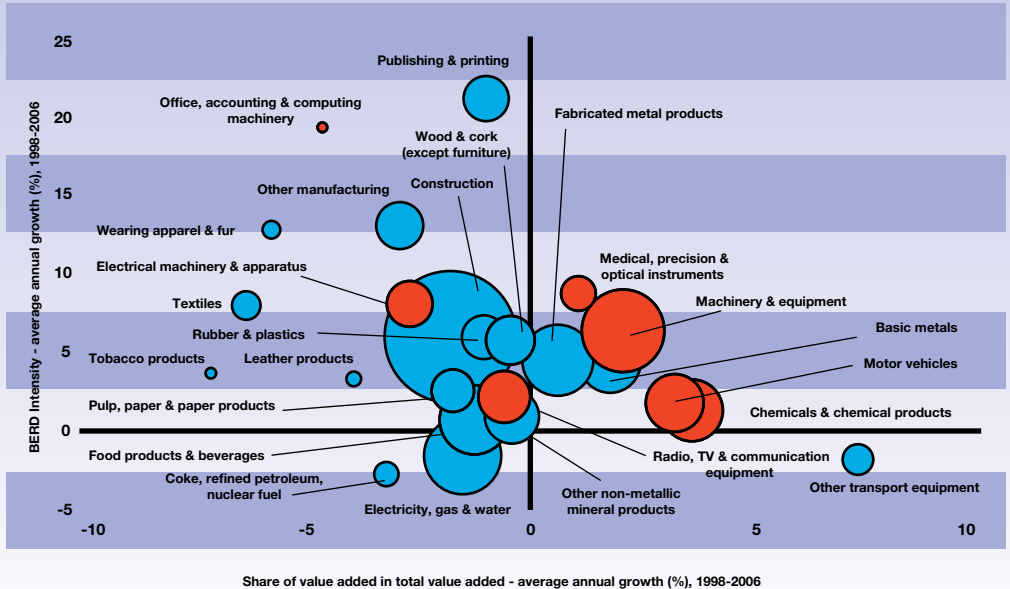
As a result, the Austrian manufacturing sector may find new opportunities to move even further towards higher research-intensive, more value added products in the global added value chain of some specific sectors.

<sup>3</sup> Private R&D intensity, i.e.; R&D investment over total value added, in manufacturing in 2006 was of 6.83% in Austria, 7.54% in Germany, 10.05% in France and 13.23% in Sweden. (source: DG Research and Innovation)



## AUSTRIA

## Share of value added versus BERD Intensity - Average annual growth, 1998-2006



Source: DG Research and Innovation

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) 'Recycling' is not included on the graph.

Innovation Union Competitiveness Report 2011

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 5918 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 8080 applicants from Austria (3.03% of EU-27\*) and
- requesting EUR 2613.05m of EC contribution (2.96% of EU-27\*)

Among the EU-27\* Austria (AT) ranks:

- 10<sup>th</sup> in terms of number of applicants and
- 10<sup>th</sup> in terms of requested EC contribution

### Success rates

- The AT applicant success rate of 21.4% is similar to the EU-27\* applicant success rate of 21.6%.
- The AT EC financial contribution success rate of 20.4% is similar to the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 1286 proposals were retained for funding (21.7%)

- involving 1733 (21.4%) successful applicants from Austria and
- requesting EUR 532.27m (20.4%) of EC financial contribution

Among the EU-27\*, Austria (AT) ranks:

- 12<sup>th</sup> in terms of applicants success rate and
- 9<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Austria (AT) participates in

- 1087 signed grant agreements
- involving 13517 participants of which 1477 (10.93%) are from Austria
- benefiting from a total of EUR 3920.46m of EC financial contribution of which EUR 477.66m (12.18%) is dedicated to participants from Austria.

Among the EU-27\* in all FP7 signed grant agreements, Austria (AT) ranks:

- 10<sup>th</sup> in number of participations and
- 10<sup>th</sup> in budget share

### SME performance and participation

- The AT SME applicant success rate of 18.48%

is similar to the EU-27\* SME applicant success rate of 19.33%.

- The AT SME EC financial contribution success rate of 17.74% is similar to the corresponding EU-27\* rate of 18.26%.

Specifically,

- 2 673 AT SME applicants requesting EUR 742.45m
- 494 (18.48%) successful SMEs requesting EUR 131.70m (17.74%)

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

- 318 AT SME grant holders, i.e., 21.53% of total AT participation
- EUR 89.66m, i.e., 18.77% of total AT budget share

**Top 3 collaborative links with**

- DE - Germany (2 067)
- UK - United Kingdom (1 205)
- FR - France (1 109)

**Nr. of Researchers as% of population	N/A	0.40%
Rank in EU-27* Innovation scoreboard (2008)	- 6 <sup>th</sup>	
- Above EU-27 average		
- Innovation Follower		
Nr. of FP7 applicants (% EU-27*) (3.03%)	8 080	266 507
Req. EC contribution by FP7 applicants		

in EUR million (% EU-27*) (2.96%)	2 613.05	
Nr. of successful FP7 applicants (% EU-27*) (2.93%)	88 295	
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*) (2.91%)	1 733	
Success rate FP7 applicants	59 199	
Success rate		21.4%
FP7 EC contribution		21.6%
Nr. of FP7 grant holders (% EU-27*) (2.88%)	20.4%	20.7%
EC contribution to FP7 grant holders in EUR million (% EU-27*) (2.88%)	1 477	
Nr. of FP7 coordinators (% of grant holders) (19.70%) (18.30%)	51 279	
Nr. of FP7 SME grant holders (% of grant holders) (21.53%) (17.25%)	477.66	
EC contribution to FP7 SME grant holders in EUR million (% of grant holders) (18.77%) (13.32%)	16 578.15	
	291	
	9 383	
	318	
	8 845	
	89.66	
	2 207.73	

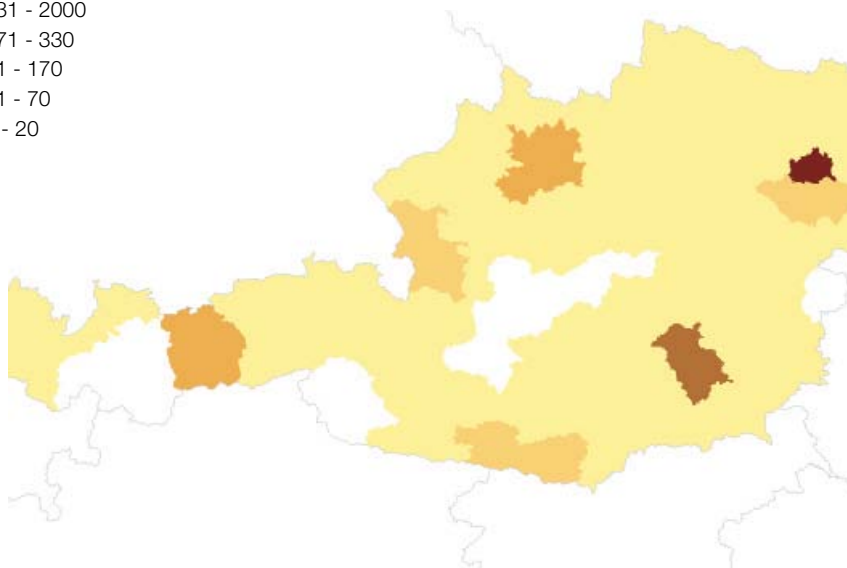
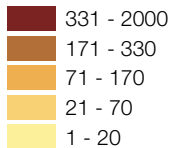


TABLE 1

**AT - Austria - 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	2069	799.51	370	17.88%	152.14	19.03%
Marie-Curie Actions	950	n/a	226	23.79%	n/a	n/a
Health	671	289.71	148	22.06%	66.98	23.12%
Environment (including Climate Change)	651	189.50	135	20.74%	32.58	17.19%
Research for the benefit of SMEs	641	88.75	105	16.38%	14.61	16.46%
Transport (including Aeronautics)	524	150.76	140	26.72%	41.16	27.30%

TABLE 2

**AT - Austria - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all AT grant holders	EC contribution (EUR million)	% of total EC contribution to AT
Information and Communication Technologies	375	25.39%	141.26	29.57%
ERC	45	3.05%	63.38	13.27%
Health	136	9.21%	59.77	12.51%
Marie-Curie Actions	184	12.46%	42.94	8.99%
Transport (including Aeronautics)	116	7.85%	33.23	6.96%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	88	5.96%	28.44	5.95%

Notes: Report generated on: 2011/03/25.02:14 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**AT - Austria - 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	3274	901.54	662	20.22%	172.33	19.12%	582	217.19	45.47%
PRC	2167	635.72	465	21.46%	142.68	22.44%	441	137.86	28.86%
REC	1534	493.23	340	22.16%	106.00	21.49%	324	101.83	21.32%
OTH	522	117.38	94	18.01%	21.99	18.74%	40	5.22	1.09%
PUB	342	73.32	132	38.60%	18.67	25.46%	90	15.56	3.26%
SME	2673	742.45	494	18.48%	131.70	17.74%	318	89.66	18.77%

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

TABLE 4

**AT - Austria - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

AT - Austria region	Number of grant holders	% of all AT - Austria grant holders	EC contribution (M euro)	% of total EC contribution to AT
Wien (AT130)	768	52.00%	239.35	50.11%
Graz (AT221)	206	13.95%	81.44	17.05%
Innsbruck (AT332)	97	6.57%	42.52	8.90%
Linz-Wels (AT312)	74	5.01%	17.84	3.73%
Wiener Umland/Südteil (AT127)	49	3.32%	14.36	3.01%

TABLE 5

**AT - Austria - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all AT grant holders	EC contribution (M euro)	% of total EC contribution to AT grant holders
Technische Universität Wien (TU WIEN)	100	6.77%	34.95	7.32%
Universität Wien (Univie)	81	5.48%	31.79	6.66%
Universität Innsbruck (UIBK)	50	3.39%	25.46	5.33%
Technische Universität Graz (TU GRAZ)	64	4.33%	25.43	5.32%
Medizinische Universität Wien	52	3.52%	23.46	4.91%

# COUNTRY PROFILE



## BE - Belgium

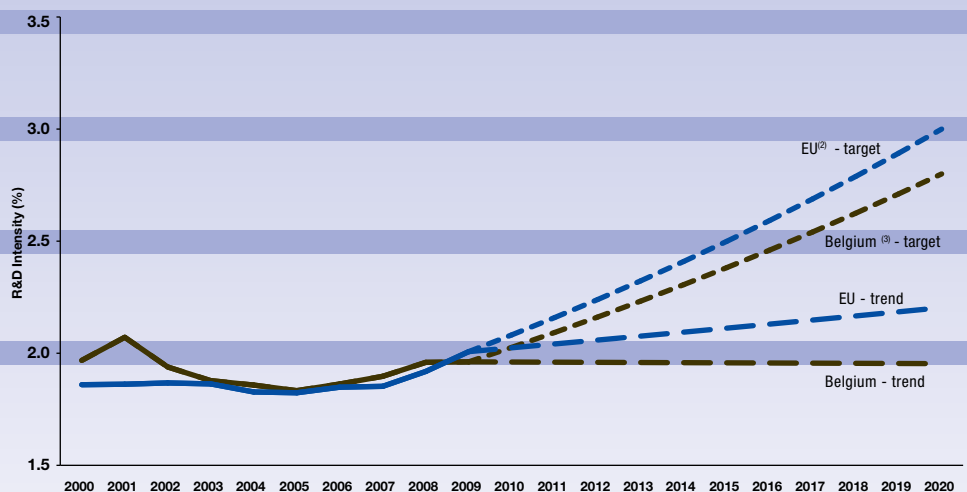
### Progress towards meeting the Europe 2020 R&D intensity target

The R&D intensity in Belgium remained close to 2% during the period 2000-2009, passing from 1.97% of GDP in 2000 to 1.96% of GDP in 2009 as the result of two opposite trends. While the R&D intensity of the private sector decreased from 1.45% to 1.32%, the public R&D intensity increased from 0.52% to 0.62%.

Belgium set an R&D intensity target to be achieved by 2020 between 2.6% and 3% of GDP. This target is ambitious with regard to recent trends but is within reach given the current structure of the Belgium economy. Compared to other countries, Belgium has the potential to increase the R&D intensity in existing sectors, both in the high-tech and medium high-tech sectors.

### BELGIUM

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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.

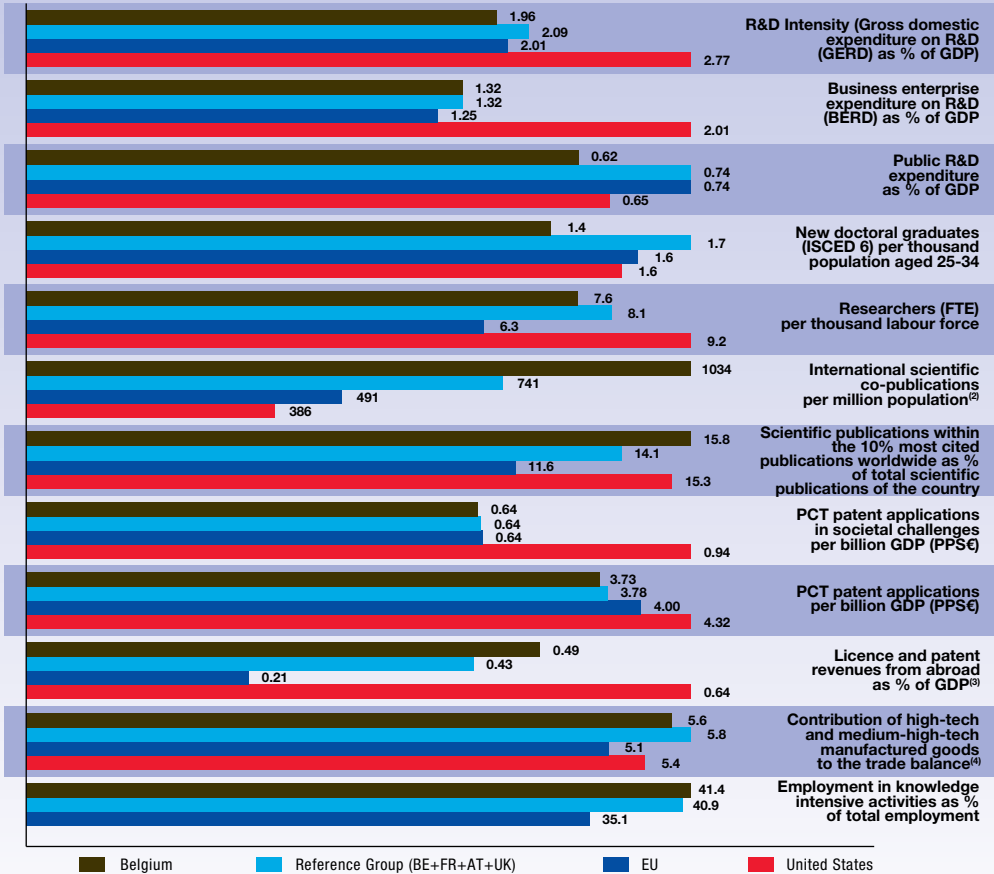
(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.

(3) BE: This projection is based on a tentative R&D Intensity target of 2.8% for 2020.

Innovation Union Competitiveness Report 2011

**BELGIUM**

**R&D profile, 2009<sup>(1)</sup>**



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.

Innovation Union Competitiveness Report 2011

**Research and Innovation Performance**

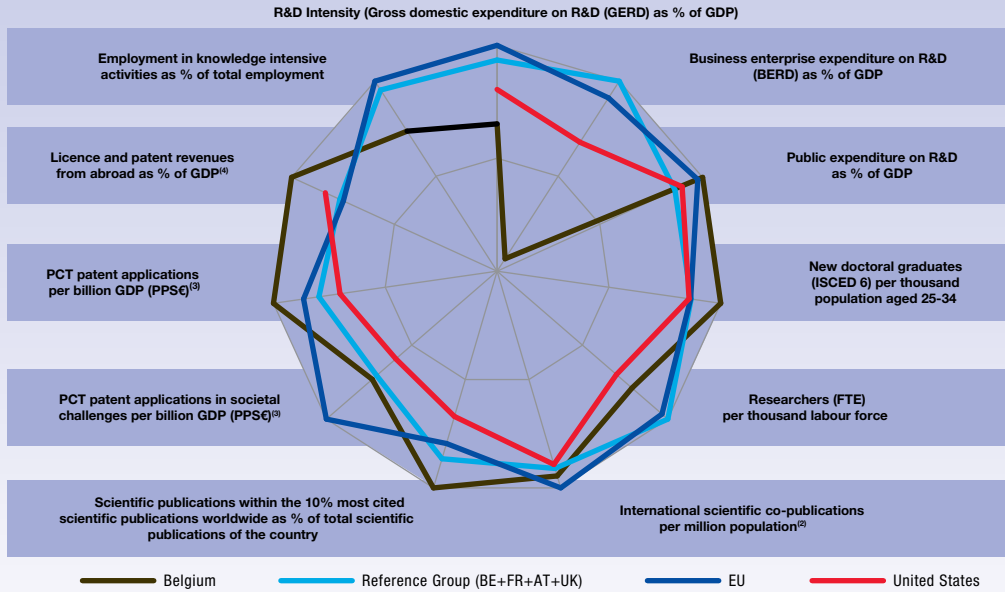
As set out in the 2010 Innovation Union Scoreboard, Belgium is an innovation follower, with a performance above the EU average<sup>4</sup>. Relative strengths are in Human resources, Open, excellent and attractive research systems and Linkages & entrepreneurship. Relative weaknesses are in Firm investments, Intellectual assets and Outputs.

Overall, the research and innovation system of Belgium displays a set of very strong indicators. The number of researchers per thousand labour force is 7.6, well above the EU average of 6.3 researchers. The international scientific co-publications per million population is more than double that of the EU average of the United States, giving evidence

of the degree of openness of the Belgian research and innovation system. Moreover, the quality of the scientific production is evidenced by the number of scientific publications within the top 10% most cited publications worldwide, as% of the total publications of Belgium (15.8%, well above EU average and also higher than the 15.3% of the United States). For these two indicators as well as for the proportion of its work force employed in knowledge intensive activities, Belgium leads the basket of countries of reference indicated in the R&D profile below. Finally, 38.3% of all innovative SMEs in Belgium introduced a new or a significantly improved product new to the market<sup>5</sup>, a figure only surpassed in Sweden.

# BELGIUM

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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.

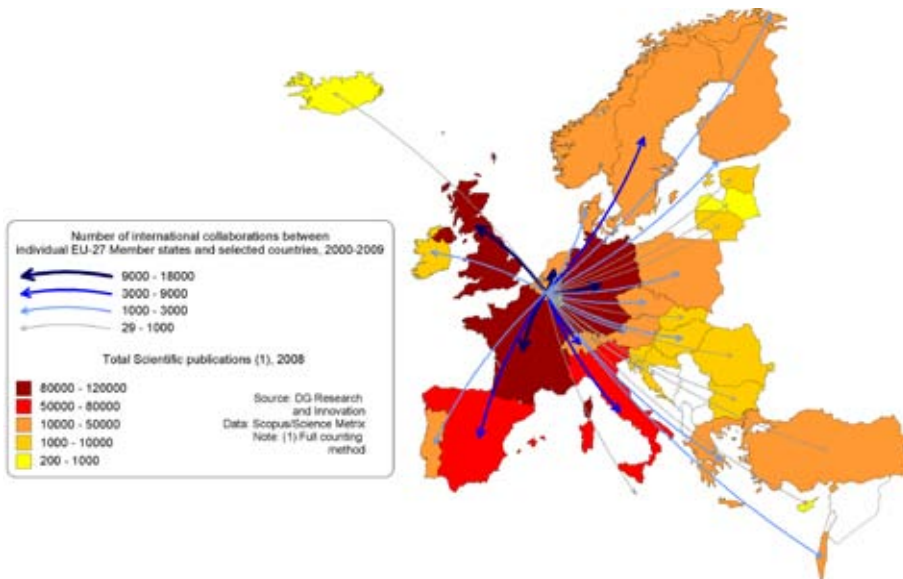
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

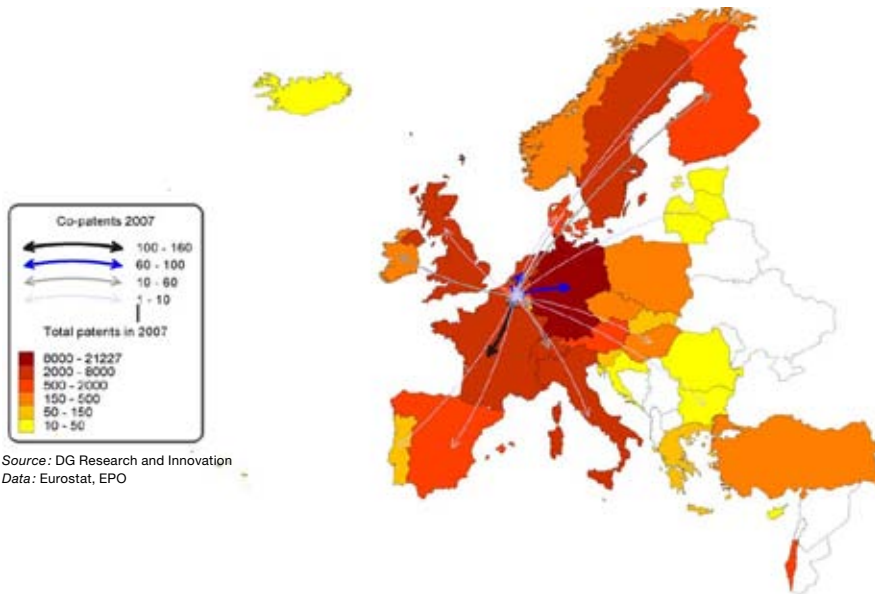
# BELGIUM

## Co-publications between Belgium and European Countries in 2000-2009



## BELGIUM

## Co-invented patent applications between Belgium and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO

But the Belgian research and innovation system also has some weaknesses: business expenditure on R&D has been decreasing (as a% of GDP, not in absolute terms, as mentioned before) and PCT patent applications per billion GDP are below the EU average<sup>6</sup>. Equally important, the public expenditure of R&D as a% of GDP remains below the EU average.

### Participation in the European Research Area: Scientific and Technological collaborations

Belgium has a very open research and innovation system well connected with the major European research and innovation networks. As measured in terms of co-publications, Belgium researchers have an active collaboration with researchers from the Netherlands, where the geographical proximity plays an important role, but also with France, the United Kingdom, Germany and Italy.

20% of all EPO patent applications filed by Belgian residents are co-patents including a third country. The transnational knowledge flows involving Belgium partners are mostly with Germany, France and the Netherlands.

This degree of internationalisation reflects the very high quality and interconnection of the Belgium scientific and technological base. This strong position is reflected in

the context of the EU R&D Framework Programmes, where Belgium is one of the most successful countries in FP6 and FP7 (see Part II 4.3.3 of this report).

### Structural change towards a more knowledge-intensive economy

The manufacturing sector in Belgium accounts for 80% of the BERD, which is highly concentrated with only 3 sectors responsible for 50% (Chemicals, Pharmaceuticals, and Radio, TV and telecommunication equipment). The contraction of the Chemicals sector and of the Radio, TV and telecommunication sector over the period 1995-2006 has been very important, this in spite of the expansion of pharmaceuticals (counted as NACE2 category "Chemicals and chemical products"). This concentration is reflected in the number of large companies and (foreign owned) multinationals in the Chemicals, Pharmaceuticals and Biotech sectors. In general terms one can say that research in the Belgian private sector is now more than ever dominated by life sciences.

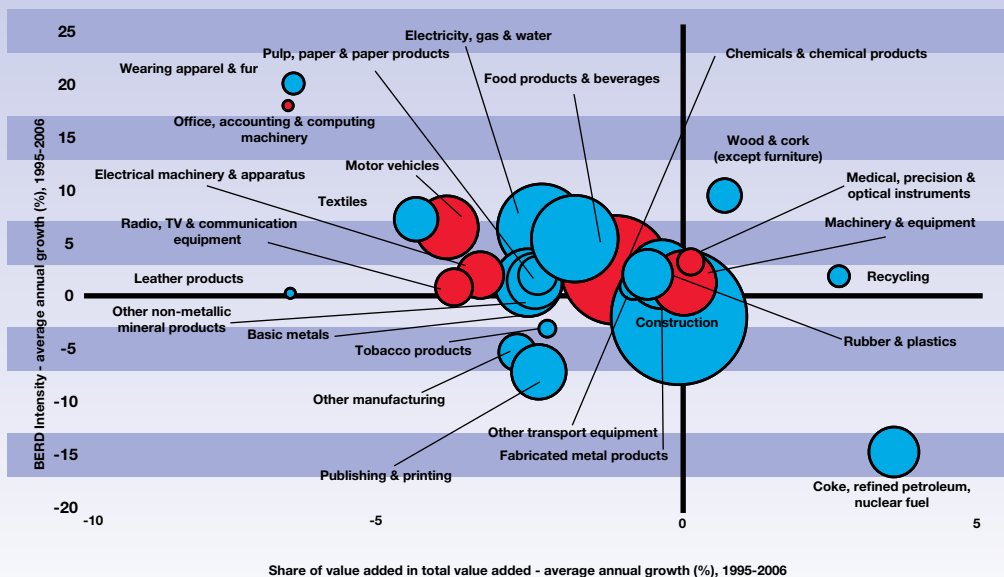
During the period 1995-2006, R&D intensity increased in most sectors, with the following exceptions: publishing and printing, coke, refined petrol products and nuclear fuel. During the same period, the economic structure has become less research oriented as some research-intensive economic activities declined in absolute terms. BERD intensity slightly increased during the same period, thus compensating the impact of the trend of the economy towards less research intensive activities.

<sup>6</sup> The total Belgium triadic patent families is also low with a share of 0.8% - OECD STI Outlook report 2010.



## BELGIUM

## Share of value added versus BERD Intensity - Average annual growth, 1995-2006



Source: DG Research and Innovation

Data: OECD

Note: (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.

## FP7 Key facts and figures

## Applications

As of 2011/03/16, a total of

- 8 147 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 11 134 applicants from Belgium (4.18% of EU-27\*) and
- requesting EUR 3 602.93m of EC contribution (4.08% of EU-27\*)

Among the EU-27\* Belgium (BE) ranks:

- 8<sup>th</sup> in terms of number of applicants and
- 9<sup>th</sup> in terms of requested EC contribution

## Success rates

- The BE applicant success rate of 26.9% is higher than the EU-27\* applicant success rate of 21.6%.
- The BE EC financial contribution success rate of 24.4% is higher than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 2 025 proposals were retained for funding (24.9%)

- involving 2 995 (26.9%) successful applicants from Belgium and
- requesting EUR 880.81m (24.4%) of EC financial contribution

Among the EU-27\*, Belgium (BE) ranks:

- 1<sup>st</sup> in terms of applicants success rate and
- 2<sup>nd</sup> in terms of EC financial contribution success rate

## Signed grant agreements

As of 2011/03/16, Belgium (BE) participates in

- 1 624 signed grant agreements
- involving 19 850 participants of which 2 391 (12.05%) are from Belgium
- benefiting from a total of EUR 5 613.01m of EC financial contribution of which EUR 707.89m (12.61%) is dedicated to participants from Belgium.

Among the EU-27\* in all FP7 signed grant agreements, Belgium (BE) ranks:

- 7<sup>th</sup> in number of participations and
- 8<sup>th</sup> in budget share

**SME performance and participation**

- The BE SME applicant success rate of 25.39% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The BE SME EC financial contribution success rate of 23.05% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 3237 BE SME applicants requesting EUR 872.43m
- 822 (25.39%) successful SMEs requesting EUR 201.08m (23.05%)

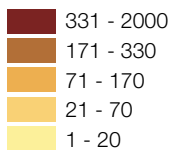
In signed grant agreements, as of 2011/03/16,

- 502 BE SME grant holders, i.e., 21.00% of total BE participation
- EUR 122.11m, i.e., 17.25% of total BE budget share

**Top 3 collaborative links with**

- DE - Germany (2 659)
- UK - United Kingdom (1 964)
- FR - France (1 944)

**Nr. of Researchers		
as% of population	N/A	0.40%
Rank in EU-27*		
Innovation scoreboard (2008)		- 8 <sup>th</sup>
- Above EU-27 average		
- Innovation Follower		
Nr. of FP7 applicants (% EU-27*)	11 134	
(4.18%)	266 507	
Req. EC contribution		



by FP7 applicants		
in EUR million		
(% EU-27*)	3 602.93	
(4.08%)	88 295	
Nr. of successful FP7 applicants		
(% EU-27*)	2 995	
(5.06%)	59 199	
Req. EC contribution		
by successful FP7 applicants		
in EUR million		
(% EU-27*)	880.81	
(4.82%)	18 262.02	
Success rate FP7 applicants	26.9%	21.6%
Success rate		
FP7 EC contribution	24.4%	20.7%
Nr. of FP7 grant holders		
(% EU-27*)	2 391	
(4.66%)	51 279	
EC contribution		
to FP7 grant holders		
in EUR million		
(% EU-27*)	707.89	
(4.27%)	16 578.15	
Nr. of FP7 coordinators		
(% of grant holders)	406	
(16.98%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	502	
(21.00%)	8 845	
(17.25%)		
EC contribution to FP7 SME		
grant holders in EUR million		
(% of grant holders)	122.11	
(17.25%)	2 207.73	
(13.32%)		

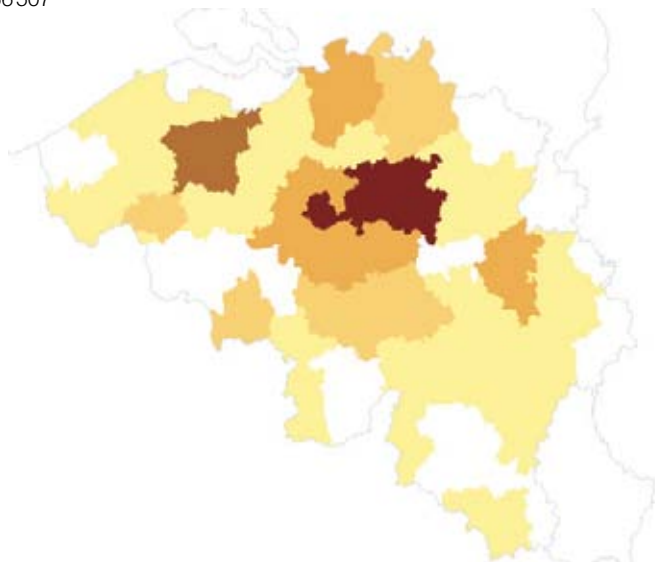


TABLE 1

**BE - Belgium - 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	2288	932.28	478	20.89%	192.53	20.65%
Marie-Curie Actions	1371	n/a	311	22.68%	n/a	n/a
Transport (including Aeronautics)	1156	279.45	374	32.35%	85.74	30.68%
Health	1077	458.02	271	25.16%	103.25	22.54%
Environment (including Climate Change)	760	203.57	191	25.13%	45.53	22.37%
Research for the benefit of SMEs	681	125.37	178	26.14%	33.70	26.88%

TABLE 2

**BE - Belgium - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all BE grant holders	EC contribution (EUR million)	% of total EC contribution to BE
Information and Communication Technologies	449	18.78%	167.43	23.65%
Health	251	10.50%	91.93	12.99%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	201	8.41%	66.48	9.39%
ERC	53	2.22%	63.14	8.92%
Transport (including Aeronautics)	274	11.46%	59.28	8.37%
Marie-Curie Actions	244	10.20%	55.95	7.90%

Notes: Report generated on: 2011/03/25.02:14 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**BE - Belgium - 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	3688	1043.64	835	22.64%	237.08	22.72%	805	294.76	41.64%
PRC	2787	759.78	724	25.98%	184.98	24.35%	638	161.62	22.83%
REC	2341	783.19	732	31.27%	246.38	31.46%	533	178.15	25.17%
OTH	1461	324.10	462	31.62%	105.26	32.48%	312	54.65	7.72%
PUB	450	79.97	186	41.33%	27.36	34.22%	103	18.71	2.64%
SME	3237	872.43	822	25.39%	201.08	23.05%	502	122.11	17.25%

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

TABLE 4

**BE - Belgium - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects**

BE - Belgium region	Number of grant holders	% of all BE - Belgium grant holders	EC contribution (M euro)	% of total EC contribution to BE
Arr. de Bruxelles-Capitale / Arr. van Brussel-Hoofdstad (BE100)	904	37.81%	203.41	28.73%
Arr. Leuven (BE242)	479	20.03%	196.81	27.80%
Arr. Gent (BE234)	262	10.96%	99.78	14.10%
Arr. Antwerpen (BE211)	140	5.86%	45.53	6.43%
Arr. Nivelles (BE310)	120	5.02%	33.81	4.78%

TABLE 5

**BE - Belgium - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all BE grant holders	EC contribution (M euro)	% of total EC contribution to BE grant holders
Katholieke Universiteit Leuven (K.U.Leuven)	259	10.83%	108.38	15.31%
Interuniversitair Micro-Electronica Centrum Vzw	114	4.77%	61.79	8.73%
Universiteit Gent (UGENT)	127	5.31%	52.25	7.38%
Université Libre De Bruxelles (ULB)	85	3.55%	30.65	4.33%
Université Catholique De Louvain (UCL)	92	3.85%	26.29	3.71%

# COUNTRY PROFILE



## BG - Bulgaria

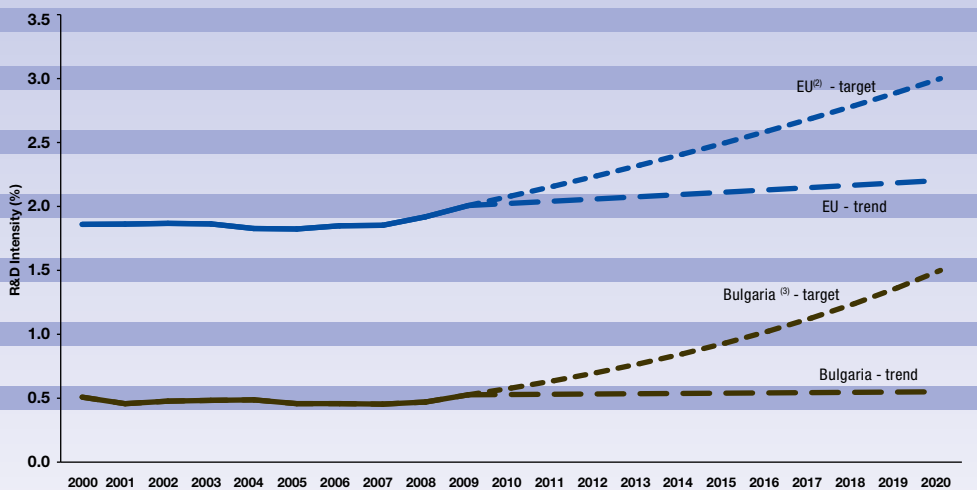
### Progress towards meeting the Europe 2020 R&D intensity target

Bulgaria is one of the countries with the lowest R&D intensity in the EU. Bulgaria's R&D intensity has been decreasing over time, from 0.57% in 1999 to 0.53% of GDP in 2009; i.e. around four times less than the EU-27 average. The very low level of private R&D investment in the economy is particularly worrying. At 0.16% of the GDP in 2009, having increased however from 0.10% of GDP in 2002, Bulgaria ranks the lowest in the EU. The sectoral specialisation in low technology sectors and the current scarcity of medium and high

technology firms in the economy is responsible for this low level of private R&D. A substantial increase of the R&D spending, both in absolute and relative terms, will be instrumental for Bulgaria in order to raise the economic competitiveness and secure high-quality jobs. Aware of the need to raise R&D investment, the Bulgarian government approved a national target for R&D intensity for 2020 of 1.5% of GDP. This target is rather ambitious and will be reached only if strong efforts and reforms based on a long-term strategy is put in place and implemented in a sustained manner.

### BULGARIA

#### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

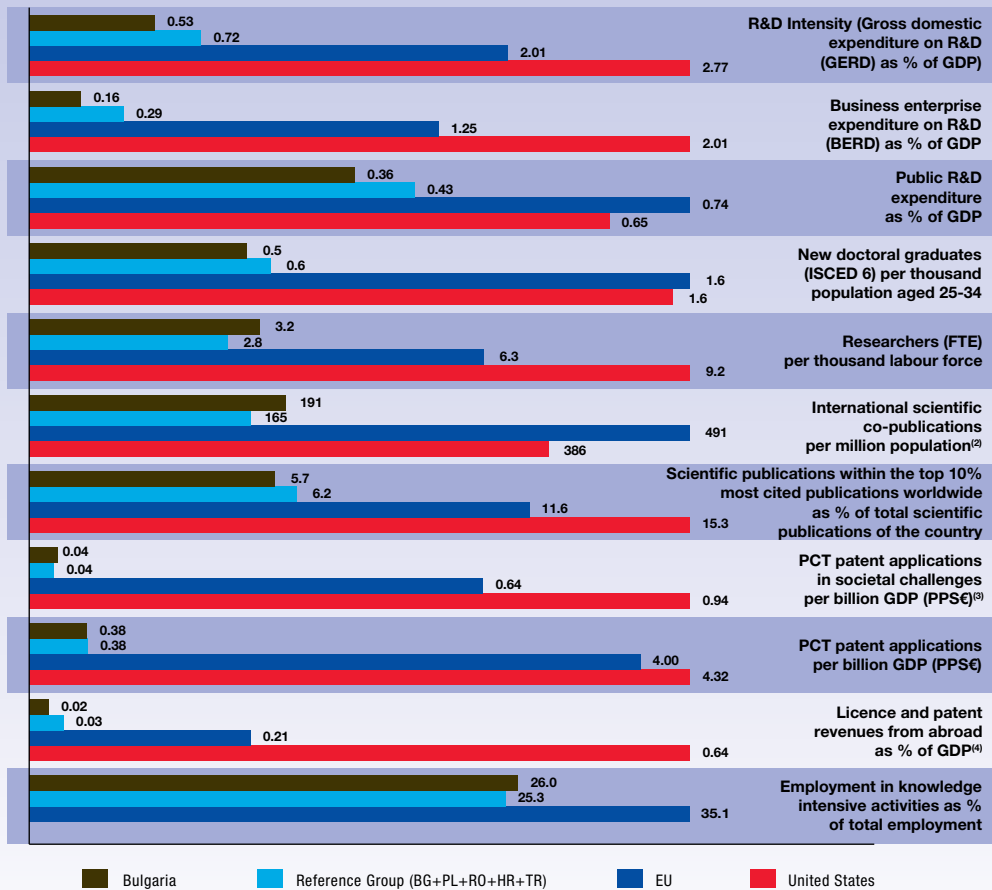
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity 2000-2009.

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

(3) BG: This projection is based on a tentative R&D Intensity target of 1.5% for 2020.

Innovation Union Competitiveness Report 2011

## BULGARIA

R&D profile, 2009<sup>(1)</sup>

Legend: Bulgaria (dark blue), Reference Group (BG+PL+RO+HR+TR) (light blue), EU (medium blue), United States (red).

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) (i) HR and TR are not included in the Reference Group; (ii) The EU value refers to the median rather than to the average.

(3) HR is not included in the Reference Group.

(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

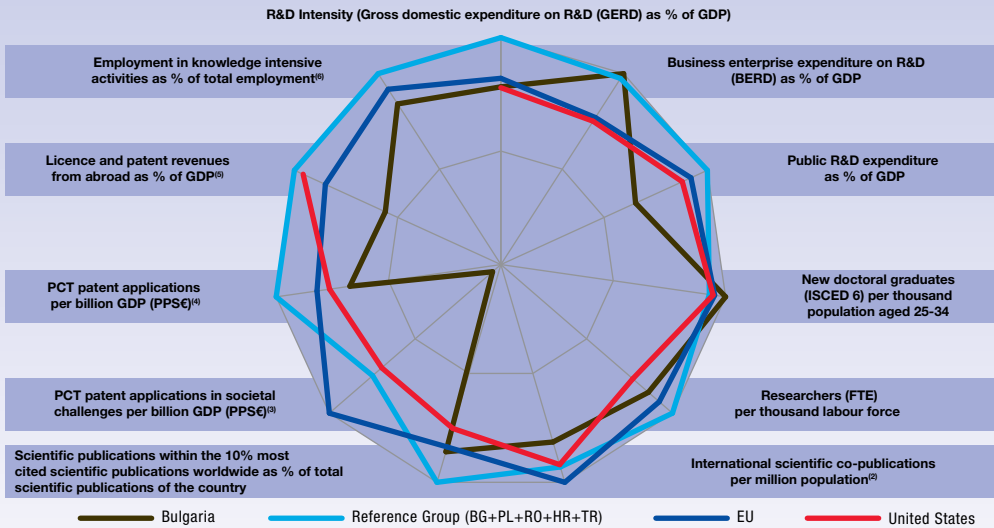
## Research and Innovation Performance

In addition to the overall low R&D investment, an important challenge of the Research and Innovation system is its overall fragmentation, as reflected by the large number of research performers, e.g. universities, research institutes and institutes of the Bulgarian Academy of Science, which leads to a lack of critical mass and deficiencies in the quality of research results. Overall, Bulgaria scores low in terms of high-quality scientific publications or patents, especially in new technologies aimed at addressing societal challenges, such as the ageing of the population or climate change, and that can constitute important new sources of economic growth. As a result, the weak scientific and technological performance hinders Bulgaria's capacity

to move towards more knowledge intensive, higher value added, activities. The much needed structural change will increasingly require important and efficient investments in research and innovation, as well as in education. In comparison to other similar European countries in terms of economic structure and R&D characteristics, Bulgaria appears particularly weak as regards public R&D expenditures and high-quality technological inventiveness. On the other hand, the number of researchers employed in the system, while still low compared to the EU average, is slightly higher than in the comparison countries, and, therefore, there can be potential to raise the quality of the scientific production, should the necessary reforms be adopted.

# BULGARIA

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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) (i) HR and TR are not included in the Reference Group; (ii) EU refers to the median rather than to the average.

(3) HR is not included in the Reference Group; Average annual growth refers to real growth.

(4) Average annual growth refers to real growth.

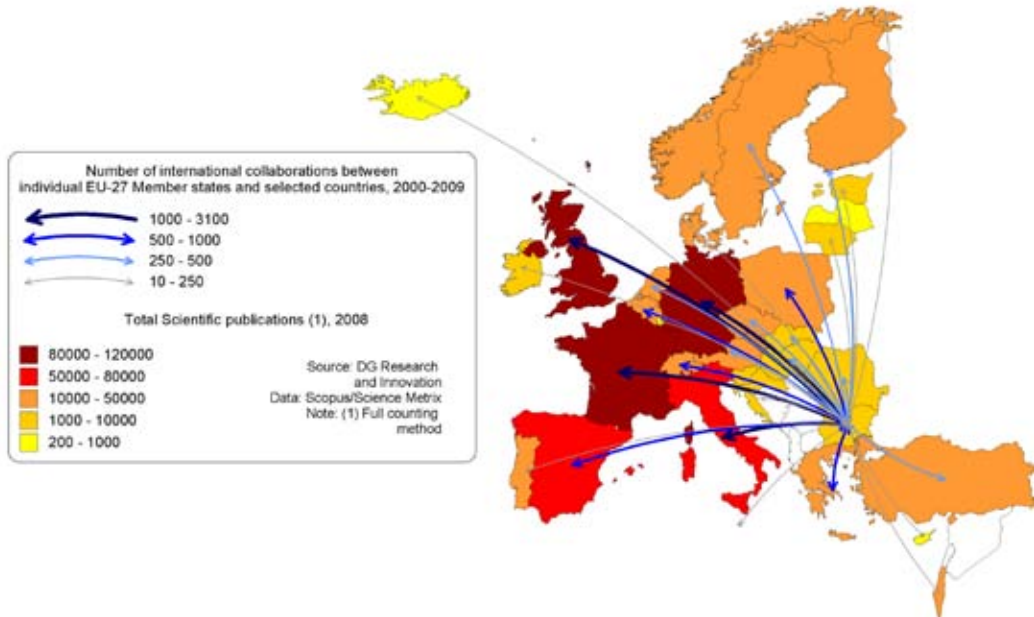
(5) EU refers to extra-EU.

(6) TR is not included in the Reference Group.

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

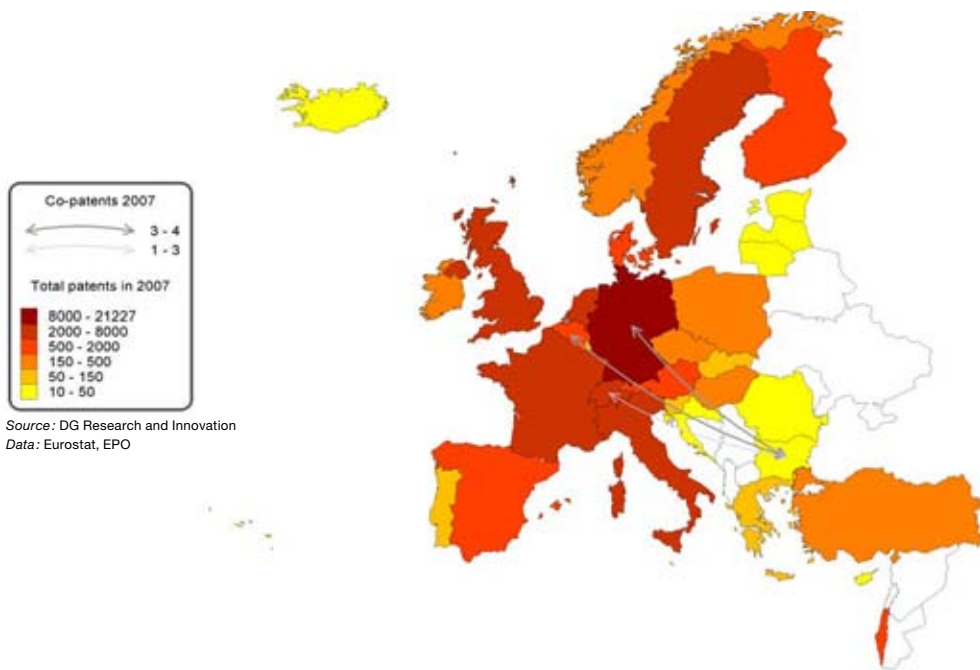
# BULGARIA

## Co-publications between Bulgaria and European Countries in 2000-2009



## BULGARIA

## Co-invented patent applications between Bulgaria and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO

In dynamic terms, the progress of the Bulgarian research and innovation system presents a mixed picture. On the one hand, private R&D intensity and the number of new doctoral graduates increased, albeit from low initial values, above the EU average, and at a similar rate as the reference group of similar countries. On the other hand, the scientific and technological production underperformed, which was translated in a lower progress of the economy towards more knowledge intensive activities. This relatively poor progress in scientific and technological performance suggests the existence of structural deficiencies in the research and innovation system and the need for further reform measures, targeting the development of an appropriate legislative framework for R&I activities, an increased efficiency of public R&D spending, an innovation policy more demand-driven and a targeted support for young innovative companies, as well as long-term strategic plans of the research institutions.

The adoption of the National Research Strategy currently under preparation will be instrumental in defining key milestones for the further development of the Bulgarian R&I system, by establishing a limited number of research priorities in those areas in which Bulgaria has strengths identified by international

benchmarking and in those which contribute to address societal challenges and can attract business R&D activities, as well as by increasing the share of competitive funding and by enlarging the scope for better framework conditions for private R&I. Bulgaria has also other relevant legislative measures in place or in preparation, such as the Law on Academic Staff Development, the Law on Bulgarian Academy of Science and the Law on Innovation.

### Participation in the European Research Area: Scientific and Technological collaborations

The overall number of co-publications between Bulgarian researchers and researchers from other ERA countries is one of the lowest in Europe. This suggests that the country does not sufficiently benefit from the international knowledge flows favoured by the European Research Area architecture. Main partners in terms of co-publications are the big European countries: Germany, France, Italy, the United Kingdom, and Spain.

As regards co-patenting, Germany, Switzerland and Belgium appear to be among the main partners of Bulgarian technological actors.



## FP7 Key facts and figures

### Applications:

As of 2011/03/16, a total of

- 2.014 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 2.600 applicants from Bulgaria (0,98% of EU-27\*) and
- requesting EUR 494,62m of EC contribution (0,56% of EU-27\*)

Among the EU-27\* Bulgaria (BG) ranks:

- 20th in terms of number of applicants and
- 20th in terms of requested EC contribution

### Success rates:

- The BG applicant success rate of 16,8% is lower than the EU-27\* applicant success rate of 21,6%.
- The BG EC financial contribution success rate of 10,9% is lower than the EU-27\* rate of 20,7%.

Specifically, following evaluation and selection, a total of

- 337 proposals were retained for funding (16,7%)
- involving 438 (16,8%) successful applicants from Bulgaria and
- requesting EUR 53,95m (10,9%) of EC financial contribution

Among the EU-27\*, Bulgaria (BG) ranks:

- 24th in terms of applicants success rate and
- 26th in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Bulgaria (BG) participates in

- 292 signed grant agreements
- involving 4.344 participants of which 385 (8,86%) are from Bulgaria
- benefiting from a total of EUR 1.003,70m of EC financial contribution of which EUR 47,09m (4,69%) is dedicated to participants from Bulgaria.

Among the EU-27\* in all FP7 signed grant agreements, Bulgaria (BG) ranks:

- 20th in number of participations and
- 21st in budget share

### SME performance and participation

- The BG SME applicant success rate of 14,15% is lower than the EU-27\* SME applicant success rate of 19,33%.
- The BG SME EC financial contribution success rate of 12,80% is lower than the corresponding EU-27\* rate of 18,26%.

### Specifically,

- 926 BG SME applicants requesting EUR 151,81m
- 131 (14,15%) successful SMEs requesting EUR 19,43m (12,80%)

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

- 76 BG SME grant holders, i.e., 19,74% of total BG participation
- EUR 13,10m, i.e., 27,82% of total BG budget share
- Top 3 collaborative links with:
  - UK - United Kingdom (371)
  - DE - Germany (371)
  - IT - Italy (291)

\*\*GERD as % of GDP                      0,48%                      1,83%

**Nr. of Researchers as % of population	N/A	0,40%	Nr. of FP7 grant holders (% EU-27*)	385
Rank in EU-27*			(0,75%)	51.279
Innovation scoreboard (2008)	- 27th		EC contribution to FP7 grant holders in EUR million	
- Below EU-27 average			(% EU-27*)	47,09
- Catching-up Country			(0,28%)	16.578,15
Nr. of FP7 applicants (% EU-27*)	2.600		Nr. of FP7 coordinators (% of grant holders)	29
(0,98%)	266.507		(7,53%)	9.383
Req. EC contribution by FP7 applicants in EUR million			(18,30%)	
(% EU-27*)	494,62		Nr. of FP7 SME grant holders (% grant holders)	76
(0,56%)	88.295		(19,74%)	8.845
Nr. of successful FP7 applicants (% EU-27*)	438		(17,25%)	
(0,74%)	59.199		EC contribution to FP7 SME grant holders in EUR million	
Req. EC contribution by successful FP7 applicants in EUR million			(% of grant holders)	13,10
(% EU-27*)	53,95		(27,82%)	2.207,73
(0,30%)	18.262,02		(13,32%)	
Success rate FP7 applicants	16,8%	21,6%		
Success rate FP7 EC contribution	10,9%	20,7%		

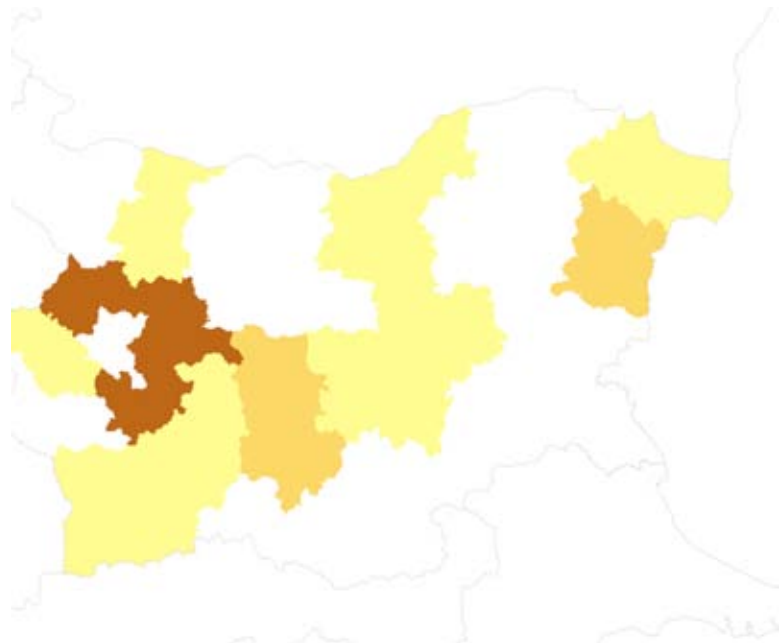
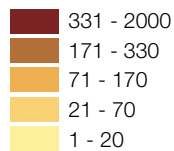


TABLE 1

**BG - Bulgaria - 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	429	89.92	41	9.56 %	8.62	9.58 %
Research for the benefit of SMEs	273	36.15	43	15.75 %	6.21	17.17 %
Socio-economic sciences and Humanities	242	29.38	19	7.85 %	1.43	4.86 %
Environment (including Climate Change)	239	34.73	40	16.74 %	4.07	11.72 %
Marie-Curie Actions	224	n/a	75	33.48 %	n/a	n/a
Food, Agriculture and Fisheries, and Biotechnology	147	22.70	21	14.29 %	1.86	8.20 %

TABLE 2

**BG - Bulgaria - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all BG grant holders	EC contribution (EUR million)	% of total EC contribution to BG
Information and Communication Technologies	47	12.21%	7.41	15.73 %
Research Potential	12	3.12%	7.16	15.20 %
Research for the benefit of SMEs	44	11.43%	6.03	12.81 %
Research Infrastructures	45	11.69%	4.68	9.93 %
Health	18	4.68%	2.87	6.10 %
Environment (including Climate Change)	33	8.57%	2.81	5.97 %

Notes: Report generated on: 2011/03/25.02:14 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**BG - Bulgaria - 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	829	160.98	144	17.37%	15.79	9.81%	120	15.30	32.50%
REC	633	122.87	114	18.01%	12.29	10.00%	111	12.96	27.53%
PRC	567	94.20	91	16.05%	14.24	15.11%	91	13.11	27.83%
OTH	280	39.72	41	14.64%	4.81	12.12%	29	3.06	6.49%
PUB	203	24.14	45	22.17%	3.46	14.31%	34	2.66	5.65%
SME	926	151.81	131	14.15%	19.43	12.80%	76	13.10	27.82%

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

TABLE 4

**BG - Bulgaria - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

BG - Bulgaria region	Number of grant holders	% of all BG - Bulgaria grant holders	EC contribution (M euro)	% of total EC contribution to BG
Sofia (BG412)	287	74,55%	34,12	72,46%
Varna (BG331)	29	7,53%	3,13	6,65%
Plovdiv (BG421)	25	6,49%	5,36	11,39%
Ruse (BG323)	12	3,12%	0,94	1,99%
Stara Zagora (BG344)	4	1,04%	0,22	0,47%

TABLE 5

**BG - Bulgaria - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all CY grant holders	EC contribution (M euro)	% of total EC contribution to BG grant holders
University Of Cyprus (UCY)	55	25.58%	13.87	35.24%
The Cyprus Research And Educational Foundation (GREF CY)	13	6.05%	5.36	13.62%
Cyprus University Of Technology (CUT)	12	5.58%	1.48	3.75%
Primetel Plc (Primetel)	7	3.26%	1.44	3.65%
Sigint Solutions Ltd (Sigint)	5	2.33%	1.42	3.60%

# COUNTRY PROFILE



## HR - Croatia

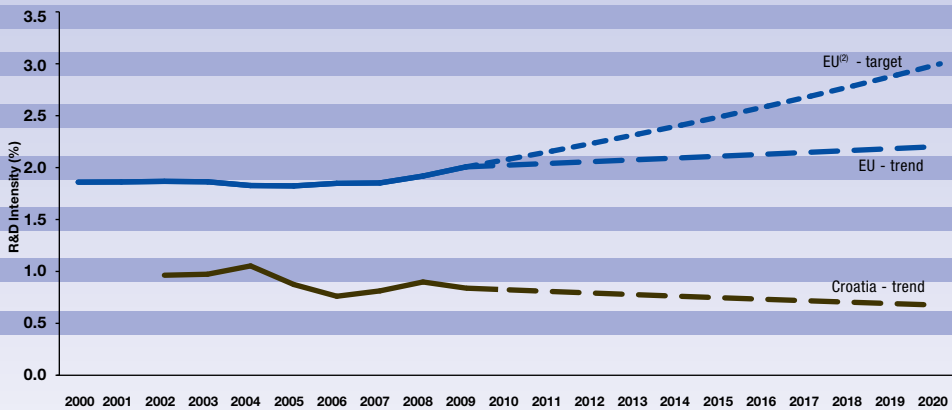
### Progress towards increasing the R&D intensity

Croatia had an R&D intensity of 0.84% in 2009, a value which is considerably lower than the EU average of 2.01%. R&D intensity in Croatia has fluctuated over the last decade. More precisely, it decreased from 1.05% in 2004 to 0.76% in 2006, slightly increased to 0.9% in 2008, before decreasing in 2009 to 0.84%. These fluctuations are mirrored by fluctuations in the R&D intensity of both private and public sector (Government plus Higher Education) over the same period. In 2009 the business enterprise expenditure on R&D as a% of GDP was 0.34% and the public sector expenditure

(Government plus Higher Education) was 0.50%, these values being above the Reference Group countries' average. Given the trend scenario presented below, Croatia would still be below the EU average in 2020, at an R&D intensity level of 0.68%. Even if the Associated countries to the European research cooperation does not form part of the Europe 2020 strategy of the European Union, certain countries do envisage fixing an objective for research investment and initiatives for fast growing innovative enterprises. This strategy could be justified if based on a consultation with the stakeholders in the country.

### CROATIA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation.

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 for 2000-2009 in the case of the EU and for 2002-2009 in the case of Croatia.

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

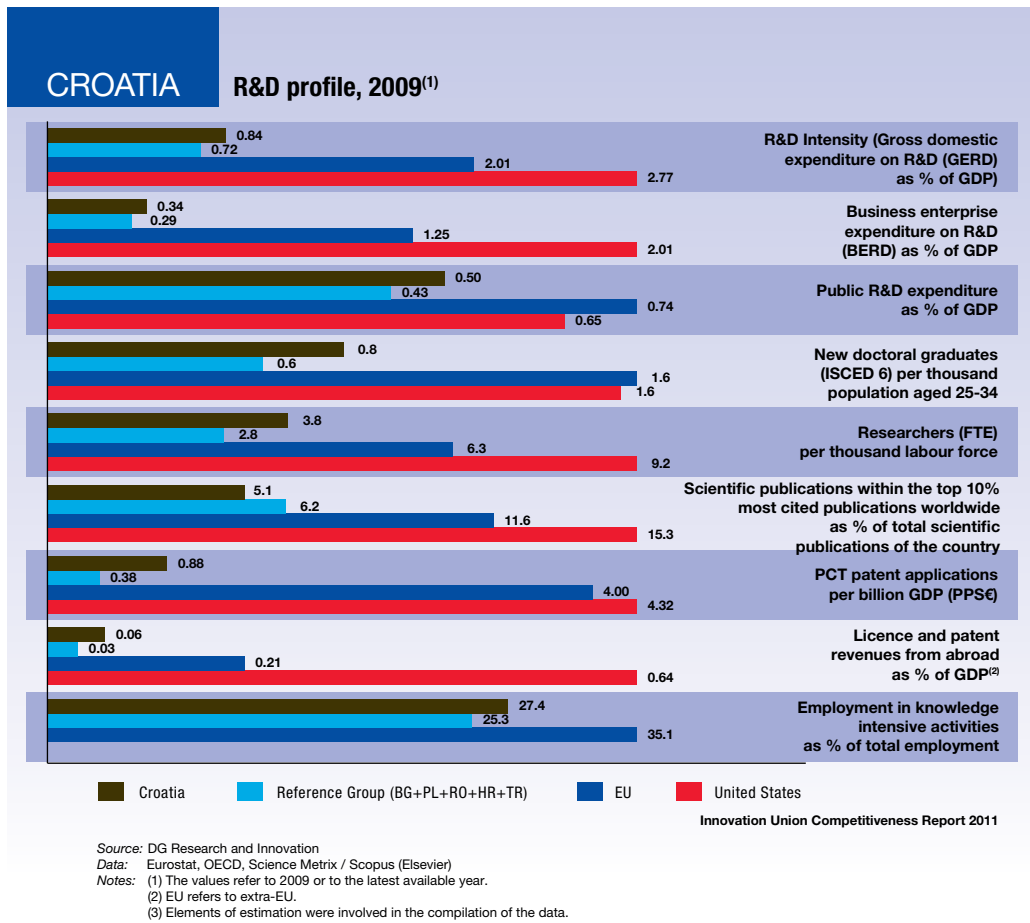
Innovation Union Competitiveness Report 2011

### Research and Innovation Performance

Based on its average innovation performance, Croatia is one of the moderate innovators with a below average performance<sup>7</sup>. Croatia scores higher than the Reference Group countries average in the share of new doctoral graduates per thousand population aged 25-34, PCT patent applications per billion GDP, licence and patent revenues from abroad as percentage of GDP and employment in knowledge intensive activities. Compared to the EU, the main weaknesses are the

business enterprise expenditure on R&D and the licence and patent revenues.

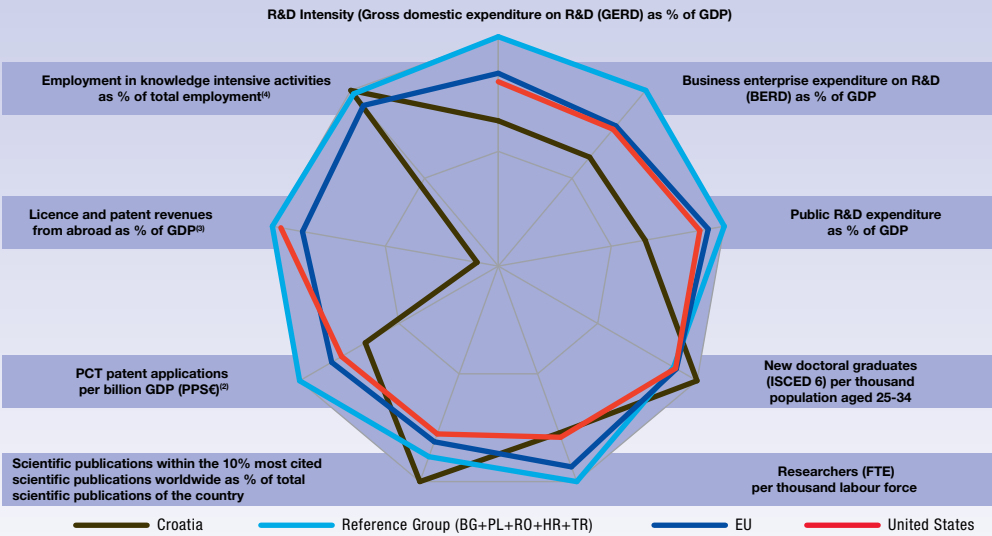
In dynamic terms, relative strengths and increases in the Croatian science and innovation system, comparative to Reference Group countries average, are in employment in knowledge intensive activities, new doctoral graduates and high-impact scientific publications. Relative weaknesses are in patenting intensity and licence and patents revenues from abroad.



7 Innovation Union Scoreboard 2010, The Innovation Union's performance scoreboard for Research and Innovation (RIUS), <http://www.proinno-europe.eu/inno-metrics/page/innovation-union-scoreboard-2010>

# CROATIA

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

Data: Eurostat, OECD, Science Matrix / 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) Average annual growth refers to real growth.

(3) EU refers to extra-EU.

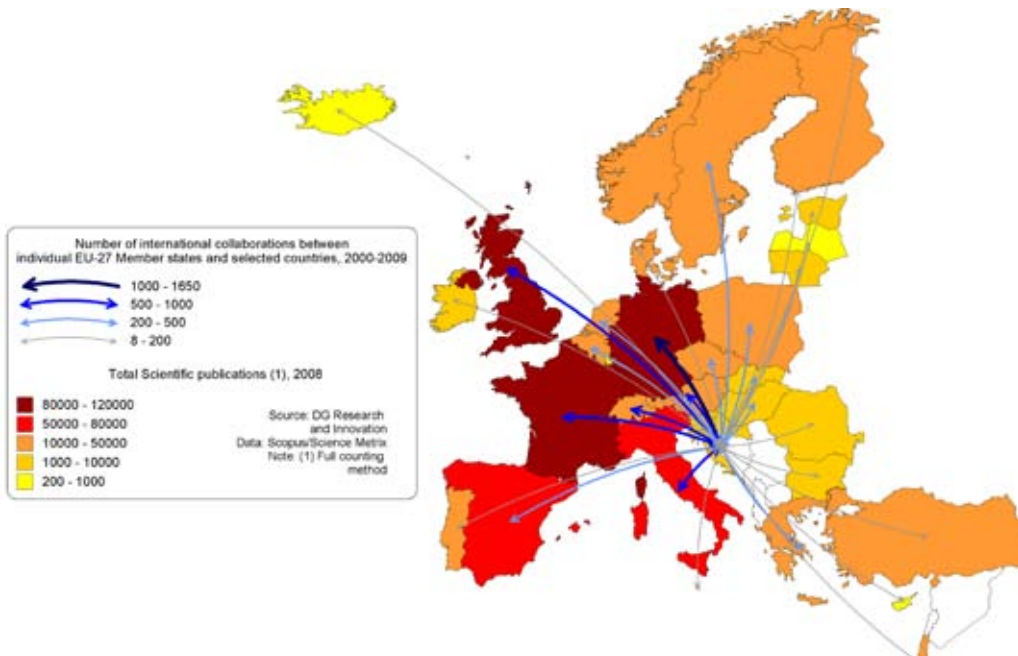
(4) TR is not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

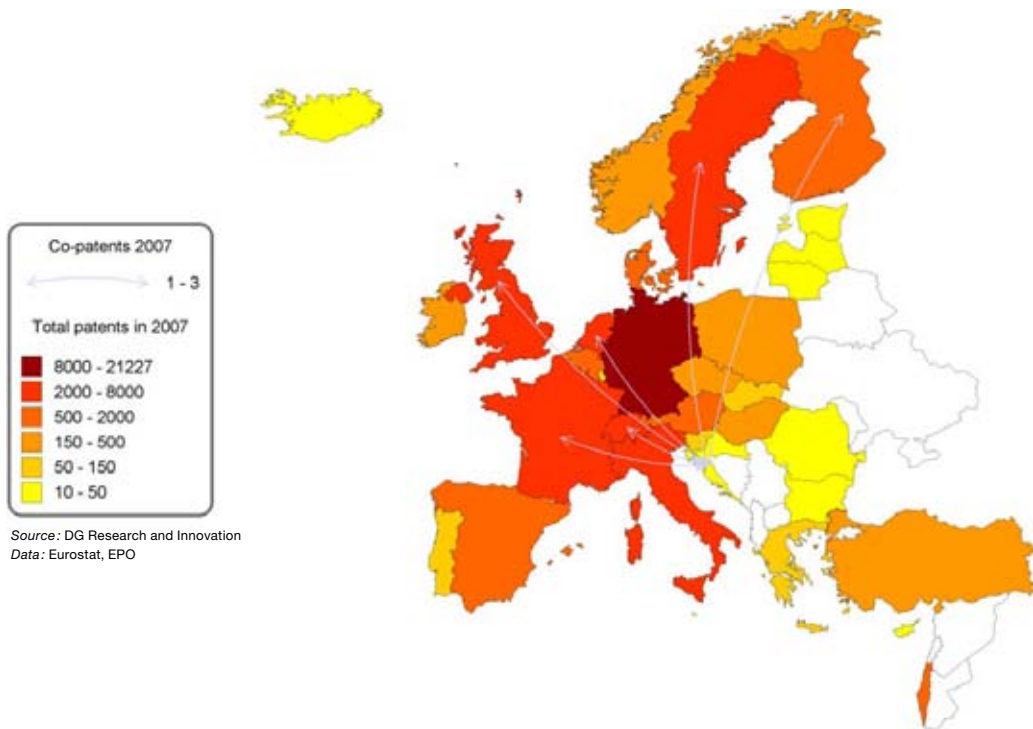
# CROATIA

## Co-publications between Croatia and European Countries in 2000-2009



## CROATIA

## Co-invented patent applications between Croatia and European Countries, 2007



### Participation in the European Research Area: Scientific and Technological collaborations

Croatia's scientific cooperation (measured by co-publications) with other European countries is broader and more intense than its technological cooperation (measured by co-patents), providing potential for growing internationalisation of the technology

cooperation. The main scientific partner country is Germany, followed by countries such as the United Kingdom, France and Italy. As a difference from the technological cooperation, co-publications are intensive with Sweden, Finland, the United Kingdom, France, Switzerland and the Netherlands.



## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 998 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 1 238 applicants from Croatia (20.09% of Candidate Countries) and
- requesting EUR 312.63m of EC contribution (15.03% of Candidate Countries)

Among the Candidate Countries Croatia (HR) ranks:

- 2<sup>nd</sup> in terms of number of applicants and
- 2<sup>nd</sup> in terms of requested EC contribution

### Success rates

- The HR applicant success rate of 17.7% is similar to the Candidate Countries applicant success rate of 17.9%.
- The HR EC financial contribution success rate of 10.7% is higher than the Candidate Countries rate of 7.3%.

Specifically, following evaluation and selection, a total of

- 168 proposals were retained for funding (16.8%)
- involving 219 (17.7%) successful applicants from Croatia and
- requesting EUR 33.57m (10.7%) of EC financial contribution

Among the Candidate Countries, Croatia (HR) ranks:

- 4<sup>th</sup> in terms of applicants success rate and
- 3<sup>rd</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Croatia (HR) participates in

- 132 signed grant agreements
- involving 2 113 participants of which 164

(7.76%) are from Croatia

- benefiting from a total of EUR 511.80m of EC financial contribution of which EUR 27.47m (5.37%) is dedicated to participants from Croatia.

Among the Candidate Countries in all FP7 signed grant agreements, Croatia (HR) ranks:

- 2<sup>nd</sup> in number of participations and
- 2<sup>nd</sup> in budget share

### SME performance and participation

- The HR SME applicant success rate of 17.95% is higher than the Candidate Countries SME applicant success rate of 15.12%.
- The HR SME EC financial contribution success rate of 15.45% is higher than the corresponding Candidate Countries rate of 10.71%.

Specifically,

- 440 HR SME applicants requesting EUR 80.05m
- 79 (17.95%) successful SMEs requesting EUR 12.36m (15.45%)

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

- 26 HR SME grant holders, i.e., 15.85% of total HR participation
- EUR 4.73m, i.e., 17.22% of total HR budget share

### Top 3 collaborative links with

- DE - Germany (174)
- UK - United Kingdom (134)
- IT - Italy (115)

Nr. of FP7 applicants (% Candidate Countries)	1 238 6 161		(18.79%)	873
Req. EC contribution by FP7 applicants in EUR million			EC contribution to FP7 grant holders in EUR million	
(% Candidate Countries)	312.63 2 079		(% Candidate Countries)	27.47 135.27
Nr. of successful FP7 applicants (% Candidate Countries)	219 1 072		Nr. of FP7 coordinators (% of grant holders)	14 195
Req. EC contribution by successful FP7 applicants in EUR million			(8.54%)	
(% Candidate Countries)	33.57 152.58		Nr. of FP7 SME grant holders (% of grant holders)	26 131
Success rate FP7 applicants	17.7%	17.9%	(15.85%)	
Success rate			(15.01%)	
FP7 EC contribution	10.7%	7.3%	EC contribution to FP7 SME grant holders in EUR million	4.73
Nr. of FP7 grant holders (% Candidate Countries)	164		(% of grant holders)	30.20
			(22.32%)	

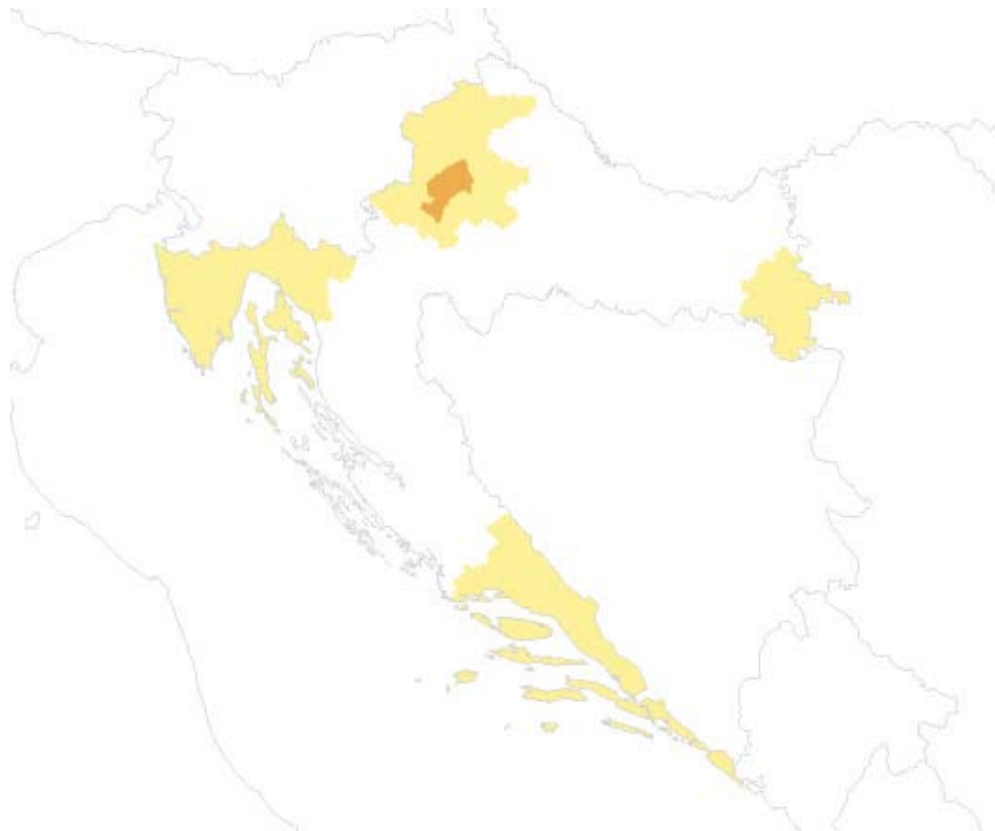
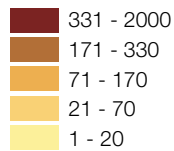


TABLE 1

**HR - Croatia - 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)
Research for the benefit of SMEs	174	19.05	46	26.44%	4.41	23.14%
Information and Communication Technologies	136	30.77	12	8.82%	1.50	4.88%
Research Potential	107	118.36	11	10.28%	7.44	6.29%
Marie-Curie Actions	106	n/a	24	22.64%	n/a	n/a
Food, Agriculture and Fisheries, and Biotechnology	95	15.31	14	14.74%	1.41	9.22%
Environment (including Climate Change)	93	16.40	18	19.35%	2.29	13.96%

TABLE 2

**HR - Croatia - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all HR grant holders	EC contribution (EUR million)	% of total EC contribution to HR
Research Potential	11	6.71%	7.44	27.10%
Transport (including Aeronautics)	18	10.98%	4.49	16.34%
Research for the benefit of SMEs	26	15.85%	2.19	7.99%
Energy	13	7.93%	2.03	7.39%
Environment (including Climate Change)	14	8.54%	1.65	6.01%
Health	6	3.66%	1.45	5.26%

Notes: Report generated on: 2011/03/28.11:22 AM

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

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

\*\*E-STAT Reference year: 2007

\*\*European Innovation Scoreboard is available at the website of DG Enterprise and Industry

TABLE 3

**HR - Croatia - 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	530	143.43	69	13.02%	12.33	8.59%	52	11.26	40.99%
PRC	267	49.58	64	23.97%	9.98	20.14%	59	8.20	29.86%
REC	182	58.64	36	19.78%	5.01	8.54%	27	4.85	17.64%
OTH	122	19.17	17	13.93%	2.01	10.47%	7	0.49	1.80%
PUB	110	13.23	33	30.00%	4.24	32.05%	19	2.67	9.72%
SME	440	80.05	79	17.95%	12.36	15.45%	26	4.73	17.22%

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

TABLE 4

**HR - Croatia - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

HR - Croatia region	Number of grant holders	% of all BE - Belgium grant holders	EC contribution (M euro)	% of total EC contribution to BE
Grad Zagreb (HR011)	128	78.05%	18.62	67.77%
Primorsko-goranska zupanija (HR031)	12	7.32%	3.87	14.08%
Splitsko-dalmatinska zupanija (HR035)	8	4.88%	1.78	6.49%
Vukovarsko-srijemska zupanija (HR026)	3	1.83%	0.12	0.45%
Osjecko-baranjska zupanija (HR025)	3	1.83%	0.63	2.30%

TABLE 5

**HR - Croatia - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all HR grant holders	EC contribution (M euro)	% of total EC contribution to HR grant holders
Ruder Boskovic Institute (RBI)	11	6.71%	2.99	10.90%
Sveuciliste U Rijeci, Medicinski Fakultet	3	1.83%	2.94	10.70%
Sveuciliste U Zagrebu Fakultet Elektrotehnike I Racunarstva (FER)	7	4.27%	1.53	5.58%
Zagrebacki Holding Doo*Zagreb Cityholding Ltd (Cistoca)	2	1.22%	1.09	3.97%
Sveuciliste U Zagrebu Tekstilno-Tehnoloski Fakultet (TTF-UZ)	2	1.22%	0.96	3.49%

# COUNTRY PROFILE



## CY - Cyprus

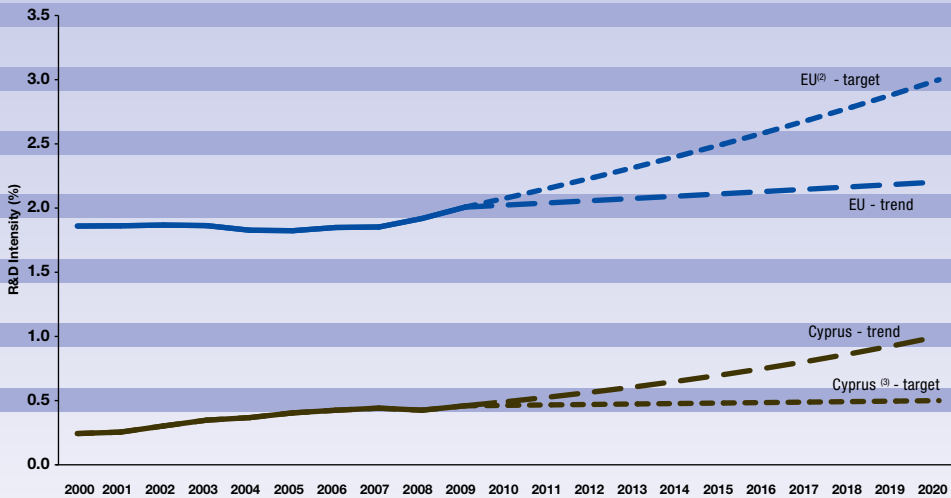
### Progress towards meeting the Europe 2020 R&D intensity target

Despite a very low level of R&D intensity, 0.46% of GDP in 2009, a positive trend is observed over the past decade. The research system, practically developed in the last twenty years, is, however, much less developed than the rest of economy and is predominantly financed by the public sector. Cypriot authorities consider that the R&D system has reached a point of saturation

and they set a target for R&D intensity of 0.5% of GDP in 2020. A more ambitious target would be nevertheless possible to achieve according to the overall development of economy of Cyprus in the last decade and the current positive trend of the R&D intensity. One key feature is currently a high contrast between a high level of investment in education and a low level of investment in research, which may create a potential risk for brain drain.

### CYPRUS

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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) CY: This projection is based on a tentative R&D Intensity target of 0.5% for 2020.

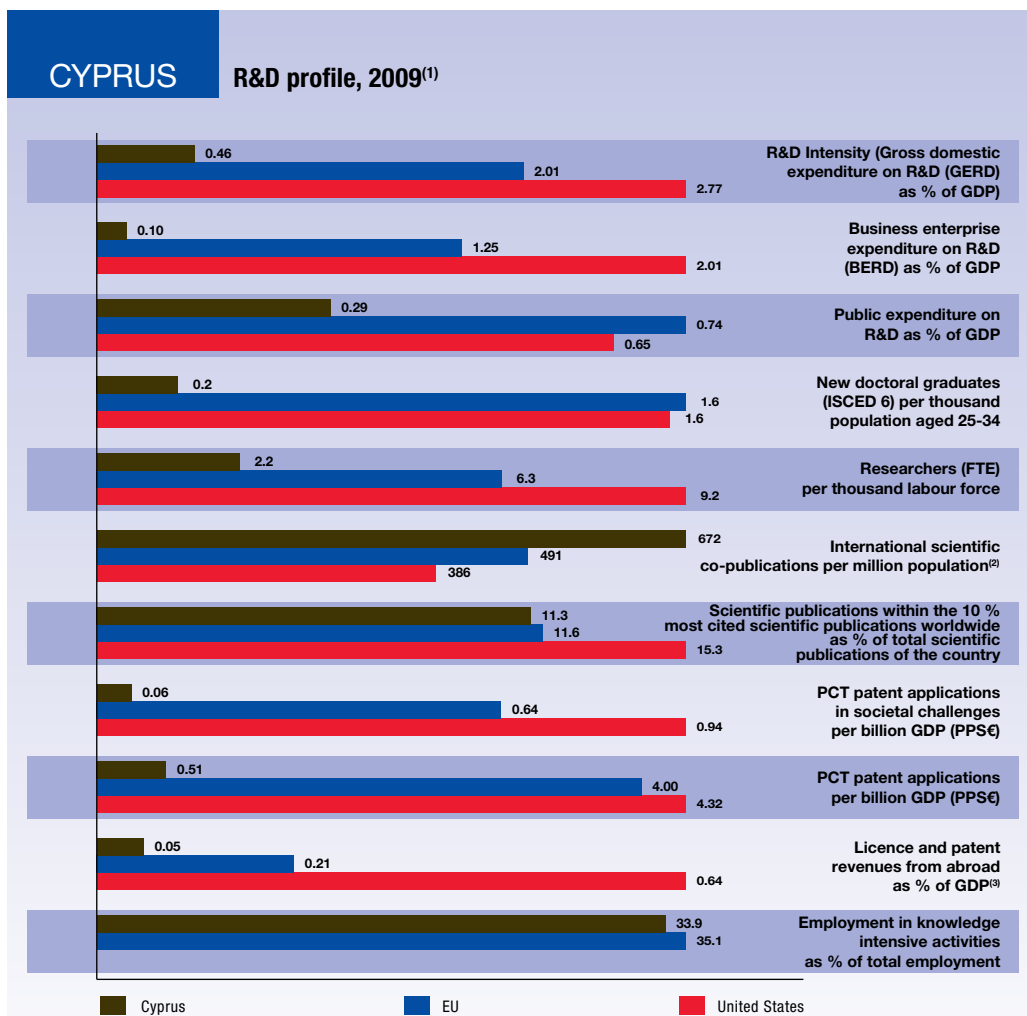
Innovation Union Competitiveness Report 2011

### Research and Innovation Performance

The Innovation Union Scoreboard 2010 classifies Cyprus among the 'Innovation Followers', which is a significant progress in comparison with the previous years. The government has introduced a set of measures to encourage stronger industry participation in research and innovation. However, the research and innovation system of Cyprus is characterised by the need of reform. There are two main bottlenecks: on one hand, limited human resources available due to a small demand from business and industry, and

on the other hand, limited engagement of business to research activities in the absence of big companies and high-tech industry.

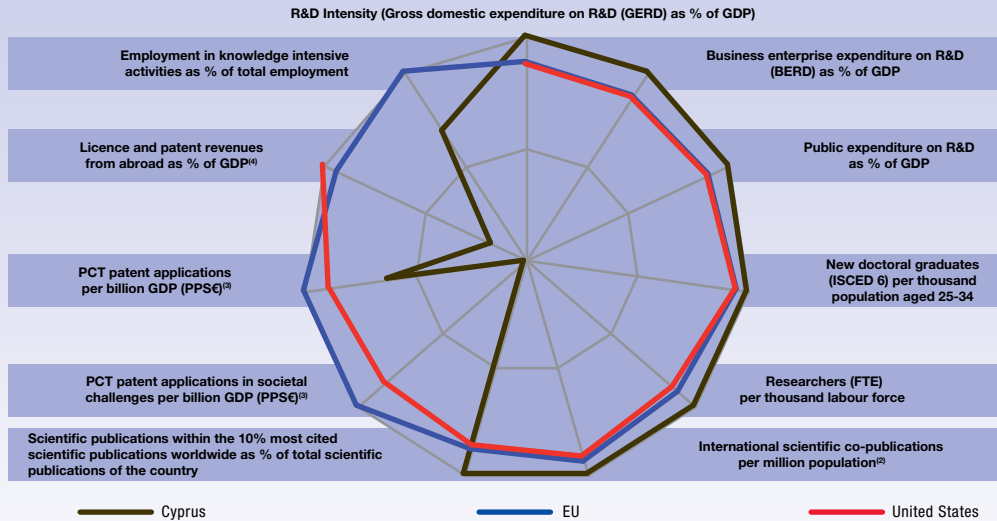
Over the last decade, Cyprus has been progressing at a pace similar to the EU average annual growth in terms of percentage of public expenditure in R&D, the relative share of new doctoral graduates of population aged 25-34 or the relative share of international scientific co-publication.



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

# CYPRUS

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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.

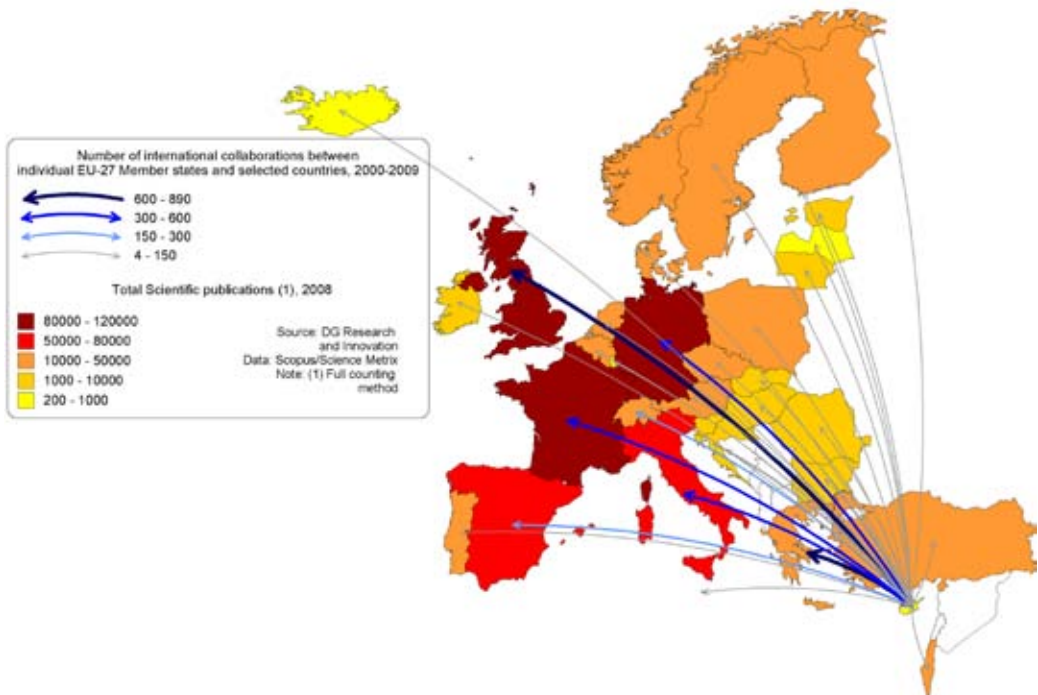
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

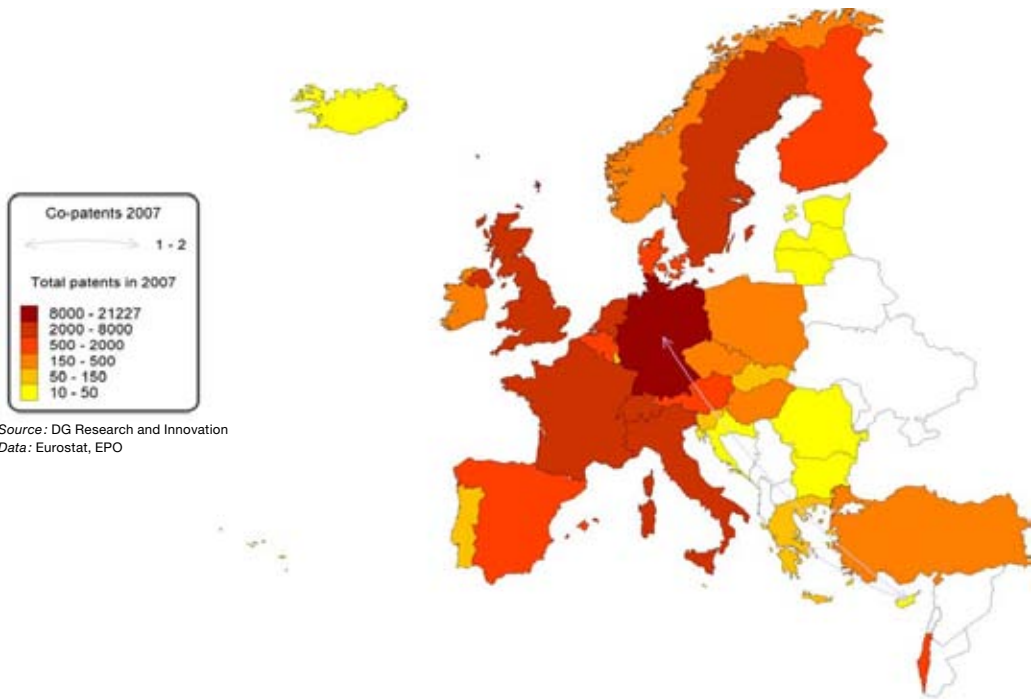
# CYPRUS

## Co-publications between Cyprus and European Countries in 2000-2009



## CYPRUS

## Co-invented patent applications between Cyprus and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO

Nevertheless, Cyprus has scored low levels of average annual growth in PCT patent applications, mainly in societal challenges and in licence and patent revenues rates from abroad. The overall trend between 2000 and 2009 of annual growth of GERD is over the average on the European Union but the rate of BERD remains low.

### Participation in the European Research Area: Scientific and Technological collaborations

As indicated in the figure below, between 2000 and 2009, the greatest number of co-publications of Cyprus were with Switzerland and Spain. As for

co-patenting, in 2007 Germany was the biggest partner of Cypriot technological actors for co-invented patent applications, but with a low figure.

However, the results in terms of co-publications are relative positive, especially the rate of international scientific co-publications per million population which is over the EU average.



## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 1 213 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 1 474 applicants from Cyprus (0.55% of EU-27\*) and
- requesting EUR 333.59m of EC contribution (0.38% of EU-27\*)

Among the EU-27\* Cyprus (CY) ranks:

- 22<sup>nd</sup> in terms of number of applicants and
- 21<sup>st</sup> in terms of requested EC contribution

### Success rates

- The CY applicant success rate of 17.3% is lower than the EU-27\* applicant success rate of 21.6%.
- The CY EC financial contribution success rate of 11.6% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 220 proposals were retained for funding (18.1%)
- involving 255 (17.3%) successful applicants from Cyprus and
- requesting EUR 38.86m (11.6%) of EC financial contribution

Among the EU-27\*, Cyprus (CY) ranks:

- 23<sup>rd</sup> in terms of applicants success rate and
- 21<sup>st</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Cyprus (CY) participates in

- 184 signed grant agreements
- involving 2 589 participants of which 215 (8.30%) are from Cyprus

- benefiting from a total of EUR 653.84m of EC financial contribution of which EUR 39.37m (6.02%) is dedicated to participants from Cyprus.

Among the EU-27\* in all FP7 signed grant agreements, Cyprus (CY) ranks:

- 23<sup>rd</sup> in number of participations and
- 23<sup>rd</sup> in budget share

### SME performance and participation

- The CY SME applicant success rate of 14.36% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The CY SME EC financial contribution success rate of 10.65% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 759 CY SME applicants requesting EUR 155.18m
- 109 (14.36%) successful SMEs requesting EUR 16.52m (10.65%)

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

- 62 CY SME grant holders, i.e., 28.84% of total CY participation
- EUR 11.60m, i.e., 29.47% of total CY budget share

### Top 3 collaborative links with

- UK - United Kingdom (200)
- DE - Germany (199)
- FR - France (165)

**Nr. of Researchers as% of population	N/A	0.40%	Success rate FP7 EC contribution	11.6%	20.7%
Rank in EU-27*			Nr. of FP7 grant holders (% EU-27*)	215	
Innovation scoreboard (2008)	- 13 <sup>th</sup>		(0.42%)	51 279	
- Above EU-27 average			EC contribution to FP7 grant holders in EUR million	39.37	
- Innovation Follower			(% EU-27*)	16 578.15	
Nr. of FP7 applicants (% EU-27*)	1 474		(0.24%)		
(0.55%)	266 507		Nr. of FP7 coordinators (% of grant holders)	36	
Req. EC contribution by FP7 applicants in EUR million			(16.74%)	9 383	
(% EU-27*)	333.59		(18.30%)		
(0.38%)	88 295		Nr. of FP7 SME grant holders (% of grant holders)	62	
Nr. of successful FP7 applicants (% EU-27*)	255		(28.84%)	8 845	
(0.43%)	59 199		(17.25%)		
Req. EC contribution by successful FP7 applicants in EUR million			EC contribution to FP7 SME grant holders in EUR million	11.60	
(% EU-27*)	38.86		(% of grant holders)	2 207.73	
(0.21%)	18 262.02		(29.47%)		
Success rate FP7 applicants	17.3%	21.6%	(13.32%)		



TABLE 1

**CY - Cyprus - 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	379	106.46	45	11.87%	12.65	11.89%
Research for the benefit of SMEs	280	46.61	54	19.29%	6.84	14.67%
Marie-Curie Actions	143	n/a	51	35.66%	n/a	n/a
Environment (including Climate Change)	103	19.13	9	8.74%	1.13	5.91%
Socio-economic sciences and Humanities	99	16.66	10	10.10%	0.96	5.76%
Health	76	23.19	7	9.21%	1.15	4.97%

TABLE 2

**CY - Cyprus - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all CY grant holders	EC contribution (EUR million)	% of total EC contribution to CY
Information and Communication Technologies	49	22.79%	12.81	32.54%
Marie-Curie Actions	40	18.60%	5.60	14.23%
ERC	4	1.86%	4.71	11.97%
Research for the benefit of SMEs	32	14.88%	3.55	9.01%
Research Infrastructures	16	7.44%	3.29	8.36%
Transport (including Aeronautics)	9	4.19%	1.57	3.98%

Notes: Report generated on: 2011/03/25 02:56 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**CY - Cyprus - 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
PRC	585	121.20	83	14.19%	14.75	12.17%	71	14.14	35.90%
HES	502	99.86	94	18.73%	13.50	13.52%	89	21.44	54.47%
OTH	130	22.72	34	26.15%	2.69	11.82%	28	1.24	3.14%
REC	119	23.04	26	21.85%	2.45	10.65%	12	1.45	3.67%
PUB	101	14.70	15	14.85%	1.15	7.81%	15	1.11	2.82%
SME	759	155.18	109	14.36%	16.52	10.65%	62	11.60	29.47%

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

TABLE 4

**CY - Cyprus - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

CY - Cyprus region	Number of grant holders	% of all CY - Cyprus grant holders	EC contribution (M euro)	% of total EC contribution to CY
Kypros / Kibris (CY000)	215	100.00%	39.37	100.00%

TABLE 5

**CY - Cyprus - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all CY grant holders	EC contribution (M euro)	% of total EC contribution to CY grant holders
University Of Cyprus (UCY)	55	25.58%	13.87	35.24%
The Cyprus Research And Educational Foundation (CREF CYI)	13	6.05%	5.36	13.62%
Cyprus University Of Technology (CUT)	12	5.58%	1.48	3.75%
Primetel Plc (Primetel)	7	3.26%	1.44	3.65%
Sigint Solutions Ltd (Sigint)	5	2.33%	1.42	3.60%

# COUNTRY PROFILE



## CZ - Czech Republic

### Progress towards meeting the Europe 2020 R&D intensity target

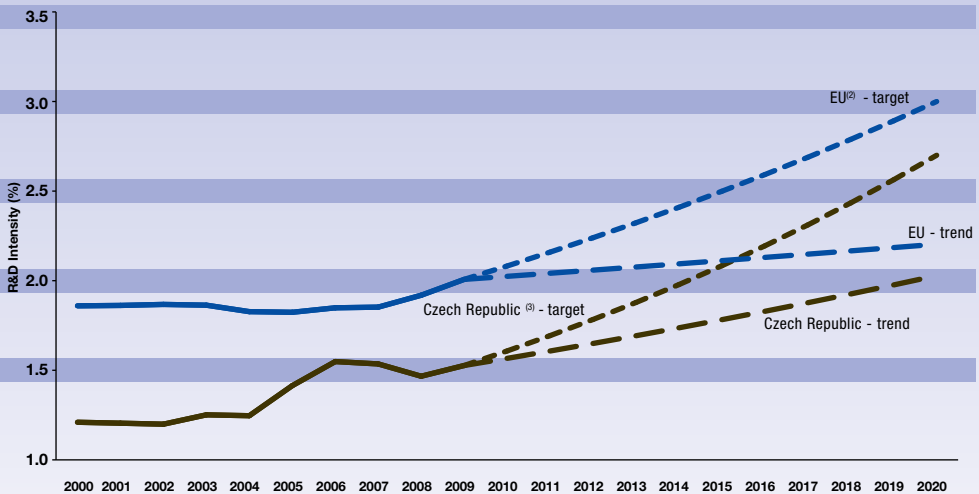
The Czech Research and Innovation system went under a radical transformation alongside the post-Communist economic and social changes that characterised the early 1990s. During this period, the system suffered from significant public R&D cuts as well as from short-sighted decreases in private R&D, which put at stake the long-term technological and innovative capacity of the country. In the last decade, however, this trend reverted and R&D intensity rose from 1.21% in the year 2000 to 1.55% in 2006, i.e. at an average growth rate of 4.2%. However, while the reform of the Czech R&I system seemed well on track until 2006, the situation

deteriorated again during the period 2006–2008, with a fall of R&D intensity to 1.47% in 2008, rising again to 1.53% in 2009 due to a drop in GDP.

Despite this increase, R&D intensity still falls short the EU average by around 33%. In order to ensure the scientific and technological convergence and not jeopardise the recently initiated economic and social convergence, R&D investments should accelerate. The Czech authorities have recognised this need and have established an ambitious R&D target for 2020 at 2.7% - very close to the 3% EU target.

### CZECH REPUBLIC

#### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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.

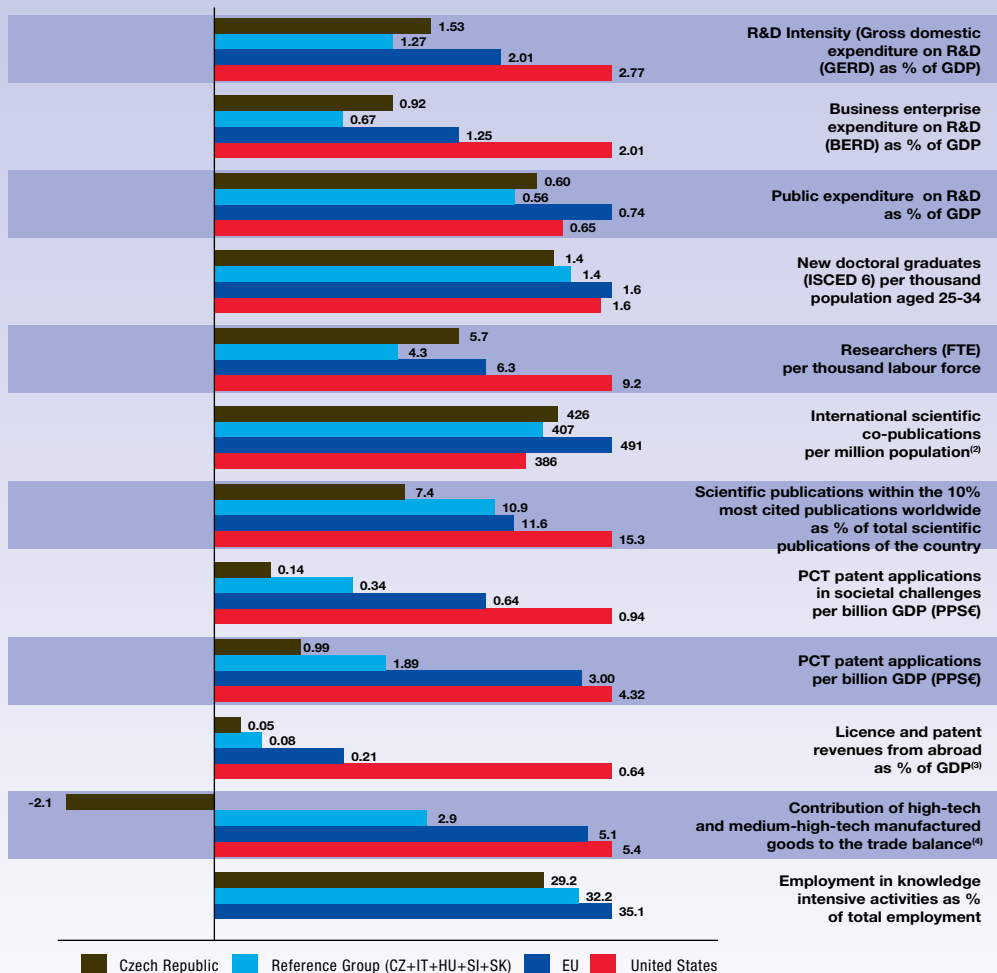
(2) EU: This projection is based on the R&D intensity target of 3.0% for 2020.

(3) CZ: This projection is based on a tentative R&D intensity target of 2.7% for 2020.

Innovation Union Competitiveness Report 2011

**CZECH REPUBLIC**

**R&D profile, 2009<sup>(1)</sup>**



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.

Innovation Union Competitiveness Report 2011

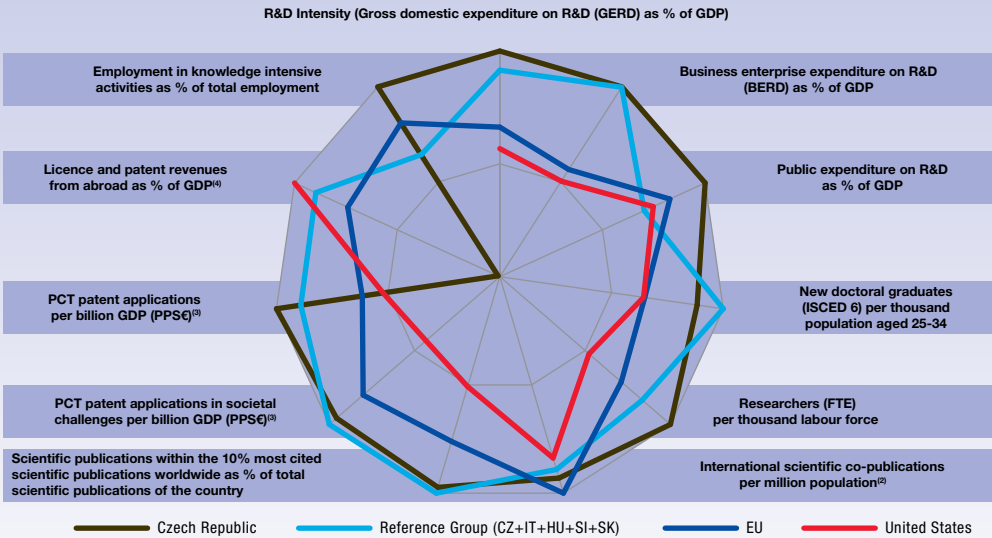
**Research and Innovation Performance**

Czech research and innovation is characterised by a need to increase the efficiency and excellence of the system. While both research investments and human resources with capacity to carry out research activities are below the EU average, they score above a group of countries with similar research structure characteristics. However, the system systematically shows poorer scientific and technological outputs, in terms of high impact scientific publications, PCT patents or licence and patent revenues from abroad, than both the EU and the reference group.

These findings highlight the relevance of the recently adopted reforms in terms of (1) simplification of the research funding system, (2) support of R&D excellence, (3) more flexible organisational structure of public R&D or (4) international cooperation in R&D, in order to boost the efficiency of the system. A lack of improvement in the efficiency of the system could jeopardise a smooth transition towards a knowledge-based economy and endanger the good economic performance of the last decade and convergence with the EU.

# CZECH REPUBLIC

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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.

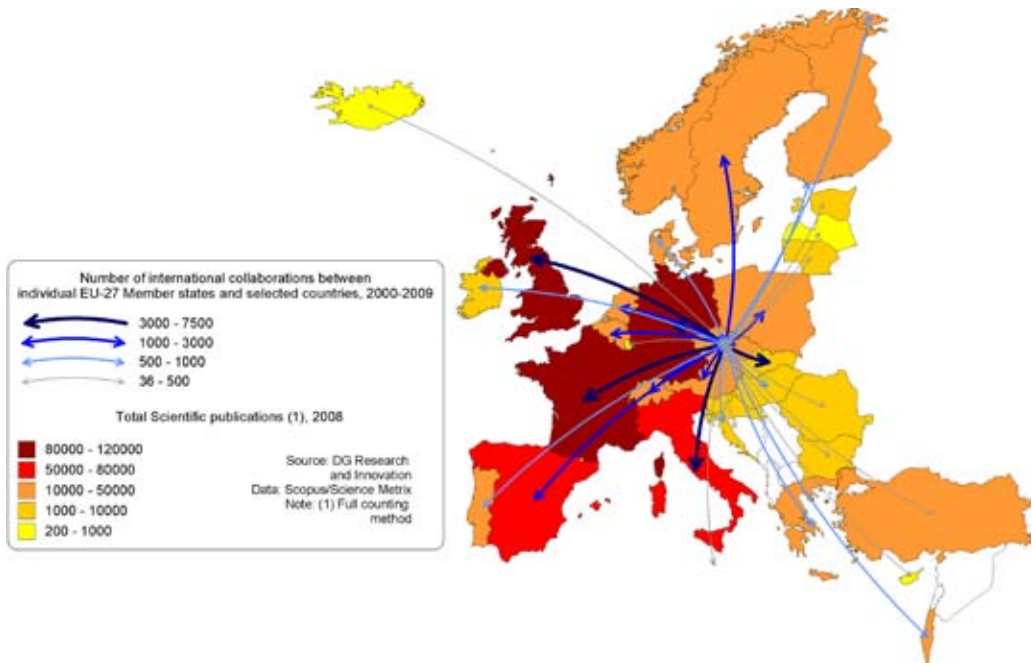
(3) Average annual growth refers to real growth.

(4) EU refers to extra-EU.

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

# CZECH REPUBLIC

## Co-publications between the Czech Republic and European Countries in 2000-2009



CZECH  
REPUBLICCo-invented patent applications between the Czech Republic  
and European Countries, 2007

In dynamic terms, the Czech Republic has achieved good progress in the last decade. The progressive consolidation of the transformation of the research and innovation system allowed a steady increase of public and private R&D investments and an increase in the number of researchers in the labour force. As a result, the scientific and technological performance and the shift towards more knowledge-intensive activities both advanced at a good pace.

### Participation in the European Research Area: Scientific and Technological collaborations

The Czech Republic is a relatively small country that needs to open up in order to tap into international knowledge and benefit from the potential spillovers generated by the ERA. In the last decade, the national research system has significantly opened as evidenced by the increase in the number of international scientific co-publications. The Czech Republic's main partners in science are Germany, the United Kingdom, France, Italy and the Slovak Republic. This reflects to a large extent the size of the research systems of these countries, but also geographical and cultural ties, especially in the case of the Slovak Republic.

In terms of co-inventions of patents, these are not very numerous, which may hint to potential weaknesses in the capacity to engage in international technological networks. The main technological partner is Germany, largely due to its large technological capacity and the close industrial links between Czech and German companies, especially in the automotive sector.

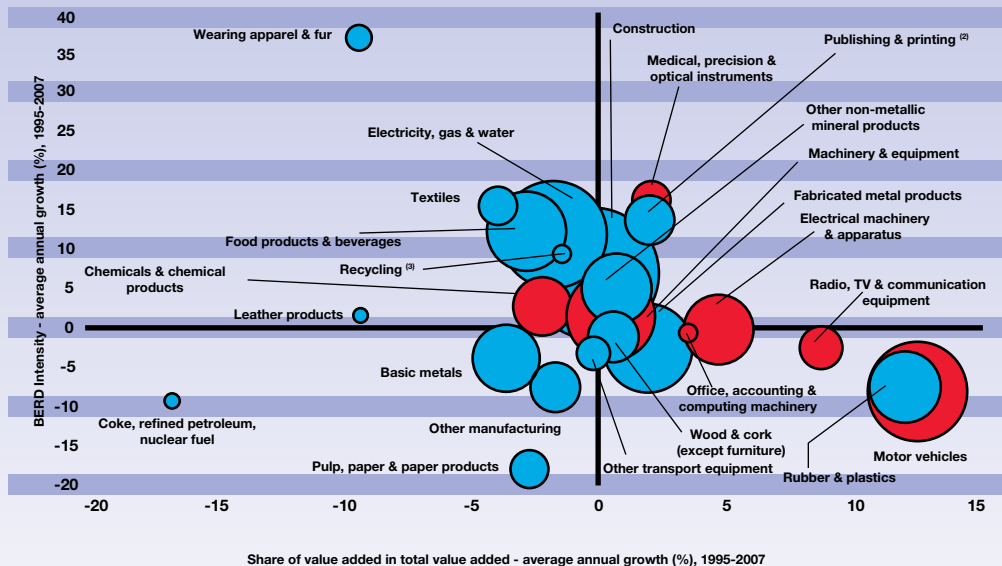
### Structural change towards more knowledge-intensive economy

In order to accelerate the shift towards a knowledge-based, research-intensive economy, existing sectors, especially medium-high and high technology sectors such as motor vehicles, electric machinery and apparatus or machinery and equipment, should become more research-intensive and move up towards higher-value-added segments of the international value-added chain.



## CZECH REPUBLIC

### Share of value added versus BERD Intensity - Average annual growth, 1995-2007



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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) 'Publishing and printing': average annual growth refers to 1996-2007.  
 (3) 'Recycling': average annual growth refers to 2000-2007.  
 (4) 'Tobacco products' is not included on the graph.

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 3054 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 3793 applicants from Czech Republic (1.42% of EU-27\*) and
- requesting EUR 834.06m of EC contribution (0.94% of EU-27\*)

Among the EU-27\* Czech Republic (CZ) ranks:

- 18<sup>th</sup> in terms of number of applicants and
- 18<sup>th</sup> in terms of requested EC contribution

### Success rates

- The CZ applicant success rate of 20.2% is lower than the EU-27\* applicant success rate of 21.6%.
- The CZ 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

- 635 proposals were retained for funding (20.8%)
- involving 767 (20.2%) successful applicants from Czech Republic and
- requesting EUR 132.59m (15.9%) of EC financial contribution

Among the EU-27\*, Czech Republic (CZ) ranks:

- 16<sup>th</sup> in terms of applicants success rate and
- 16<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Czech Republic (CZ) participates in

- 572 signed grant agreements
- involving 8151 participants of which 697 (8.55%) are from Czech Republic
- benefiting from a total of EUR 2195.85m of EC financial contribution of which EUR 122.99m (5.60%) is dedicated to participants from Czech Republic.

Among the EU-27\* in all FP7 signed grant agreements, Czech Republic (CZ) ranks:

- 17<sup>th</sup> in number of participations and
- 17<sup>th</sup> in budget share

**SME performance and participation**

- The CZ SME applicant success rate of 17.83% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The CZ SME EC financial contribution success rate of 16.36% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 223 CZ SME applicants requesting EUR 228.75m
- 218 (17.83%) successful SMEs requesting EUR 37.43m (16.36%)

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

- 131 CZ SME grant holders, i.e., 18.79% of total CZ participation
- EUR 23.50m, i.e., 19.11% of total CZ budget share

**Top 3 collaborative links with**

- DE - Germany (1 074)
- UK - United Kingdom (734)
- FR - France (716)

\*\*Nr. of Researchers as% of population 0.41% 0.40%  
 Rank in EU-27\*  
 Innovation scoreboard (2008) - 15<sup>th</sup>  
 - Below EU-27 average  
 - Moderate Innovator

Nr. of FP7 applicants (% EU-27*)	3 793	
(1.42%)	266 507	
Req. EC contribution by FP7 applicants in EUR million	834.06	
(% EU-27*)	88 295	
(0.94%)		
Nr. of successful FP7 applicants (% EU-27*)	767	
(1.30%)	59 199	
Req. EC contribution by successful FP7 applicants in EUR million	132.59	
(% EU-27*)	18 262.02	
(0.73%)		
Success rate FP7 applicants	20.2%	21.6%
Success rate		
FP7 EC contribution	15.9%	20.7%
Nr. of FP7 grant holders (% EU-27*)	697	
(1.36%)	51 279	
EC contribution to FP7 grant holders in EUR million	122.99	
(% EU-27*)	16 578.15	
(0.74%)		
Nr. of FP7 coordinators (% of grant holders)	59	
(8.46%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	131	
(18.79%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million	23.50	
(% of grant holders)	2 207.73	
(19.11%)		
(13.32%)		

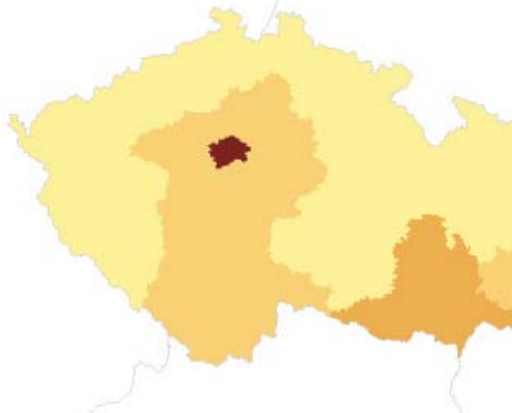
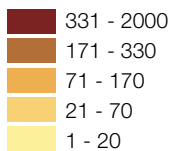


TABLE 1

**CZ - Czech Republic - 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	585	169.74	87	14.87%	24.82	14.62%
Marie-Curie Actions	421	n/a	105	24.94%	n/a	n/a
Research for the benefit of SMEs	406	49.11	71	17.49%	10.78	21.96%
Transport (including Aeronautics)	361	71.50	68	18.84%	12.90	18.04%
Environment (including Climate Change)	292	56.25	52	17.81%	6.60	11.73%
Health	272	83.44	37	13.60%	8.01	9.60%

TABLE 2

**CZ - Czech Republic - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all CZ grant holders	EC contribution (EUR million)	% of total EC contribution to CZ
Information and Communication Technologies	89	12.77%	21.34	17.35%
Marie-Curie Actions	88	12.63%	13.18	10.71%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	74	10.62%	12.80	10.41%
Transport (including Aeronautics)	55	7.89%	10.09	8.21%
Health	44	6.31%	8.79	7.15%
Research for the benefit of SMEs	57	8.18%	8.36	6.79%

Notes: Report generated on: 2011/03/25.04:34 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**CZ - Czech Republic - 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	1 470	300.34	269	18.30%	42.69	14.21%	236	45.44	36.95%
PRC	1 080	213.68	219	20.28%	43.95	20.57%	215	35.62	28.97%
REC	669	127.64	170	25.41%	27.19	21.30%	200	35.41	28.79%
OTH	290	38.98	65	22.41%	6.43	16.49%	19	2.06	1.67%
PUB	165	24.51	39	23.64%	3.90	15.90%	27	4.45	3.62%
SME	1 223	228.75	218	17.83%	37.43	16.36%	131	23.50	19.11%

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

TABLE 4

**CZ - Czech Republic - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects**

CZ - Czech Republic region	Number of grant holders	% of all CZ - Czech Republic grant holders	EC contribution (M euro)	% of total EC contribution to CZ
Hlavní město Praha (CZ010)	383	54.95%	71.48	58.12%
Jihomoravský kraj (CZ064)	112	16.07%	25.20	20.49%
Středočeský kraj (CZ020)	58	8.32%	6.70	5.45%
Jihocheský kraj (CZ031)	23	3.30%	3.81	3.10%
Zlínský kraj (CZ072)	21	3.01%	2.36	1.92%

TABLE 5

**CZ - Czech Republic - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all CZ grant holders	EC contribution (M euro)	% of total EC contribution to CZ grant holders
Univerzita Karlova V Praze (Univerzita Karlova V)	68	9.76%	13.42	10.91%
Ceske Vysoke Uceni Technicke V Praze (CVUT)	46	6.60%	8.39	6.82%
Ustav Organické Chemie A Biochemie, Av Cr, V.V.I. (UOCHB AVCR)	8	1.15%	6.04	4.91%
Vysoke uceni technicke v Brne (BUT)	19	2.73%	5.84	4.75%
Masarykova univerzita (MU)	28	4.02%	4.88	3.97%

# COUNTRY PROFILE



## DK - Denmark

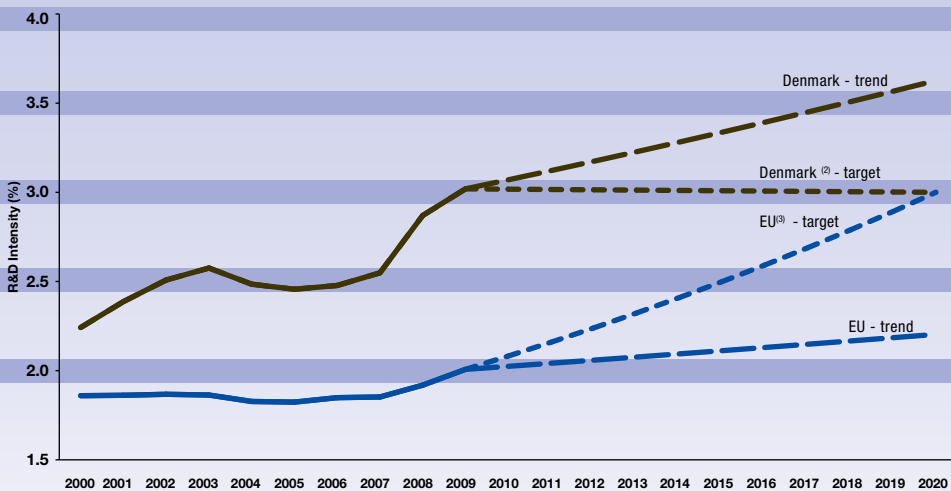
### Progress towards meeting the Europe 2020 R&D intensity target

Denmark reached its R&D intensity target for 2010 already in 2009 with a proportion of public-private R&D intensity well in line with the Barcelona objectives of one third - two thirds. The most recent figures for Denmark on R&D intensity are 3.02% for 2009 (0.99% public + 2.02% private). Over the period 2000-2009, Denmark's R&D intensity has increased clearly, with an average annual growth rate of 8.84% over the period 2006-2009, one of the highest growth rates among the EU Member States. In view of 2020, Denmark has set a preliminary national R&D target of 3% of GDP, which is

in fact already achieved. Therefore, Denmark has scope of being more ambitious in its R&D intensity target for 2020, in particular if the country has the ambition to keep its position among the world's research and innovation leaders. Given the trend scenario presented below, Denmark has the potential to reach a level even above 3.5% by 2020. In 2009 and 2010, new innovation policy measures were introduced in Denmark targeting private R&D investment, including increased public procurement of eco-innovations, support for large demonstration facilities, the launch of the Renewal Fund and a risk capital fund.

### DENMARK

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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

for 2000-2009 in the case of the EU and for 2000-2006 in the case of Denmark.

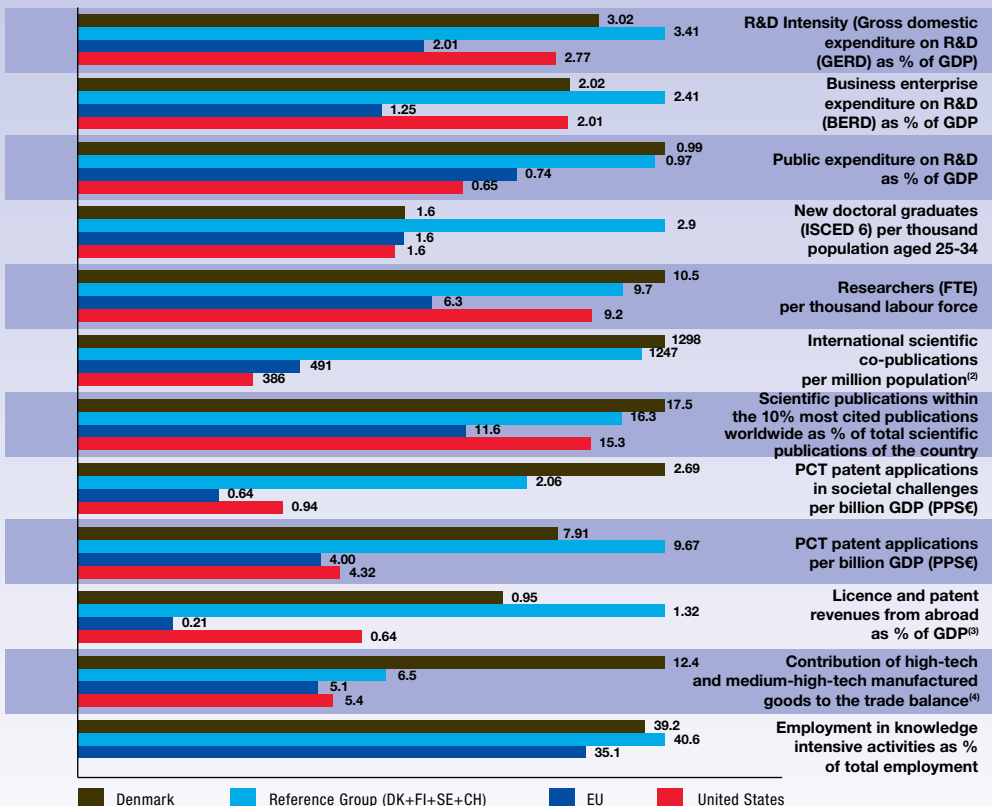
(2) DK: This projection is based on a tentative R&D Intensity target of 3.0% for 2020.

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

(4) DK: There is a break in series between 2007 and the previous years.

Innovation Union Competitiveness Report 2011

## DENMARK

R&D profile, 2009<sup>(1)</sup>

Source: DG Research and Innovation

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

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

(2) (i) The EU value refers to the median rather than to the average; (ii) CH is not included in the Reference Group.

(3) EU refers to extra-EU.

(4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU; (iii) CH is not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

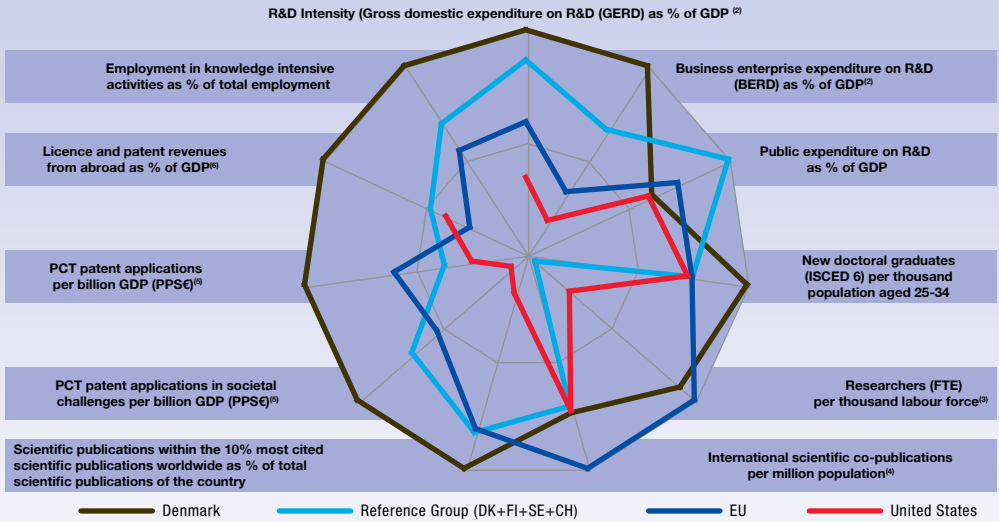
Denmark's research and innovation system benefits from a strong scientific production, building on a high level of funding, human resources and international scientific cooperation. Over the period 2000-2009, the Danish government has increased the share of total government expenditures allocated to R&D (GBAORD), leading to an increase by 30% in R&D expenditures financed by government as % of GDP. This funding is reflected in one of the world's highest levels of scientific excellence (a ratio of 17.5% of national publications to the 10% most highly-cited in the world). The Danish innovation system also builds on large researcher intensity in the labour force and a focus on technologies for societal challenges and future growth areas, well adapted to the Danish industry

profile. The weaker points in the Danish innovation system in relative terms are the patent intensity and share of new doctoral graduates, which are at a lower level than in similar knowledge-intensive countries such as Sweden, Finland and Switzerland.

Over the period 2000-2009, Denmark has increased its performance in all areas where it is lagging behind the other world innovation leaders, in particular in technology production. Denmark has also enhanced the knowledge-intensity of its economy, with a growing share of activities based on highly-skilled employees. Only in public R&D expenditure and international scientific cooperation has Denmark lost ground compared to both the EU average and to the other world innovation leaders.

# DENMARK

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Innovation Union Competitiveness Report 2011

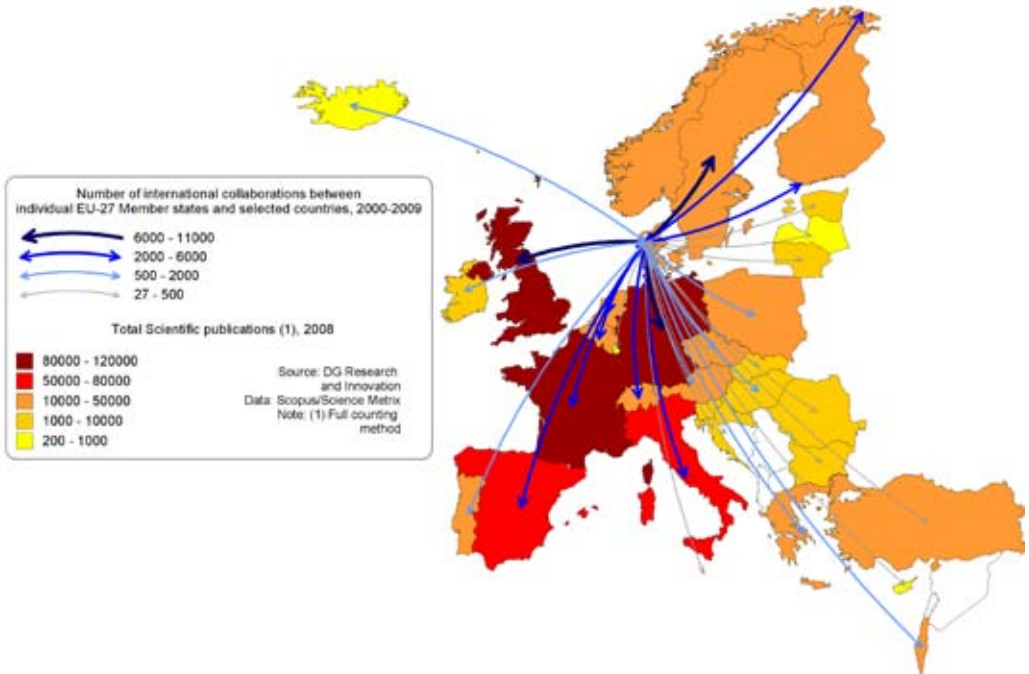
Source: DG Research and Innovation

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) Average annual growth for Denmark refers to 2000-2006 - there is a break in series between 2007 and the previous years.  
 (3) Average annual growth for Denmark refers to 2002-2006 - there are breaks in series between 2002 and the previous years and 2007 and the previous years.  
 (4) (i) The EU value refers to the median rather than to the average; (ii) CH is not included in the Reference Group.  
 (5) Average annual growth refers to real growth.  
 (6) EU refers to extra-EU.  
 (7) Elements of estimation were involved in the compilation of the data.

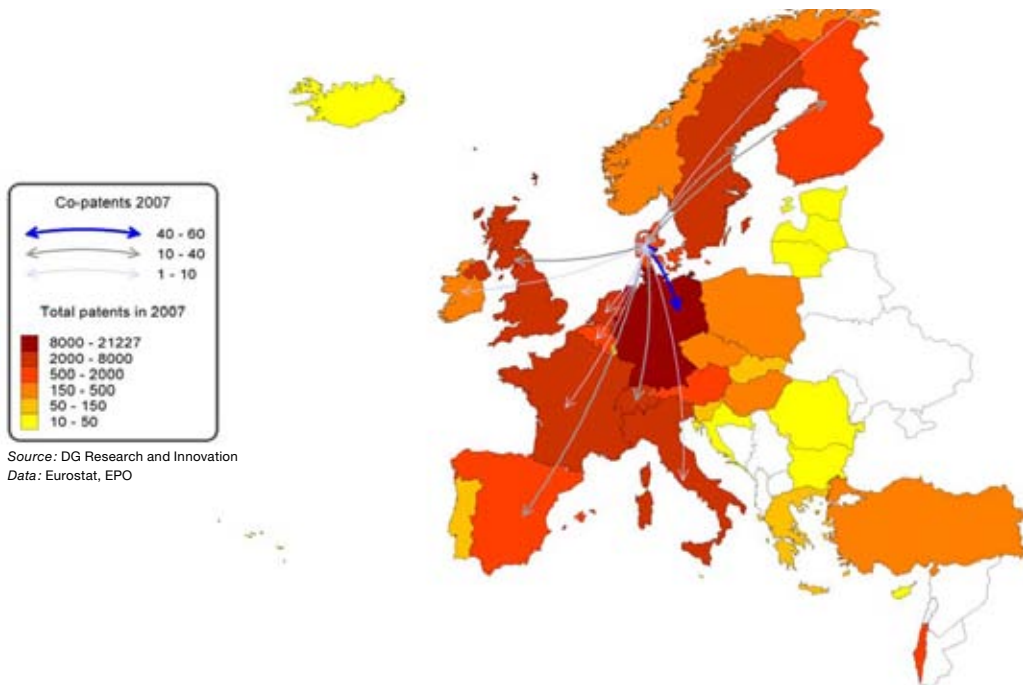
# DENMARK

## Co-publications between Denmark and European Countries in 2000-2009



## DENMARK

## Co-invented patent applications between Denmark and European Countries, 2007



### Participation in the European Research Area: Scientific and Technological collaborations

Denmark is a small and open country, which is reflected in both scientific and technological cooperation. However, its scientific cooperation with other European countries, benefiting from the emerging European Research Area, is more intensive and broader in scope than its technological cooperation in Europe. Denmark's main scientific cooperation partners are the United Kingdom, Germany, Sweden and the Netherlands, but Danish scientists also have extensive cooperation with researchers in Southern European countries. The report shows the overall scientific and cooperation networks across Europe, where Denmark is well integrated also in the technological cooperation, even if the technological cooperation does not fully match the extent of the scientific cooperation, thus very probably signalling an untapped potential.

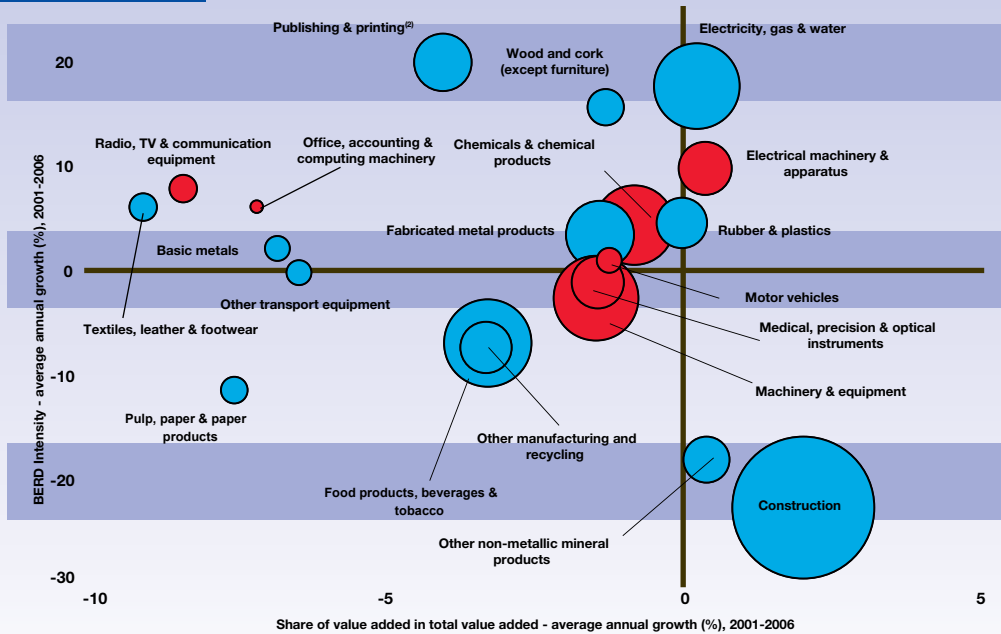
### Structural change towards more knowledge-intensive economy

Since 2001, R&D intensity growth has to a large extent been due to an increase of the private R&D investment. For most of the relevant sectors of the Danish economy, private R&D intensity increased in the last decade (exceptions were the medical instruments and machinery & equipment sectors that decreased their BERD intensity). Denmark increased the knowledge-intensity in both high-tech/medium high-tech and medium and low-tech sectors. Overall, Denmark shows changes in its economic structure with an increasing weight of the high-tech sector electrical machinery. However, a decreasing knowledge-intensity in more traditional sectors of the Danish economy, such as food products or machinery & equipment, should be noticed as well as the decreasing weight of many of the high and medium-high tech sectors in the overall Danish economy (particularly noticeable for the Radio, TV and communication equipment sector). As in many other European economies, the construction sector increased its economic weight in the pre-crisis period, but contrary to some other European countries the construction sector in Denmark substantially decreased its knowledge-intensity.



## DENMARK

## Share of value added versus BERD Intensity - Average annual growth 2001-2006



Source: DG Research and Innovation

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) 'Publishing and printing': average annual growth refers to 2002-2006.

(3) 'Coke, refined petroleum, nuclear fuel' is not included on the graph.

Innovation Union Competitiveness Report 2011

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 4 177 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 5 468 applicants from Denmark (2.05% of EU-27\*) and
- requesting EUR 1 991.35m of EC contribution (2.26% of EU-27\*)

Among the EU-27\* Denmark (DK) ranks:

- 14<sup>th</sup> in terms of number of applicants and
- 12<sup>th</sup> in terms of requested EC contribution

### Success rates

- The DK applicant success rate of 24.8% is higher than the EU-27\* applicant success rate of 21.6%.
- The DK EC financial contribution success rate of 23.8% is higher than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 1 032 proposals were retained for funding (24.7%)

- involving 1 356 (24.8%) successful applicants from Denmark and
- requesting EUR 473.22m (23.8%) of EC financial contribution

Among the EU-27\*, Denmark (DK) ranks:

- 5<sup>th</sup> in terms of applicants success rate and
- 5<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Denmark (DK) participates in

- 886 signed grant agreements
- involving 11 115 participants of which 1 150 (10.35%) are from Denmark
- benefiting from a total of EUR 3 296.56m of EC financial contribution of which EUR 414.52m (12.57%) is dedicated to participants from Denmark.

Among the EU-27\* in all FP7 signed grant agreements, Denmark (DK) ranks:

- 12<sup>th</sup> in number of participations and
- 12<sup>th</sup> in budget share

**SME performance and participation**

- The DK SME applicant success rate of 22.85% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The DK SME EC financial contribution success rate of 24.30% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 313 DK SME applicants requesting EUR 399.87m
- 300 (22.85%) successful SMEs requesting EUR 97.15m (24.30%)

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

- 189 DK SME grant holders, i.e., 16.43% of total DK participation
- EUR 64.88m, i.e., 15.65% of total DK budget share

**Top 3 collaborative links with**

- DE - Germany (1 352)
- UK - United Kingdom (1 245)
- FR - France (904)

**Nr. of Researchers as% of population	N/A	0.40%
Rank in EU-27*		
Innovation scoreboard (2008)	- 5 <sup>th</sup>	
- Above EU-27 average		
- Innovation Leader		
Nr. of FP7 applicants (% EU-27*)	5 468	
(2.05%)	266 507	
Req. EC contribution		

by FP7 applicants in EUR million	1 991.35	
(% EU-27*)	88 295	
(2.26%)		
Nr. of successful FP7 applicants		
(% EU-27*)	1 356	
(2.29%)	59 199	
Req. EC contribution by successful FP7 applicants in EUR million		
(% EU-27*)	473.22	
(2.59%)	18 262.02	
Success rate FP7 applicants	24.8%	21.6%
Success rate FP7 EC contribution	23.8%	20.7%
Nr. of FP7 grant holders		
(% EU-27*)	1 150	
(2.24%)	51 279	
EC contribution to FP7 grant holders in EUR million		
(% EU-27*)	414.52	
(2.50%)	16 578.15	
Nr. of FP7 coordinators		
(% of grant holders)	175	
(15.22%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	189	
(16.43%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	64.88	
(15.65%)	2 207.73	
(13.32%)		

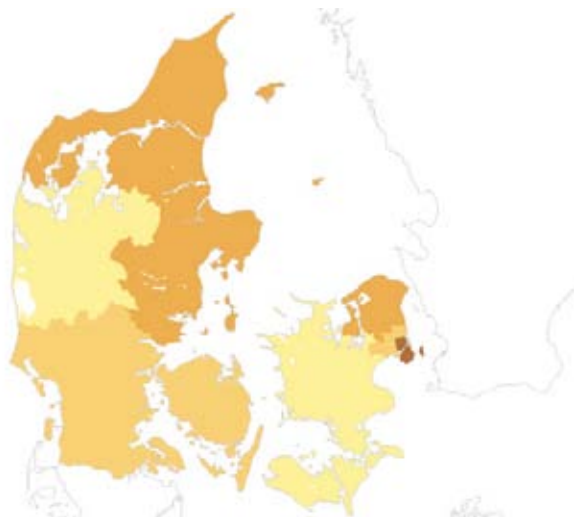
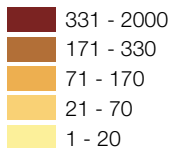


TABLE 1

**DK - Denmark - 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)
Marie-Curie Actions	872	n/a	186	21.33%	n/a	n/a
Information and Communication Technologies	768	341.70	145	18.88%	53.27	15.59%
Health	593	296.61	157	26.48%	73.94	24.93%
Research for the benefit of SMEs	577	98.27	129	22.36%	20.31	20.67%
Food, Agriculture and Fisheries, and Biotechnology	492	168.62	113	22.97%	32.86	19.49%
Environment (including Climate Change)	427	146.19	122	28.57%	39.39	26.94%

TABLE 2

**DK - Denmark - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all DK grant holders	EC contribution (EUR million)	% of total EC contribution to DK
Health	143	12.43%	61.98	14.95%
Energy	97	8.43%	55.63	13.42%
Information and Communication Technologies	133	11.57%	50.91	12.28%
Marie-Curie Actions	143	12.43%	41.42	9.99%
ERC	26	2.26%	36.06	8.70%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	93	8.09%	34.56	8.34%

Notes: Report generated on: 2011/03/25.04:35 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**DK - Denmark - 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	2770	884.81	672	24.26%	203.41	22.99%	588	229.52	55.37%
PRC	1350	405.73	332	24.59%	116.90	28.81%	298	101.26	24.43%
REC	567	161.67	158	27.87%	44.59	27.58%	131	35.26	8.51%
OTH	298	79.75	71	23.83%	21.48	26.93%	29	10.04	2.42%
PUB	260	75.77	97	37.31%	33.39	44.07%	104	38.44	9.27%
SME	1313	399.87	300	22.85%	97.15	24.30%	189	64.88	15.65%

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

TABLE 4

**DK - Denmark - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

DK - Denmark region	Number of grant holders	% of all DK - Denmark grant holders	EC contribution (M euro)	% of total EC contribution to DK
Byen Kobenhavn (DK011)	351	30.52%	119.69	28.87%
Ostjylland (DK042)	171	14.87%	61.80	14.91%
Nordjylland (DK050)	94	8.17%	34.06	8.22%
Nordsjælland (DK013)	91	7.91%	34.82	8.40%
Fyn (DK031)	58	5.04%	20.99	5.06%

TABLE 5

**DK - Denmark - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all DK grant holders	EC contribution (M euro)	% of total EC contribution to DK grant holders
Kobenhavns Universitet (UCPH)	156	13.57%	68.17	16.45%
Danmarks Tekniske Universitet (DTU)	180	15.65%	65.72	15.85%
Aarhus Universitet	116	10.09%	46.05	11.11%
Aalborg Universitet (AAU)	62	5.39%	22.71	5.48%
Syddansk Universitet (SDU)	37	3.22%	14.19	3.42%

# COUNTRY PROFILE



## EE - Estonia

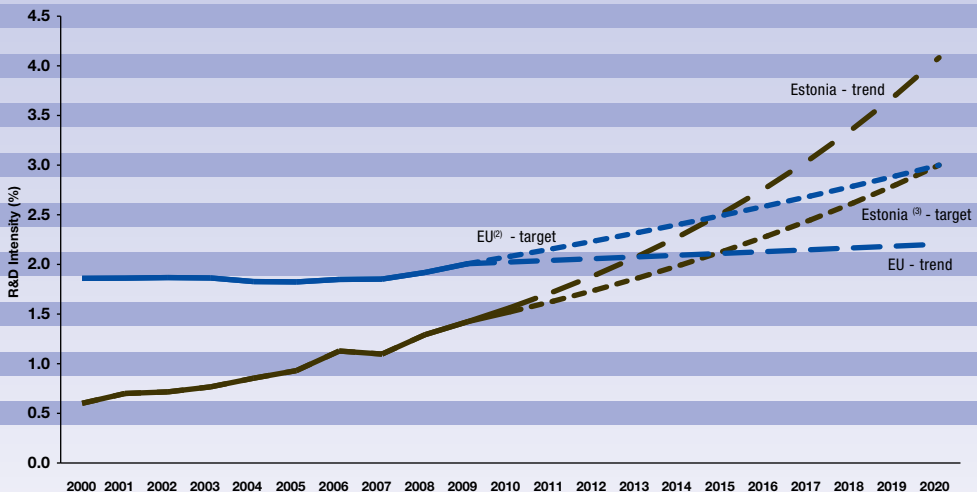
### Progress towards meeting the Europe 2020 R&D intensity target

In the last decade, R&D intensity in Estonia increased from 0.60% of GDP in 2000 to 1.42% in 2009, i.e. an impressive annual average growth rate above 10%. It is to be noted that the latest increase in R&D intensity from 2008 to 2009 is mainly due to a crises-related drop in GDP whereas nominal R&D expenditure increased only slightly.

The R&D target for 2020 has been set to 3%. This is ambitious, but realistic in the case business R&D grows significantly. The target is supported e.g. by a political commitment to R&I, relatively sound public finances and temporary support provided by frontloaded (R&I focused) Structural funds and by continuous efforts to create competitive framework conditions for businesses.

### ESTONIA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

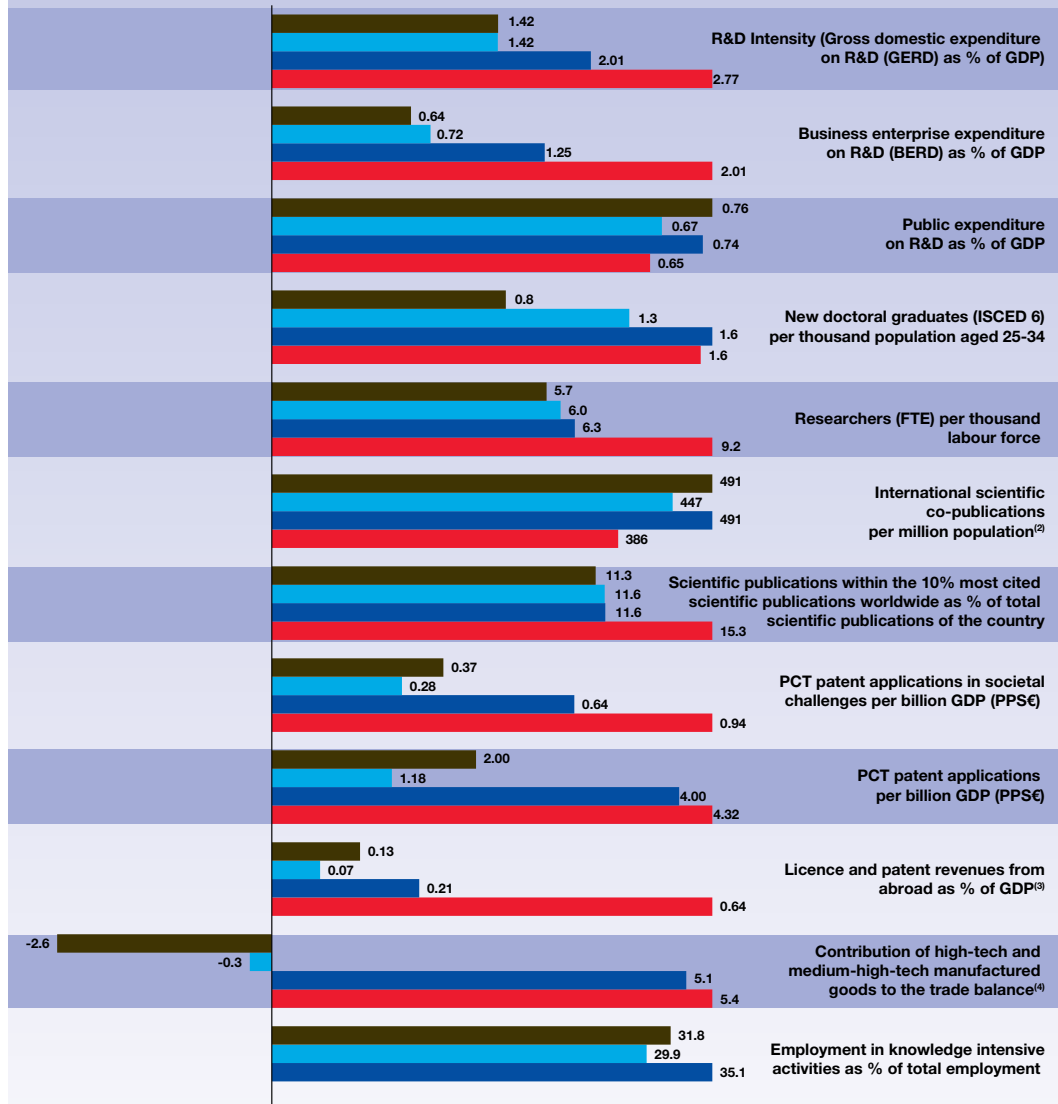
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity 2000-2009.

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

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

Innovation Union Competitiveness Report 2011

## ESTONIA

R&D profile, 2009<sup>(1)</sup>

■ Estonia ■ Reference Group (EE+ES+PT) ■ EU ■ United States

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.

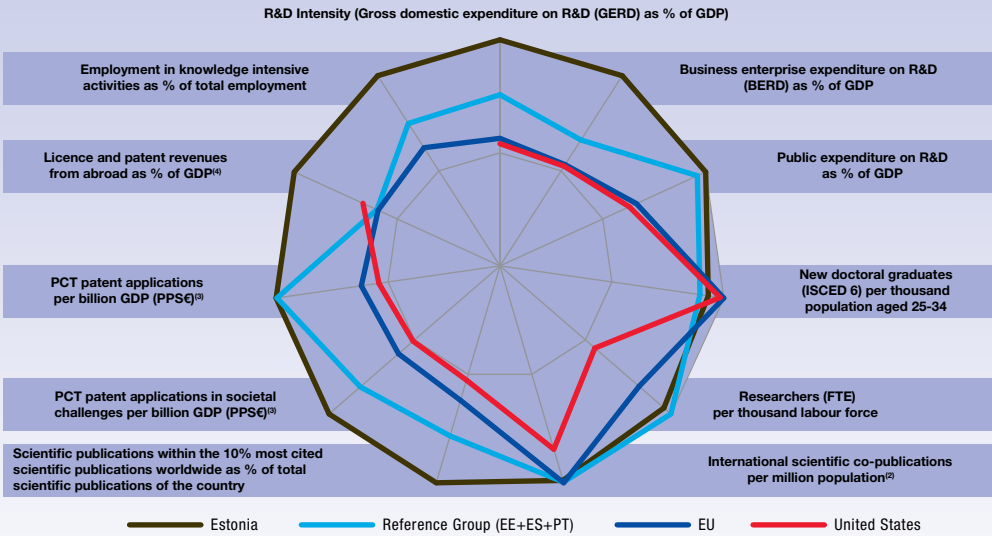
(4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

# ESTONIA

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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.

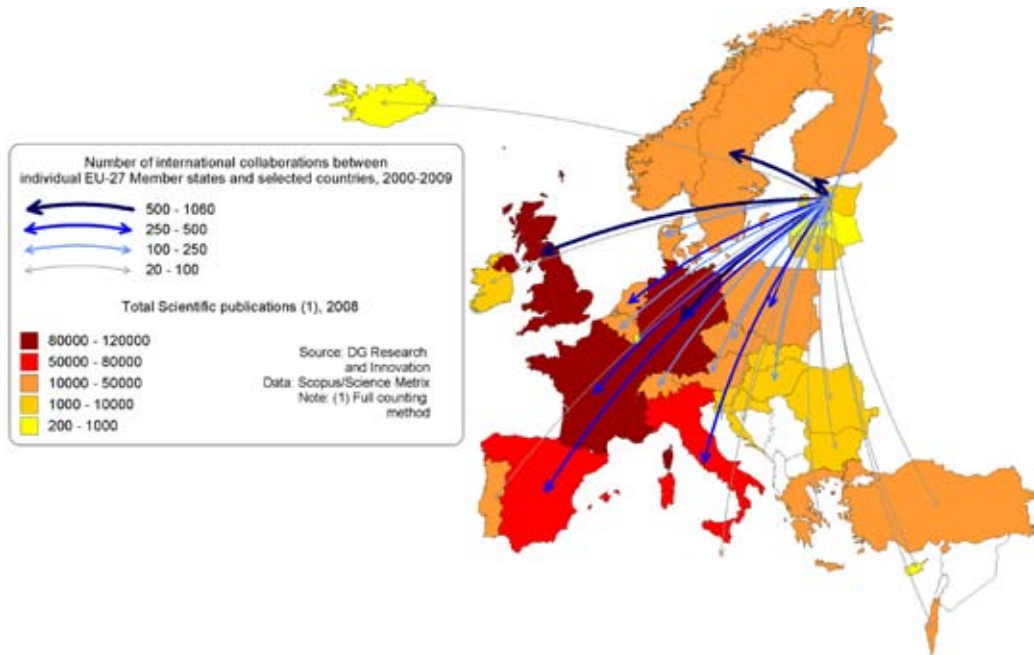
(3) Average annual growth refers to real growth.

(4) EU refers to extra-EU.

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

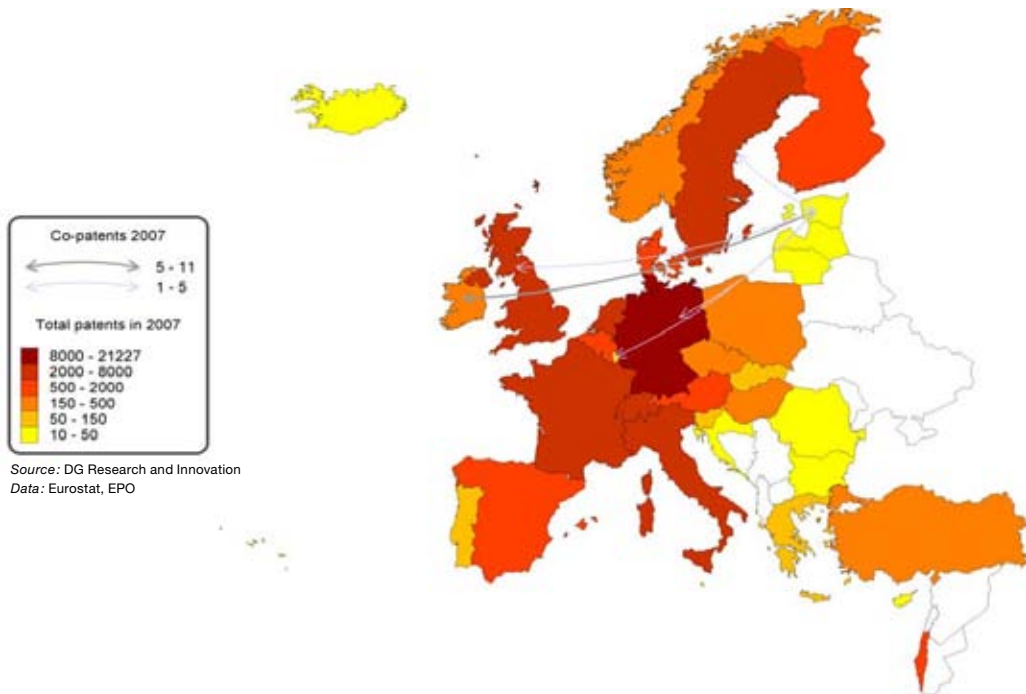
# ESTONIA

## Co-publications between Estonia and European Countries in 2000-2009



## ESTONIA

## Co-invented patent applications between Estonia and European Countries, 2007



### Research and Innovation Performance

The Estonian research and innovation system is characterised by government sector dominated funding (about 50% of GERD, compared to the EU average of 33.5% in 2008) and an important role of higher education institutions (especially universities) in performing research and innovation. Consequently, Estonia scores already at EU-average in scientific output measured by international scientific co-publications and is equal to its reference group in top cited publications.

The business sector has made constant progress, but the output measured in patents remains relatively modest in an EU comparison. Nevertheless, in dynamic terms Estonia has improved faster than its reference group during the last decade. The trade balance indicator, however, underlines that the Estonian manufacturing sector is not yet able to compete in high-tech goods. Improvement in the business-academia links may help improve the performance in patenting and in medium-high and high-tech production. A smart specialisation strategy might also help gaining a critical mass in some of these (sub)sectors.

### Participation in the European Research Area: Scientific and Technological collaborations

Estonia is a small and open economy with very limited resources and markets and dependent of external trade and internationalisation of R&I. Consequently, it has actively integrated to the European research system. The Innovation Union Competitiveness report illustrates several aspects of Estonian scientific and technological cooperation. European-wide maps illustrate that Estonia is already connected to the main nodes of European networks. The strongest links of the Estonian science and technology cooperation are with Germany, Sweden, Finland and the United Kingdom.

Internationalisation being such an important priority for Estonian R&I efforts, much of the future development will depend on how it succeeds to attract human resources and R&I intensive investments and firms from abroad. The R&D cooperation in the framework of Baltic sea strategy is, in this regard, an interesting opportunity for the country, which is currently making efforts to improve the level of R&D infrastructure closely linked to ESFRI plans and with the help of structural funds.



## FP7 Key facts and figures

### Applications

As of 26/10/2010, a total of

- 1 027 eligible proposals were submitted in response to 219 FP7 calls for proposals
- involving 1 216 applicants from Estonia (0.51% of EU-27\*) and
- requesting EUR 251.44m of EC contribution (0.32% of EU-27\*)

Among the EU-27\* Estonia (EE) ranks:

- 23<sup>rd</sup> in terms of number of applicants and
- 23<sup>rd</sup> in terms of requested EC contribution

### Success rates

- The EE applicant success rate of 23.7% is higher than the EU-27\* applicant success rate of 21.9%.
- The EE EC financial contribution success rate of 18.5% is lower than the EU-27\* rate of 20.9%.

Specifically, following evaluation and selection, a total of

- 252 proposals were retained for funding (24.5%)
- involving 288 (23.7%) successful applicants from Estonia and
- requesting EUR 46.61m (18.5%) of EC financial contribution

Among the EU-27\*, Estonia (EE) ranks:

- 10<sup>th</sup> in terms of applicants success rate and
- 11<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 26/10/2010, Estonia (EE) participates in

- 199 signed grant agreements
- involving 2 744 participants of which 229 (8.35%) are from Estonia

- benefiting from a total of EUR 634.74m of EC financial contribution of which EUR 39.81m (6.27%) is dedicated to participants from Estonia.

Among the EU-27\* in all FP7 signed grant agreements, Estonia (EE) ranks:

- 21<sup>st</sup> in number of participations and
- 22<sup>nd</sup> in budget share

### SME performance and participation

- The EE SME applicant success rate of 18.99% is similar to the EU-27\* SME applicant success rate of 19.42%.
- The EE SME EC financial contribution success rate of 14.54% is lower than the corresponding EU-27\* rate of 18.28%.

Specifically,

- 495 EE SME applicants requesting EUR 100.54m
- 94 (18.99%) successful SMEs requesting EUR 14.62m (14.54%)

In signed grant agreements, as of 26/10/2010,

- 69 EE SME grant holders, i.e., 30.13% of total EE participation
- EUR 9.93m, i.e., 24.96% of total EE budget share

### Top 3 collaborative links with

- UK - United Kingdom (243)
- DE - Germany (228)
- IT - Italy (180)

**Nr. of Researchers as% of population	0.50%	0.40%	Success rate FP7 EC contribution	18.5%	20.9%
Rank in EU-27*			Nr. of FP7 grant holders (% EU-27*)	229	
Innovation scoreboard (2008)	- 12 <sup>th</sup>		(0.52%)	43650	
- Above EU-27 average			EC contribution to FP7 grant holders in EUR million (% EU-27*)	39.81	
- Innovation Follower			(0.28%)	14 130.79	
Nr. of FP7 applicants (% EU-27*)	1 216		Nr. of FP7 coordinators (% of grant holders)	28	
(0.51%)	237 592		(12.23%)	8 052	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	251.44		(18.45%)		
(0.32%)	78 321		Nr. of FP7 SME grant holders (% of grant holders)	69	
Nr. of successful FP7 applicants (% EU-27*)	288		(30.13%)	7 914	
(0.54%)	53 276		(18.13%)		
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*)	46.61		EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	9.93	
(0.29%)	16 349.48		(24.96%)	2 060.08	
Success rate FP7 applicants	23.7%	21.9%	(14.58%)		

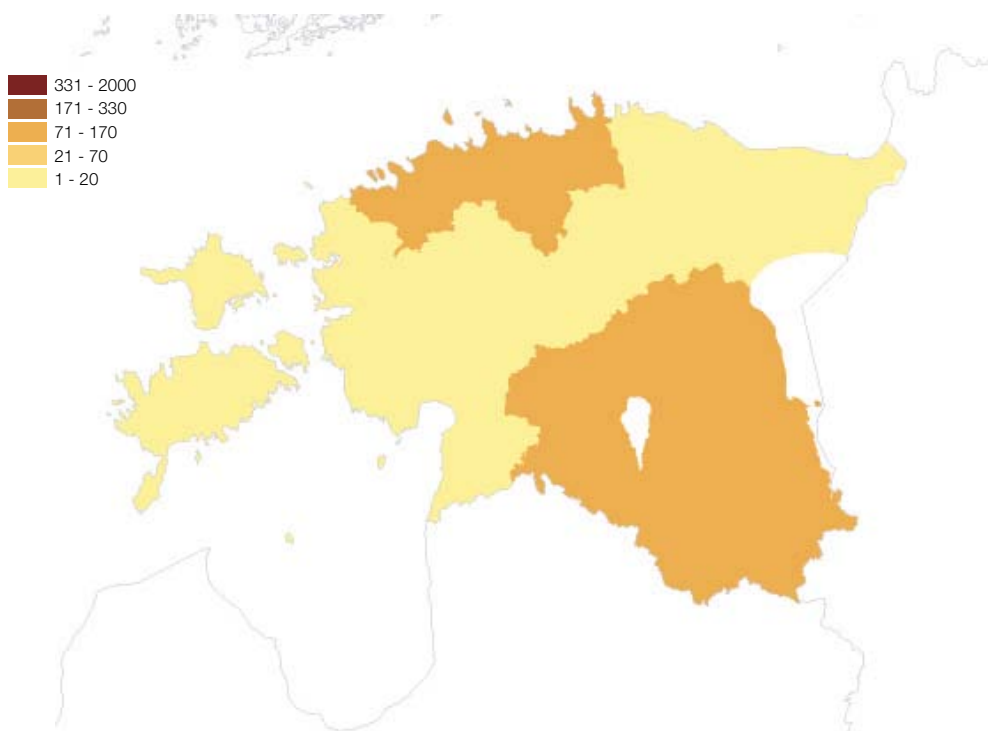


TABLE 1

**EE - Estonia - 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)
Research for the benefit of SMEs	213	31.03	53	24.88%	6.30	20.30%
Health	159	47.00	32	20.13%	6.84	14.55%
Socio-economic sciences and Humanities	143	19.98	23	16.08%	2.71	13.56%
Information and Communication Technologies	139	34.92	20	14.39%	4.41	12.64%
Marie-Curie Actions	92	n/a	27	29.35%	n/a	n/a
Science in Society	80	8.33	30	37.50%	2.56	30.68%

TABLE 2

**EE - Estonia - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all EE grant holders	EC contribution (EUR million)	% of total EC contribution to EE
Research Potential	7	3.06%	7.27	18.27%
Health	32	13.97%	6.11	15.35%
Marie-Curie Actions	22	9.61%	4.71	11.84%
Research for the benefit of SMEs	41	17.90%	4.61	11.58%
Information and Communication Technologies	19	8.30%	4.12	10.35%
Transport (including Aeronautics)	9	3.93%	3.00	7.53%

Notes: Report generated on: 2011/02/03.08:31 AM

FP7 proposal and application figures are valid as of 26/10/2010

FP7 grant agreements and participation figures are valid as of 26/10/2010

\*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

TABLE 3

**EE - Estonia - 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	507	105.51	106	20.91%	20.34	19.27%	77	18.64	46.82%
PRC	357	71.69	68	19.05%	10.37	14.46%	67	9.32	23.42%
REC	133	20.40	37	27.82%	5.44	26.68%	34	5.14	12.90%
OTH	116	17.32	40	34.48%	4.35	25.11%	35	5.52	13.86%
PUB	89	15.71	35	39.33%	5.53	35.22%	16	1.19	3.00%
SME	495	100.54	94	18.99%	14.62	14.54%	69	9.93	24.96%

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

TABLE 4

**EE - Estonia - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

EE - Estonia region	Number of grant holders	% of all EE - Estonia grant holders	EC contribution (M euro)	% of total EC contribution to EE
Põhja-Eesti (EE001)	132	57.64%	21.09	52.97%
Lõuna-Eesti (EE008)	90	39.30%	18.05	45.34%
Kesk-Eesti (EE006)	3	1.31%	0.33	0.84%
Lääne-Eesti (EE004)	1	0.44%	0.06	0.16%
Kirde-Eesti (EE007)	1	0.44%	0.15	0.38%

TABLE 5

**EE - Estonia - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all DK grant holders	EC contribution (M euro)	% of total EC contribution to EE grant holders
Tartu ulikool (UT)	45	19.65%	9.87	24.78%
Tallinna Tehnikaulikool	16	6.99%	4.43	11.13%
Sihtasutus Archimedes (Archimedes)	17	7.42%	2.35	5.89%
Tallinn University	5	2.18%	2.14	5.38%
Sihtasutus Eesti Teadusfond (ETF)	5	2.18%	1.98	4.96%

# COUNTRY PROFILE



## FI - Finland

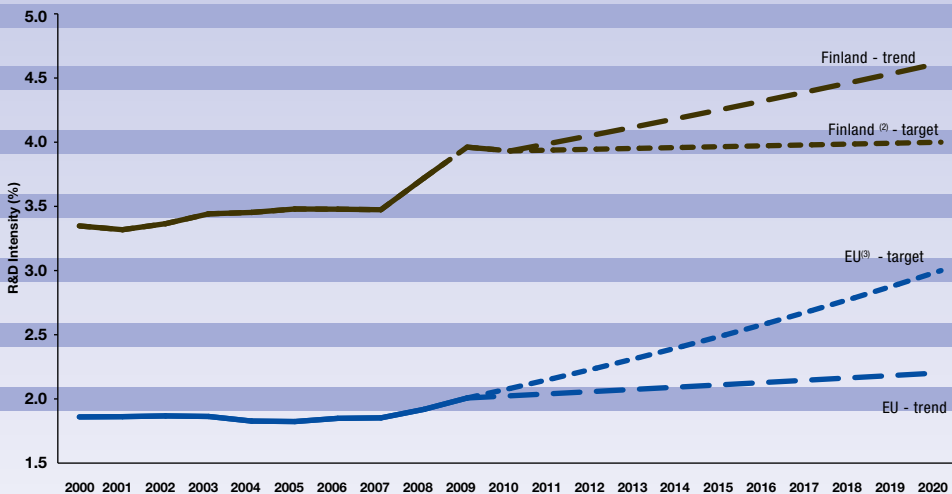
### Progress towards meeting the Europe 2020 R&D intensity target

R&D intensity in 2009 rose to 3.93%, very close to the 4% target, and confirmed once again the front leading position of Finland in terms of R&D investments. Public R&D in 2009 increased up to 1.11% and somehow compensated for the slight decrease of private R&D that resulted after the financial and economic downturn of the last couple of years. Nevertheless, private R&D still remains strong in the country at 2.79%. The R&D target for 2020 has been set at 4%, a value very close to the existing R&D intensity. While the continuation of the recent R&D growth trend would suggest the possibility of a more ambitious target, it should be noted that Finland faces a structural and acute challenge to raise further R&D investment, as a great part of private sector investment

is concentrated in one sector, i.e. ICT, and around one company, Nokia. A widely shared view in Finland is that investing in R&I is necessary for competitiveness and productivity growth, and consequently a general commitment to moderately increase public R&D funding is expected in the future. This could be combined with efforts to further improve framework conditions for fast growing innovative firms, also beyond ICT, in emerging user driven sectors including in services, in order to help the diversification of the economy building on the strong knowledge base assets of Finland. The recent review for 2011-2015 Research and Innovation policy guidelines of the Prime Minister led Research and Innovation Council raised the public funding, while ensuring the effectiveness of the public investments and a simplification of the R&I system.

### FINLAND

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

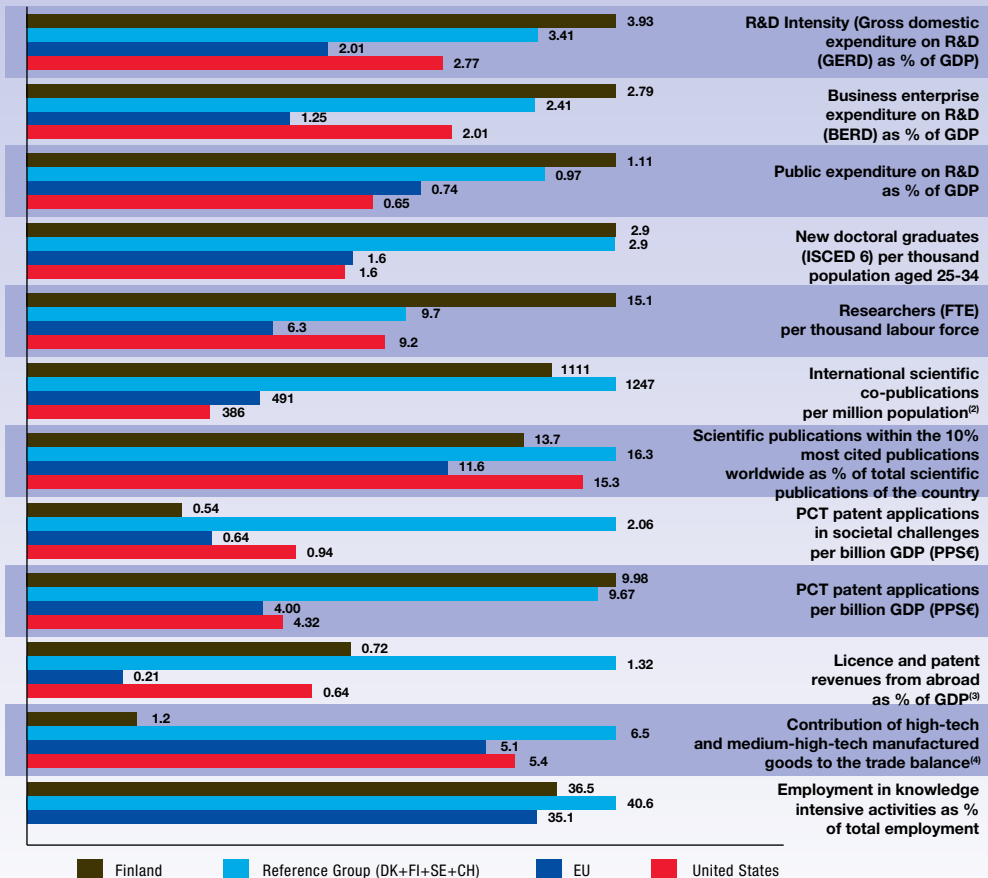
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity for 2000-2009 in the case of the EU and for 2000-2010 in the case of Finland.

(2) FI: This projection is based on a tentative R&D Intensity target of 4.0% for 2020.

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

Innovation Union Competitiveness Report 2011

## FINLAND

R&D profile, 2009<sup>(1)</sup>

Source: DG Research and Innovation

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

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

(2) (i) The EU value refers to the median rather than to the average; (ii) CH is not included in the Reference Group.

(3) EU refers to extra-EU.

(4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU; (iii) CH is not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

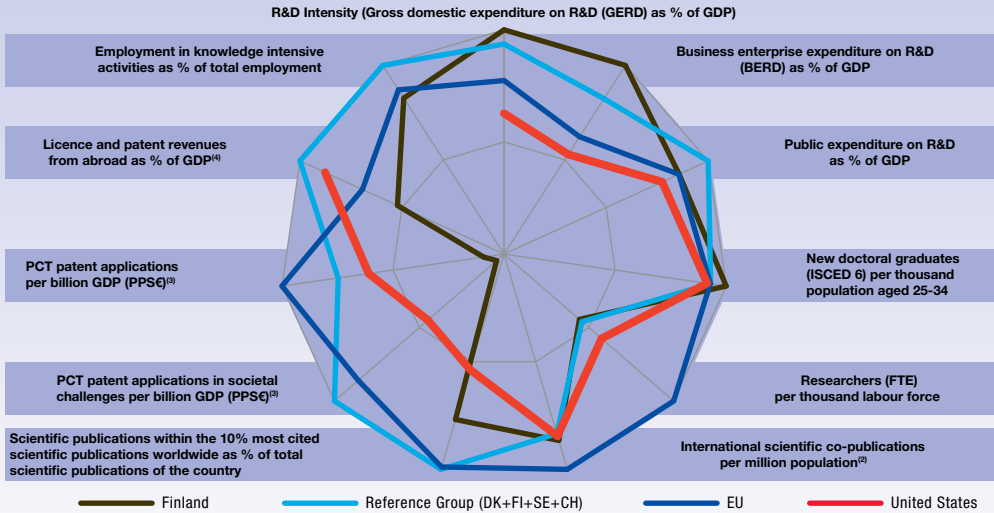
The Finnish research and innovation (R&I) system is characterised by a strong commitment both from the public and private sectors to increase R&I and education investments. Finland is leading in terms of R&D intensity and human resources. A distinctive characteristic is the high dependency of the system on one company, Nokia, which accounts for nearly 50% of the total business sector R&D investments, which in turn accounts for 71% of the total R&D investment. The large R&D investments and favourable framework condition in terms of macroeconomic stability and relatively high access to venture capital result in important scientific and technological outputs. Finland scores

well above the EU average in terms of high quality scientific publications, patents and their contribution to a knowledge-base economy.

In dynamic terms, in the last decade Finland has outperformed the EU, the United States and other highly knowledge-intensive countries in Europe in terms of private and public R&D investments and the share of new doctoral graduates. However, this rosy picture in terms of increasing input does not find its immediate translation in terms of growth in scientific and technological output, especially in terms of patents, where the country seems to lose ground vis-à-vis these reference countries.

# FINLAND

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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) (i) The EU value refers to the median rather than to the average; (ii) CH is not included in the Reference Group.

(3) Average annual growth refers to real growth.

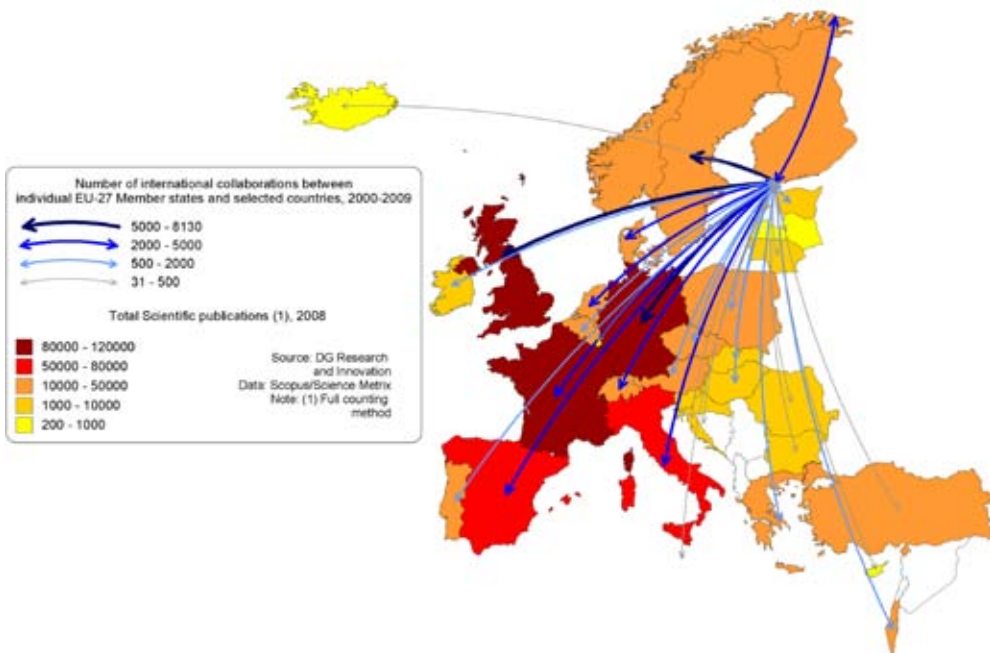
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

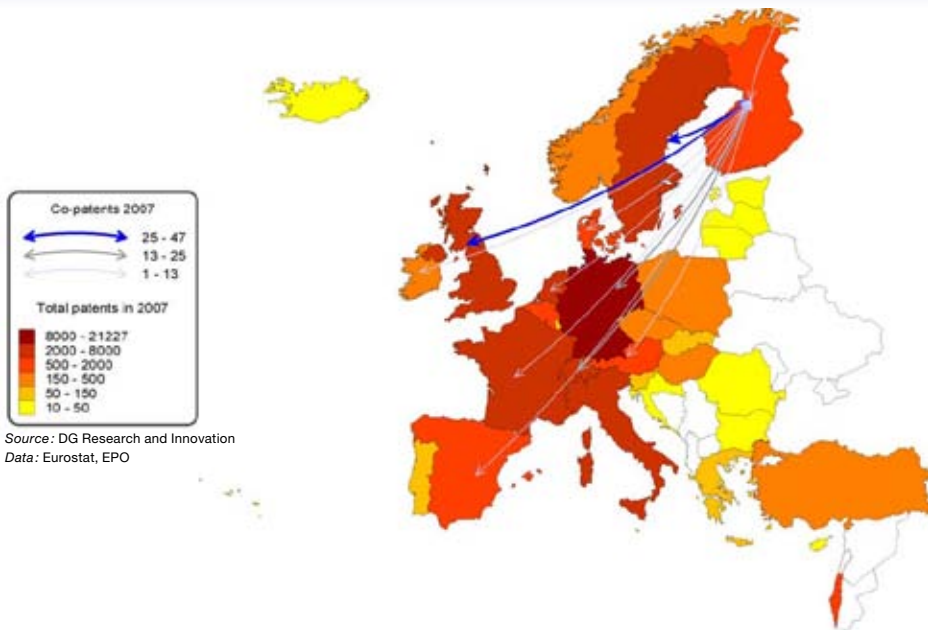
# FINLAND

## Co-publications between Finland and European Countries in 2000-2009



## FINLAND

## Co-invented patent applications between Finland and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO

This relative weaker growth performance may evidence some areas where the efficiency of the system to translate high R&D investments into high quality scientific and technological output and economic activity could be improved. In this sense, the recent review of the 2011-2015 Research and Innovation policy guidelines of the Prime Minister draw the attention to the need for boosting the effectiveness of public investments.

### Participation in the European Research Area: Scientific and Technological collaborations

Finland is a small economy with limited resources and markets, dependent of external trade and internationalisation of R&I. Alongside internal reforms, the efficiency of the research system is being strengthened by an opening up and integration into the European research system. The integration towards other R&I relevant European organisations and scientific networks is improving.

The Innovation Union Competitiveness report illustrates several aspects of scientific and technological cooperation. European-wide maps illustrate that Finland is connected to the main nodes of the networks, which are located in major research-intensive countries of Western and Central Europe. The strongest links of the Finnish science and technology cooperation are with the main EU trade partners especially Germany, Sweden and the United Kingdom, but some cooperation is also

visible with Southern and Eastern European countries. More generally, Finnish researchers are integrating in the international scientific knowledge flows as evidenced by the international co-publications including cooperation with the United States and Asia. However, despite being among the scientific and technological leaders in Europe, Finland's internationalisation in science and technology still remains behind the reference group including Sweden, Denmark and Switzerland, notably in terms of technological cooperation. This may signal an untapped potential for progress that could benefit future competitiveness and growth of the country.

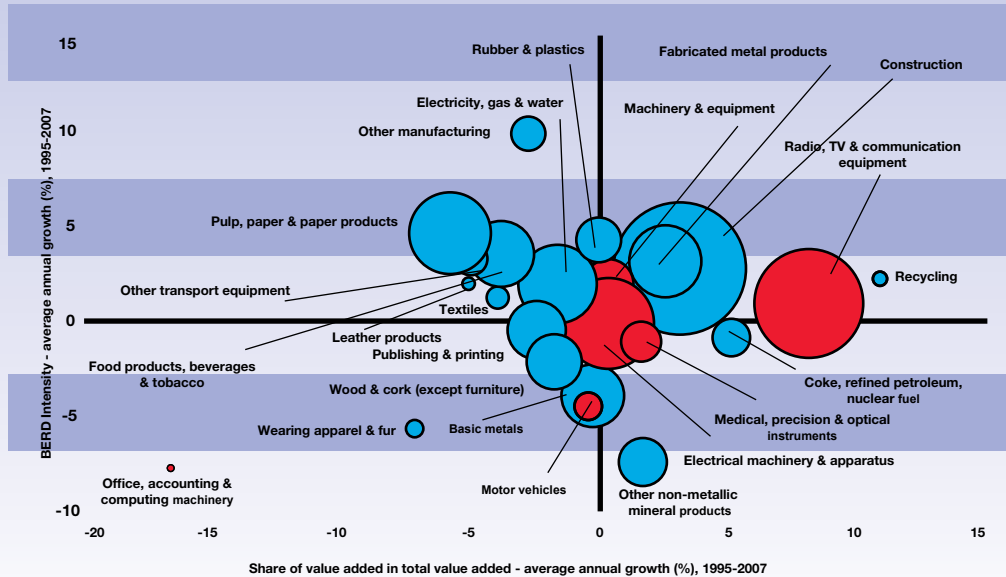
### Structural change towards more knowledge-intensive economy

In the last fifteen year, Finland has become a research intensive economy, with an important increase in terms of private R&D investments. The development of Nokia has led the High-tech ICT cluster to dominate the Finnish economy. ICT related growth has, to some extent, overshadowed the development of prior traditional sectors, such as Machinery and Equipment, which have however managed to increase their R&D intensity, measured as the share of R&D investment over total value added. Large sectors such as Construction and Fabricated metal products have demonstrated their capacity to raise their R&D intensity and to translate this in additional growth. The Pulp and Paper sector might get similar benefits over the years to come. However, it



## FINLAND

## Share of value added versus BERD Intensity - Average annual growth, 1995-2007



Innovation Union Competitiveness Report 2011

is widely acknowledged in Finland that the emergence of new R&I intensive sectors and growth companies are crucial for the future well-being of the country. In this regard, Finland expects also service innovations and design to play a significant role. Conversations on how to foster this structural change are currently ongoing among major national stakeholders.

### FP7 Key facts and figures

#### Applications

As of 2011/03/16, a total of

- 4425 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 6117 applicants from Finland (2.30% of EU-27\*) and
- requesting EUR 2364.28m of EC contribution (2.68% of EU-27\*)

Among the EU-27\* Finland (FI) ranks:

- 12<sup>th</sup> in terms of number of applicants and
- 11<sup>th</sup> in terms of requested EC contribution

#### Success rates

- The FI applicant success rate of 23.1% is higher than the EU-27\* applicant success rate of 21.6%.

- The FI EC financial contribution success rate of 21.3% is similar to the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 986 proposals were retained for funding (22.3%)
- involving 1415 (23.1%) successful applicants from Finland and
- requesting EUR 503.47m (21.3%) of EC financial contribution

Among the EU-27\*, Finland (FI) ranks:

- 9<sup>th</sup> in terms of applicants success rate and
- 8<sup>th</sup> in terms of EC financial contribution success rate

#### Signed grant agreements

As of 2011/03/16, Finland (FI) participates in

- 851 signed grant agreements
- involving 11429 participants of which 1271 (11.12%) are from Finland
- benefiting from a total of EUR 3264.07m of EC financial contribution of which EUR 432.01m (13.24%) is dedicated to participants from Finland.

Among the EU-27\* in all FP7 signed grant agreements, Finland (FI) ranks:

- 11<sup>th</sup> in number of participations and
- 11<sup>th</sup> in budget share

**SME performance and participation**

- The FI SME applicant success rate of 21.88% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The FI SME EC financial contribution success rate of 22.78% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 161 FI SME applicants requesting EUR 299.99m
- 254 (21.88%) successful SMEs requesting EUR 68.33m (22.78%)

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

- 163 FI SME grant holders, i.e., 12.82% of total FI participation
- EUR 39.15m, i.e., 9.06% of total FI budget share

**Top 3 collaborative links with**

- DE - Germany (1 550)
- UK - United Kingdom (1 091)
- FR - France (985)

**Nr. of Researchers		
as% of population	N/A	0.40%
Rank in EU-27*		
Innovation scoreboard (2008)	- 2 <sup>nd</sup>	
- Above EU-27 average		
- Innovation Leader		
Nr. of FP7 applicants (% EU-27*)	6 117	
(2.30%)	266 507	
Req. EC contribution by FP7 applicants		

in EUR million		
(% EU-27*)	2 364.28	
(2.68%)	88 295	
Nr. of successful FP7 applicants		
(% EU-27*)	1 415	
(2.39%)	59 199	
Req. EC contribution by successful FP7 applicants		
in EUR million		
(% EU-27*)	503.47	
(2.76%)	18 262.02	
Success rate FP7 applicants	23.1%	21.6%
Success rate		
FP7 EC contribution	21.3%	20.7%
Nr. of FP7 grant holders		
(% EU-27*)	1 271	
(2.48%)	51 279	
EC contribution to FP7 grant holders		
in EUR million		
(% EU-27*)	432.01	
(2.61%)	16 578.15	
Nr. of FP7 coordinators		
(% of grant holders)	185	
(14.56%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	163	
(12.82%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	39.15	
(9.06%)	2 207.73	
(13.32%)		

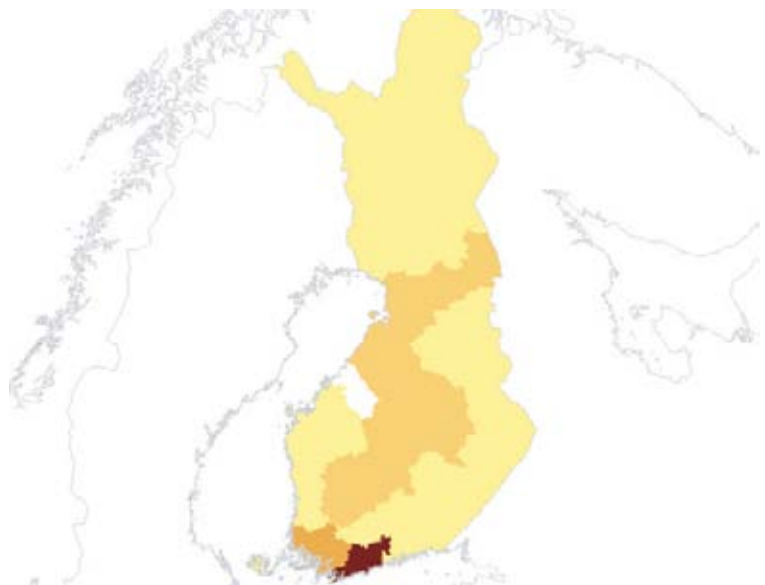
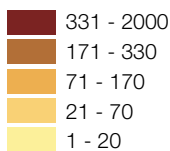


TABLE 1

**FI - Finland - 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	1 527	635.58	263	17.22%	104.19	16.39%
Marie-Curie Actions	607	n/a	142	23.39%	n/a	n/a
Health	531	260.91	130	24.48%	58.26	22.33%
Socio-economic sciences and Humanities	375	95.88	38	10.13%	14.80	15.44%
Research for the benefit of SMEs	365	45.99	79	21.64%	9.71	21.11%
Food, Agriculture and Fisheries, and Biotechnology	362	125.91	80	22.10%	26.10	20.73%

TABLE 2

**FI - Finland - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all FI grant holders	EC contribution (EUR million)	% of total EC contribution to FI
Information and Communication Technologies	278	21.87%	90.11	20.86%
Health	125	9.83%	55.23	12.79%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	124	9.76%	47.56	11.01%
ERC	32	2.52%	46.53	10.77%
Energy	53	4.17%	28.17	6.52%
Food, Agriculture and Fisheries, and Biotechnology	68	5.35%	24.27	5.62%

Notes: Report generated on: 2011/03/25.04:38 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**FI - Finland - 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	2464	746.08	475	19.28%	131.77	17.66%	461	168.94	39.11%
REC	1589	656.30	440	27.69%	178.45	27.19%	421	169.26	39.18%
PRC	1291	340.07	321	24.86%	93.47	27.49%	294	78.28	18.12%
PUB	253	44.57	90	35.57%	16.24	36.43%	50	6.06	1.40%
OTH	228	62.23	57	25.00%	25.36	40.74%	45	9.47	2.19%
SME	1161	299.99	254	21.88%	68.33	22.78%	163	39.15	9.06%

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

TABLE 4

**FI - Finland - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

FI - Finland region	Number of grant holders	% of all FI - Finland grant holders	EC contribution (M euro)	% of total EC contribution to FI
Uusimaa (FI181)	848	66.72%	316.12	73.17%
Varsinais-Suomi (FI183)	96	7.55%	29.19	6.76%
Pirkanmaa (FI197)	80	6.29%	27.15	6.29%
Pohjois-Pohjanmaa (FI1A2)	61	4.80%	17.71	4.10%
Pohjois-Savo (FI132)	42	3.30%	11.69	2.71%

TABLE 5

**FI - Finland - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all DK grant holders	EC contribution (M euro)	% of total EC contribution to DK grant holders
Teknologian Tutkimuskeskus VTT (VTT)	215	16.92%	100.40	23.24%
Helsingin Yliopisto	125	9.83%	59.79	13.84%
Aalto-Korkeakouluosaatio	99	7.79%	33.17	7.68%
Turun Yliopisto	50	3.93%	17.76	4.11%
Oulun Yliopisto	39	3.07%	14.05	3.25%

# COUNTRY PROFILE



## FR - France

### Progress towards meeting the 2020 R&D target

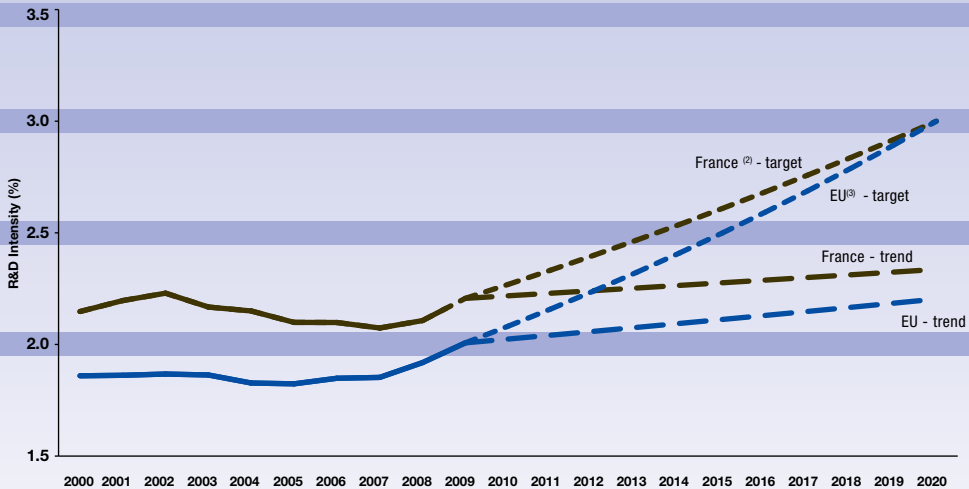
In the last decade, R&D intensity in France remained in the range of 2.07-2.21% of GDP, about 16% above the EU-27 average. If France's and the EU-27's current trends continue, France's R&D intensity will hardly be above EU-27 average in 2020. In order to maintain and increase its economic competitiveness and secure high-quality

jobs, France will have to increase its investments in research and innovation.

French authorities have recognised this and have set an ambitious, albeit realistic national R&D target for 2020: R&D intensity in France should account for 3% of the national GDP in 2020.

### FRANCE

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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 for 2000-2009 in the case of the EU and for 2004-2009 in the case of France.

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

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

(4) FR: There is a break in series between 2004 and the previous years.

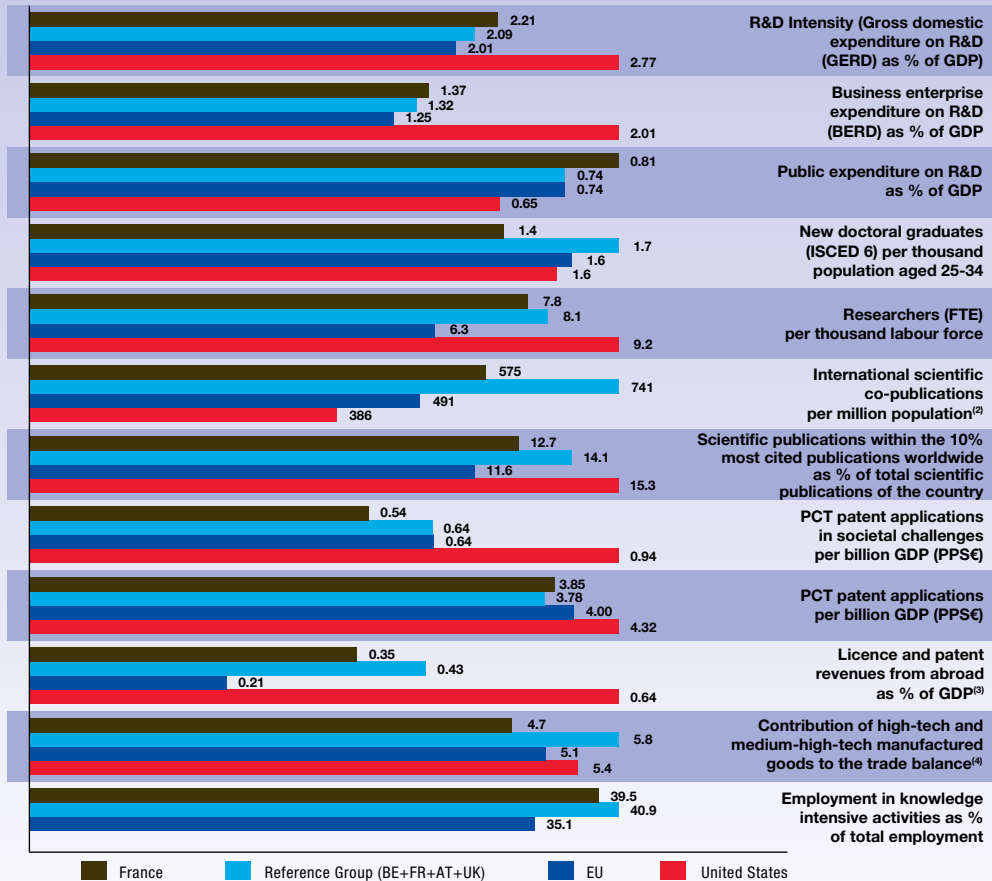
Innovation Union Competitiveness Report 2011

### Research and Innovation Performance

The R&D intensity gap in France lies primarily in the business sector. The insufficient level of business expenditure on R&D in France is to a large extent a reflection of the economic structure of the country moderately oriented towards high-tech manufacturing

sectors. High-tech and medium-high-tech manufactured goods contribute less than the EU average to the trade balance. France also scores moderately in terms of patented inventions, in particular patents in technologies related to health and climate change mitigation. In addition, the country benefits only moderately from

## FRANCE

R&D profile, 2009<sup>(1)</sup>

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.

Innovation Union Competitiveness Report 2011

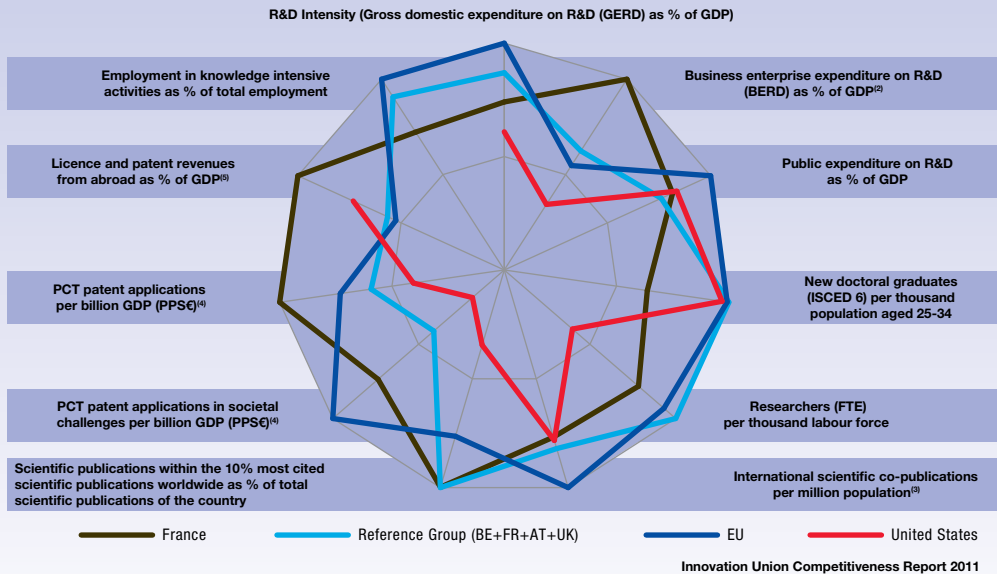
licence and patent revenues from abroad compared to the US, and also to countries of comparable research intensity in the EU. This demonstrates that part of the research is not related to the fast growing domains at world scale, or that the ability to protect and market technologies is still limited, calling for the development of a more intense knowledge-intensity in France. Finally, France produces fewer doctoral graduates relative to its population aged 25-34 than the average in EU-27 and 20% fewer than in comparable EU countries. This may be related to the dual higher education system in France, which undermines the attractiveness of the doctorate diploma. Surprisingly, this low rate of doctoral graduates every year does not affect the number of researchers in the labour force, suggesting that a higher

proportion of doctoral graduates in France engage in research careers than in other countries where doctoral graduates might engage more often in other professional activities.

In dynamic terms, in general France has made good progress in outputs: high-impact publications, but also patents and licence and patent revenues from abroad which have been weaknesses of the French system. Progress on the input side — public and business expenditure, new doctoral graduates and researchers — has been more moderate and less rapid than the EU average. A more rapid progress in outputs than in inputs points to an increased efficiency of the overall system.

# FRANCE

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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) Average annual growth for France refers to 2006-2009 - there is a break in series between 2006 and the previous years.

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

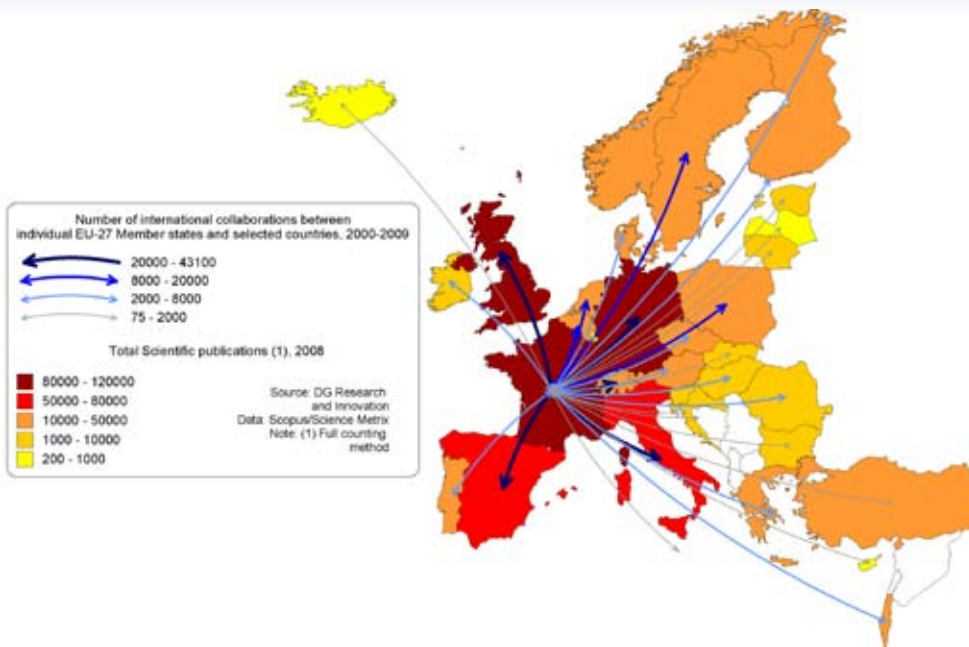
(4) Average annual growth refers to real growth.

(5) EU refers to extra-EU.

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

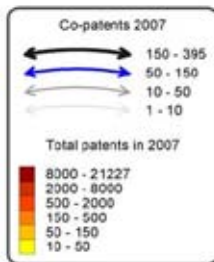
# FRANCE

## Co-publications between France and European Countries in 2000-2009

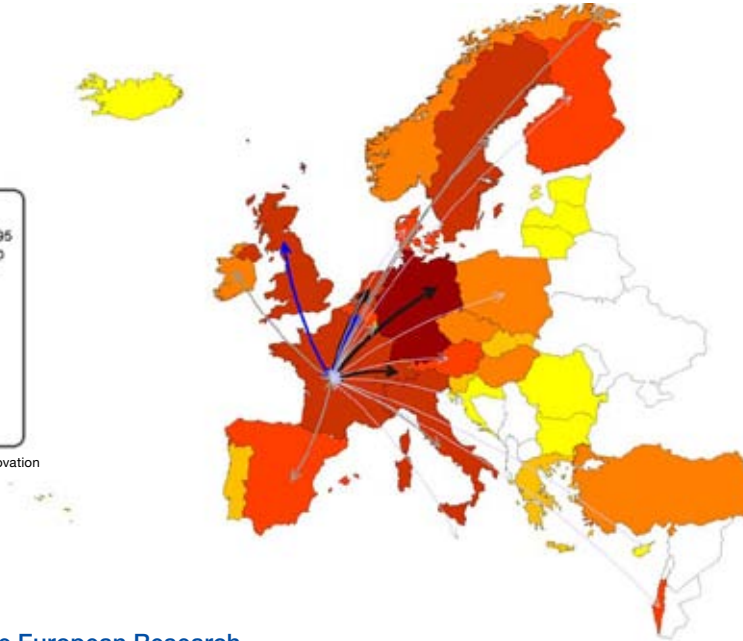


## FRANCE

## Co-invented EPO patent applications between France and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO



### Participation in the European Research Area: Scientific and Technological collaborations

France has a good level of international scientific co-publications (R&D profile above). Its main EU partners in science are Germany, the United Kingdom, Italy, Spain and Switzerland, followed by the Netherlands, Belgium and Poland. This reflects, to a large extent, the size of the research systems of these countries, but also geographical and cultural ties. This cooperation appears balanced and highly diversified, which constitutes an asset for the country.

There are always much fewer co-patents than co-publications in science. But France has strong ties with foreign co-inventors based in the most active European countries in patenting, namely Germany, Switzerland and the Netherlands, followed by the United Kingdom and Belgium. The connections with other European countries are relatively limited or non-existent. The lack of co-inventions with southern partners such as Spain and Italy contrasts with the number of co-publications with these countries, highlighting possible room for improvement.

### Structural change towards more knowledge-intensive economy

High-tech and medium-high-tech manufacturing sectors (in red in the figure below) are by far the most research intensive sectors in advanced economies.

Their respective sizes relative to the whole economy and their respective individual research intensities (R&D expenditure/value added) determine, to a large extent, the overall level of business R&D intensity in a country.

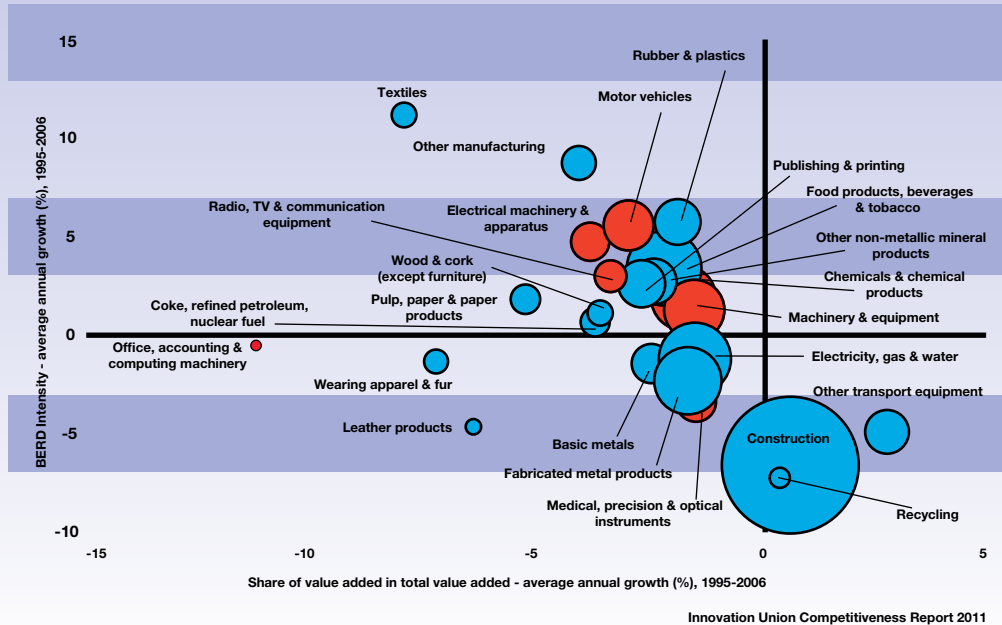
In most of these sectors, France is at, or close to, the technological frontier: the research intensities of these sectors in France are among the highest in international comparisons and they have progressed continuously over 1995–2006 to the noticeable exception of Medical, precision & optical instruments. In contrast, the weight of these sectors in the French economy is smaller than in countries with higher R&D intensities and has been decreasing over the same period. This decrease in the weight of high-tech and medium-high-tech manufacturing sectors in the French economy has compensated for the increase in their individual research intensities, resulting in a stagnation of business R&D intensity in France.

A significant increase in business R&D intensity in France cannot occur without a shift of the economy towards the more research-intensive sectors. The capability of France to effectively encourage the development of fast growing innovative firms that would position themselves in new emerging domains might be decisive in making such a structural change happen.



## FRANCE

## Share of value added versus BERD Intensity - Average annual growth, 1995-2006



Source: DG Research and Innovation

Data: OECD

Note: (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.

Innovation Union Competitiveness Report 2011

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 15 850 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 25 170 applicants from France (9.44% of EU-27\*) and
- requesting EUR 8 884.21m of EC contribution (10.06% of EU-27\*)

Among the EU-27\* France (FR) ranks:

- 5<sup>th</sup> in terms of number of applicants and
- 4<sup>th</sup> in terms of requested EC contribution

### Success rates

- The FR applicant success rate of 25.9% is higher than the EU-27\* applicant success rate of 21.6%.
- The FR EC financial contribution success rate of 26.5% is higher than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 3 836 proposals were retained for funding (24.2%)
- involving 6 529 (25.9%) successful applicants from France and

- requesting EUR 2 357.51m (26.5%) of EC financial contribution

Among the EU-27\*, France (FR) ranks:

- 3<sup>rd</sup> in terms of applicants success rate and
- 1<sup>st</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, France (FR) participates in

- 3 311 signed grant agreements
- involving 34 181 participants of which 5 803 (16.98%) are from France
- benefiting from a total of EUR 10 295.60m of EC financial contribution of which EUR 2 247.34m (21.83%) is dedicated to participants from France.

Among the EU-27\* in all FP7 signed grant agreements, France (FR) ranks:

- 3<sup>rd</sup> in number of participations and
- 3<sup>rd</sup> in budget share

### SME performance and participation

- The FR SME applicant success rate of 22.83% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The FR SME EC financial contribution success

rate of 21.58% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 5816 FR SME applicants requesting EUR 1602.71m
- 1328 (22.83%) successful SMEs requesting EUR 345.91m (21.58%)

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

- 902 FR SME grant holders, i.e., 15.54% of total FR participation
- EUR 245.10m, i.e., 10.91% of total FR budget share

**Top 3 collaborative links with**

- DE - Germany (4727)
- UK - United Kingdom (3623)
- IT - Italy (2962)

\*\*Nr. of Researchers as% of population N/A 0.40%  
 Rank in EU-27\*  
 Innovation scoreboard (2008) - 10<sup>th</sup>  
 - Above EU-27 average  
 - Innovation Follower  
 Nr. of FP7 applicants (% EU-27\*) 25 170  
 (9.44%) 266507  
 Req. EC contribution by FP7 applicants in EUR million (10.06%) 8884.21  
 (10.06%) 88295  
 Nr. of successful FP7 applicants

(% EU-27*)	6529	
(11.03%)	59199	
Req. EC contribution by successful FP7 applicants in EUR million		
(% EU-27*)	2357.51	
(12.91%)	18262.02	
Success rate FP7 applicants	25.9%	21.6%
Success rate		
FP7 EC contribution	26.5%	20.7%
Nr. of FP7 grant holders		
(% EU-27*)	5803	
(11.32%)	51279	
EC contribution to FP7 grant holders in EUR million		
(% EU-27*)	2247.34	
(13.56%)	16578.15	
Nr. of FP7 coordinators		
(% of grant holders)	1 197	
(20.63%)	9383	
(18.30%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	902	
(15.54%)	8845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	245.10	
(10.91%)	2207.73	
(13.32%)		

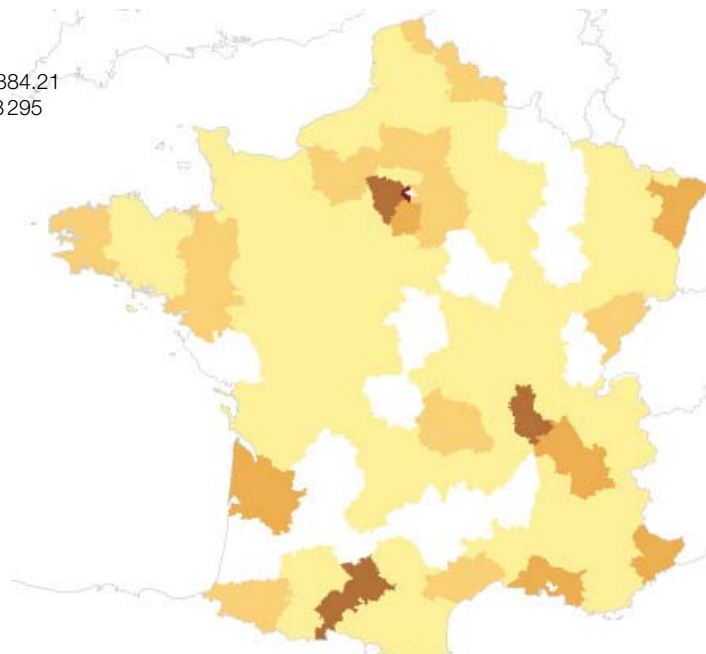
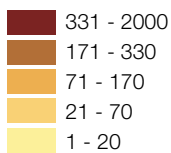


TABLE 1

**FR - France - 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	5738	2267.08	1138	19.83%	448.59	19.79%
Marie-Curie Actions	4119	n/a	1019	24.74%	n/a	n/a
Transport (including Aeronautics)	2368	738.23	808	34.12%	272.68	36.94%
Health	2366	1131.47	618	26.12%	296.98	26.25%
Research for the benefit of SMEs	1387	213.26	284	20.48%	45.95	21.55%
European Research Council	1314	1941.26	237	18.04%	388.86	20.03%

TABLE 2

**FR - France - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all FR grant holders	EC contribution (EUR million)	% of total EC contribution to FR
Information and Communication Technologies	1120	19.30%	395.72	17.61%
ERC	227	3.91%	324.37	14.43%
Health	600	10.34%	275.44	12.26%
Transport (including Aeronautics)	677	11.67%	207.50	9.23%
Marie-Curie Actions	812	13.99%	192.78	8.58%
Research Infrastructures	300	5.17%	127.67	5.68%

Notes: Report generated on: 2011/03/25.04:39 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

## FR - France - 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
PRC	8077	2516.58	2161	26.75%	705.42	28.03%	1981	581.77	25.89%
REC	7511	2489.35	2240	29.82%	813.41	32.68%	2441	1164.45	51.81%
HES	5757	1294.78	1169	20.31%	233.05	18.00%	954	298.68	13.29%
OTH	1579	375.08	404	25.59%	95.28	25.40%	189	159.42	7.09%
PUB	940	268.14	321	34.15%	121.70	45.38%	238	43.03	1.91%
SME	5816	1602.71	1328	22.83%	345.91	21.58%	902	245.10	10.91%

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

TABLE 4

## FR - France - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects

FR - France region	Number of grant holders	% of all FR - France grant holders	EC contribution (M euro)	% of total EC contribution to FR
Paris (FR101)	2777	47.85%	1192.40	53.06%
Hauts-de-Seine (FR105)	519	8.94%	193.64	8.62%
Yvelines (FR103)	244	4.20%	103.71	4.61%
Haute-Garonne (FR623)	228	3.93%	81.01	3.60%
Rhône (FR716)	208	3.58%	51.51	2.29%

TABLE 5

## FR - France - Most active organisations in terms of EC contribution granted to the FP7 research projects

Legal Name	Number of Participations	% of all FR grant holders	EC contribution (M euro)	% of total EC contribution to FR grant holders
Centre National de la Recherche Scientifique (CNRS)	733	12.63%	354.33	15.77%
Commissariat à l'Énergie Atomique et aux Énergies Alternatives (CEA)	370	6.38%	188.76	8.40%
Fondation Européenne de la Science	12	0.21%	124.90	5.56%
Institut National de la Santé et de la Recherche Médicale (INSERM)	224	3.86%	113.52	5.05%
Institut National de Recherche en Informatique et en Automatique (INRIA)	125	2.15%	60.98	2.71%

# COUNTRY PROFILE

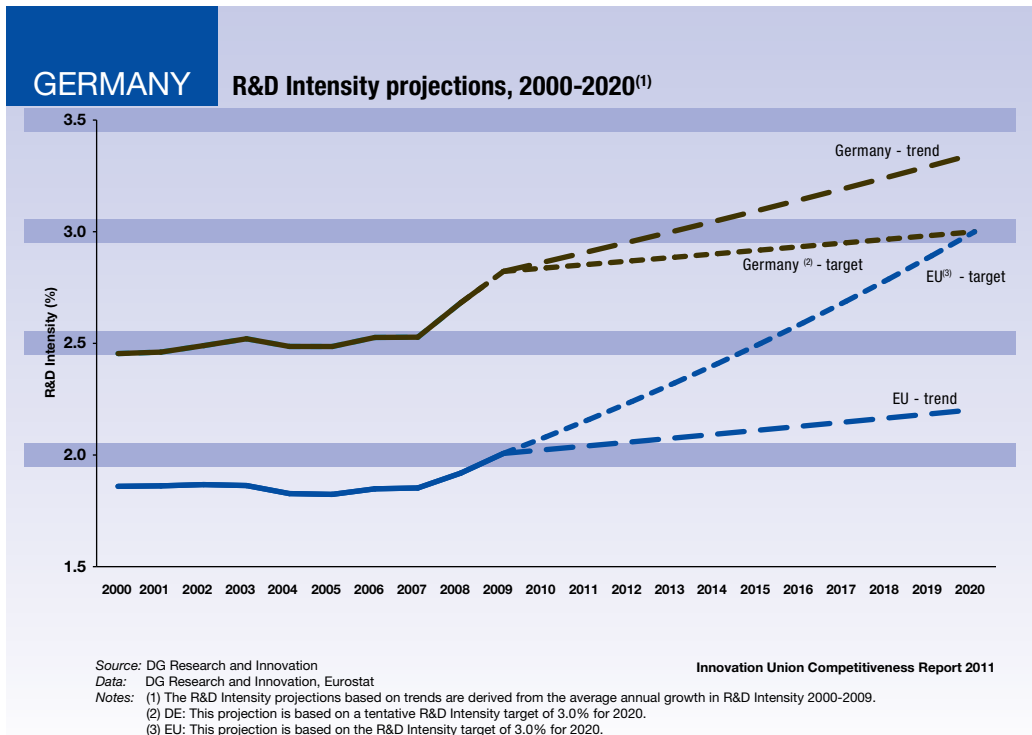


## DE - Germany

### Progress towards meeting the Europe 2020 R&D intensity target

In the last decade, R&D intensity grew in Germany above the EU average, passing from 2.43% in 2000 to 2.63% in 2008 and 2.82% in 2009. As a result, Germany is already closely approaching in 2010 its national R&D target of 3% which it plans to reach by 2015, even if it is possible that R&D intensity slips back in 2010, due to the sharp rise in GDP. The agreement reached between the Federal Government and the Länders to increase the public

budget for R&D and Higher Education by 12 billion euro between 2009-2014, by around 6 billion euro for R&D and 6 billion euro for higher education, is likely to allow Germany to reach the 3% target in the next years. In this context, the 3% R&D target for 2020 would represent a limited rate of increase between 2010 and 2020 and zero growth between 2015 and 2020. Per comparison, South Korea has set a target of 5% for 2014 and China a target of 2.5% for 2020.

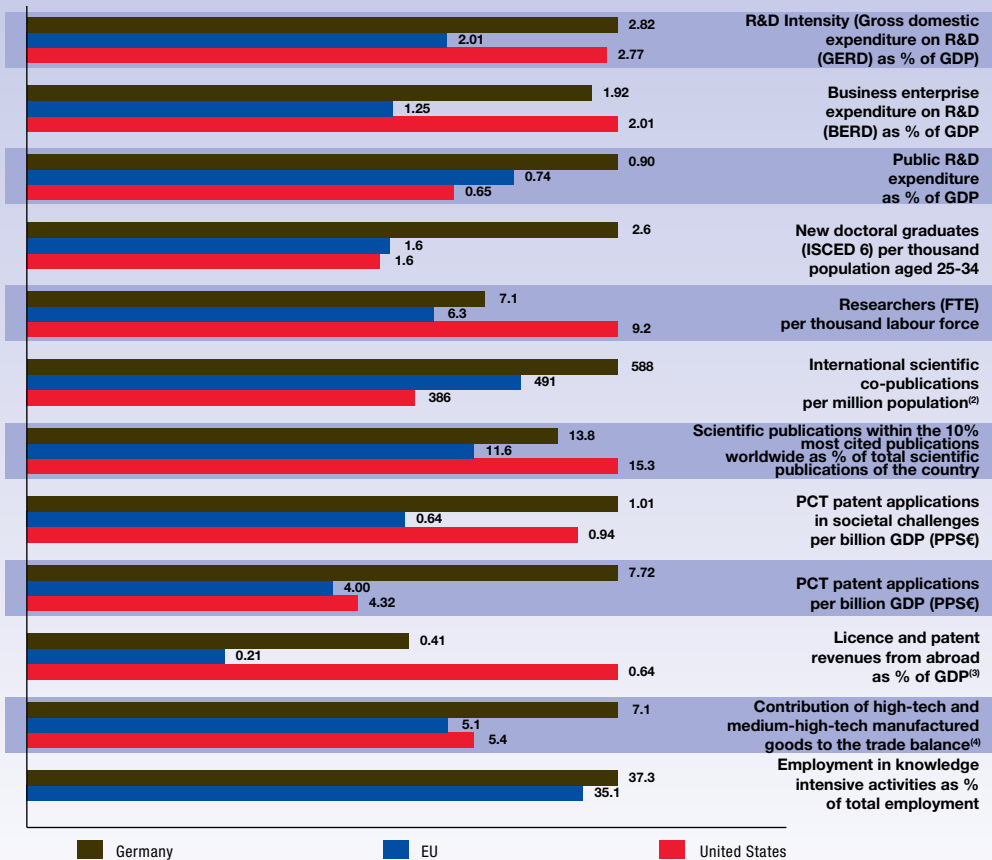


### Research and Innovation Performance

In addition to relative strong R&D investments, Germany is characterised by a very good innovation culture, both in indigenous large multinational enterprises and SMEs, ("Mittelstand"). The dual vocational training

system and the internship practices in the engineering sectors support innovation. The aim of strengthening innovation of small and medium-sized companies is to improve the funding of innovations and to intensify the exploitation of research results. Areas of potential

## GERMANY

R&D profile, 2009<sup>(1)</sup>

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.

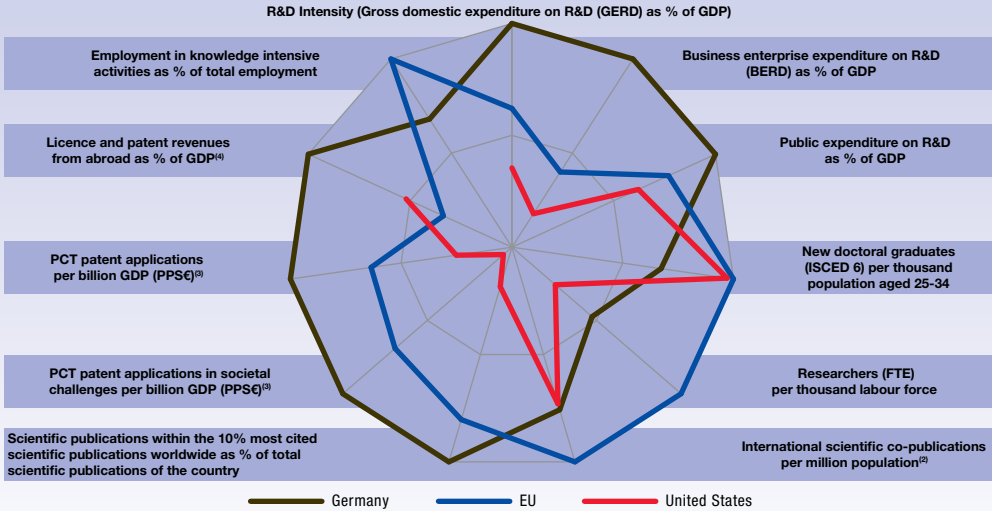
Innovation Union Competitiveness Report 2011

concern are the service economy sectors, which might be set aside by the manufacturing oriented business culture. The German High-Tech strategy aims at addressing this issue. Knowledge creation is well advanced as evidenced by the high number of new doctoral graduates per thousand population aged 25-34, much higher than in the EU on average or the United States, the proportion of high-quality scientific publications or the number of international co-publications per million population. There is an imminent shortage of skilled labour in both academia and industry which is recognised by the Federal Government in its pact for higher education and commitment to spend 10% of GDP on education and research by 2015: with an R&D target of 3%, this means a

commitment to spend 7% of GDP on education. In terms of knowledge dissemination in the system, cooperation between business associations and public research is close. Moreover, in order to enhance the exploitation of research results by SMEs, specially targeted programmes are implemented, e.g. the High-tech Start-up Fund. As a result, Germany has an outstanding performance in patent application and nearly doubles the United States or the EU average. This in turn, reflects in the strong and highly competitive industrial structure, focused on medium-high tech goods, that allows for a positive trade balance. In absolute terms Germany overtook the United States as world leading exporter, far ahead of Japan and was only recently put to the second rank by China.

# GERMANY

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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.

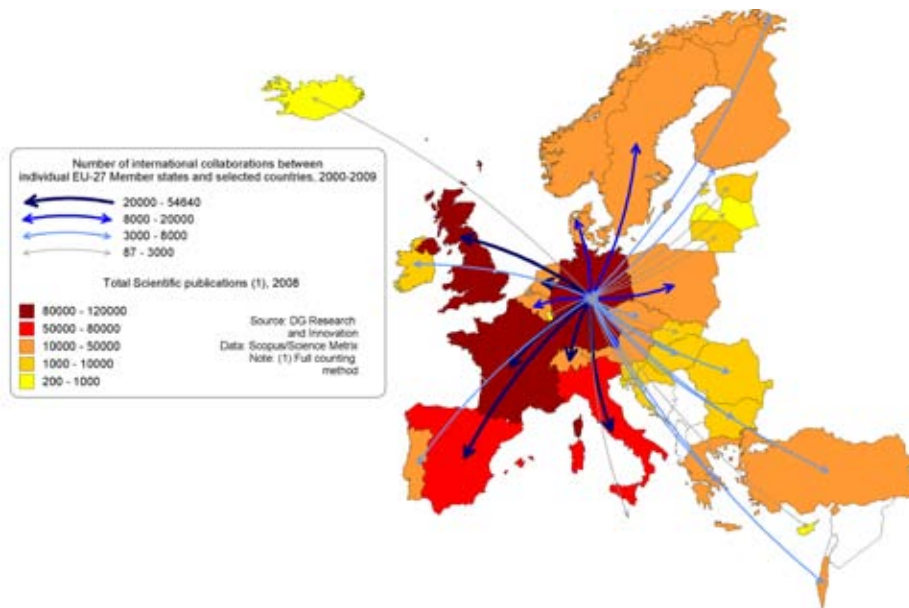
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

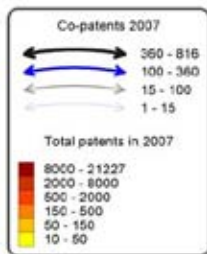
# GERMANY

## Co-publications between Germany and European Countries in 2000-2009

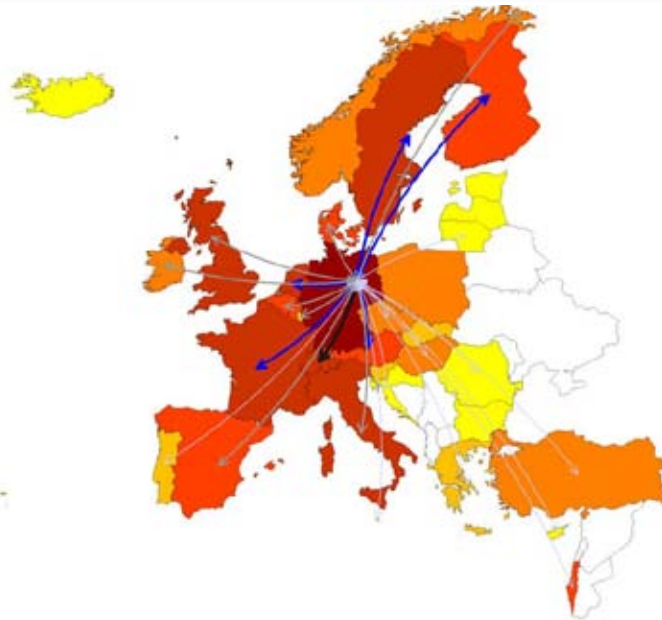


## GERMANY

## Co-invented patent applications between Germany and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO



From a dynamic perspective, the indicators show that Germany has been doing good progress not only in increasing its public and private R&D investment, but also in translating this into high quality scientific and technological outputs, where it outperforms the EU average and the United States. A note of concern can be raised on the progress of the system to train new researchers or engage more researchers in the labour force. Moreover, the progress towards higher employment in knowledge intensive sectors has been below the EU average. These facts might be due to a certain weakness of high tech sectors in the industrial structure as Germany is focused on medium-high tech industries.

### Participation in the European Research Area: Scientific and Technological collaborations

Germany is cooperating strongly in industrial related co-patenting with its language clustered neighbouring countries such as Switzerland and Austria, but also with the Netherlands, Sweden, Finland and France. In terms of scientific cooperation, the main partners are the larger counties like the United Kingdom, France, Italy and Spain and as well the neighbouring Switzerland and the Netherlands. The relatively low degree of co-patenting with countries such as the United Kingdom, Italy or Spain, as compared to the degree of scientific co-publications, may signal an untapped potential for fruitful economic cooperation to be further developed. This relatively low rate of co-patenting should be

seen in the light of findings that the establishment of multinational companies has an impact on the co-patenting activity in a country

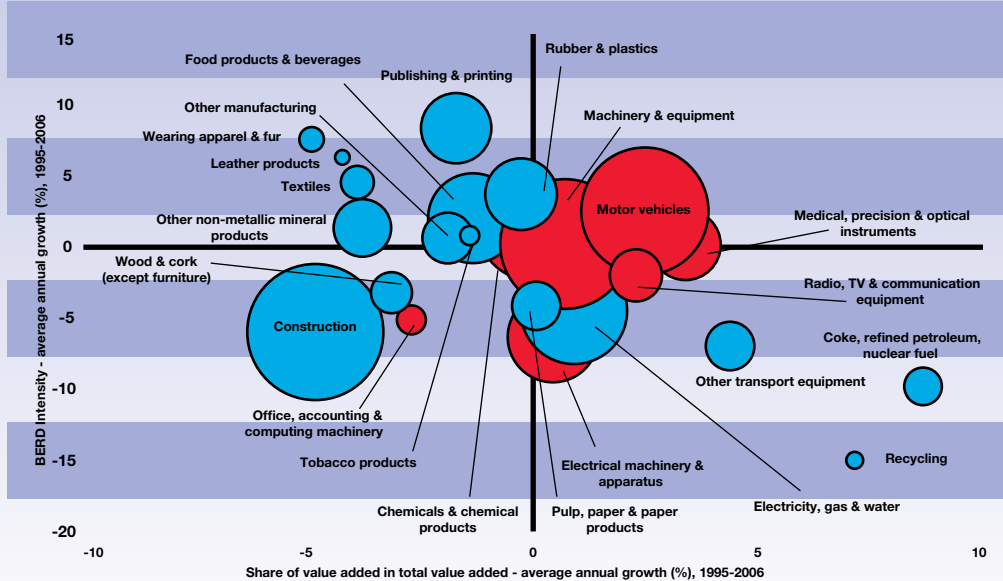
### Structural change towards more knowledge-intensive economy

In the last decade, private R&D intensity slightly increased from 1.73% in 2000 to 1.92% in 2009. This rise was mainly due to the increasing importance of some key medium-high and high tech sectors, such as medical precision and optical instrument, motor vehicles or machinery equipment, in the overall economy. The current structure of the innovation system has been the basis for Germany's position as a leading innovator as indicated inter alia by the turnover generated by new products and as world leader in export of industrial goods. In particular, the strong role of the medium-high technology manufacturing sectors makes the German economy one of the most research oriented. However countries such as France or Sweden count on higher research intensity in business enterprises, i.e. the proportion of private R&D investment over total value added, in the same sectors, which can endanger the long-term competitive edge of some sectors in Germany. The High-Tech strategy aims at responding to this challenge by encouraging a shift towards cutting-edge technology in the context of an overall objective of strengthening the innovation efforts of as many companies as possible regardless of sector or technology



## GERMANY

## Share of value added versus BERD Intensity - Average annual growth, 1995-2006



Source: DG Research and Innovation

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) 'Basic metals' and 'Fabricated metal products' are not visible on the graph.

Innovation Union Competitiveness Report 2011

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 20739 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 37 552 applicants from Germany (14.09% of EU-27\*) and
- requesting EUR 14 316.14m of EC contribution (16.21% of EU-27\*)

Among the EU-27\* Germany (DE) ranks:

- 1<sup>st</sup> in terms of number of applicants and
- 1<sup>st</sup> in terms of requested EC contribution

### Success rates

- The DE applicant success rate of 23.9% is higher than the EU-27\* applicant success rate of 21.6%.
- The DE EC financial contribution success rate of 24.2% is higher than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 4 540 proposals were retained for funding (21.9%)
- involving 8 973 (23.9%) successful applicants from Germany and

- requesting EUR 3 467.03m (24.2%) of EC financial contribution

Among the EU-27\*, Germany (DE) ranks:

- 7<sup>th</sup> in terms of applicants success rate and
- 4<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Germany (DE) participates in

- 3 923 signed grant agreements
- involving 40 911 participants of which 8 002 (19.56%) are from Germany
- benefiting from a total of EUR 12 534.74m of EC financial contribution of which EUR 3 052.92m (24.36%) is dedicated to participants from Germany.

Among the EU-27\* in all FP7 signed grant agreements, Germany (DE) ranks:

- 1<sup>st</sup> in number of participations and
- 1<sup>st</sup> in budget share

**SME performance and participation**

- The DE SME applicant success rate of 21.17% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The DE SME EC financial contribution success rate of 20.57% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 9421 DE SME applicants requesting EUR 2713.72m
- 1994 (21.17%) successful SMEs requesting EUR 558.33m (20.57%)

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

- 1317 DE SME grant holders, i.e., 16.46% of total DE participation
- EUR 356.68m, i.e., 11.68% of total DE budget share

**Top 3 collaborative links with**

- UK - United Kingdom (4352)
- FR - France (3983)
- IT - Italy (3554)

\*\*Nr. of Researchers as% of population N/A 0.40%

Rank in EU-27\* Innovation scoreboard (2008) - 3<sup>rd</sup>

- Above EU-27 average
- Innovation Leader

Nr. of FP7 applicants (% EU-27\*) 37 552 266 507

Req. EC contribution by FP7 applicants in EUR million (% EU-27\*) 14 316.14 88 295

Nr. of successful FP7 applicants (% EU-27\*) 8 973 59 199

Req. EC contribution

by successful FP7 applicants in EUR million

(% EU-27*)	3 467.03	
(18.98%)	18 262.02	
Success rate FP7 applicants	23.9%	21.6%
Success rate FP7 EC contribution	24.2%	20.7%
Nr. of FP7 grant holders (% EU-27*)	8 002	
(15.60%)	51 279	
EC contribution to FP7 grant holders in EUR million (% EU-27*)	3 052.92	
(18.42%)	16 578.15	
Nr. of FP7 coordinators (% of grant holders)	1 316	
(16.45%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	1 317	
(16.46%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	356.68	
(11.68%)	2 207.73	
(13.32%)		

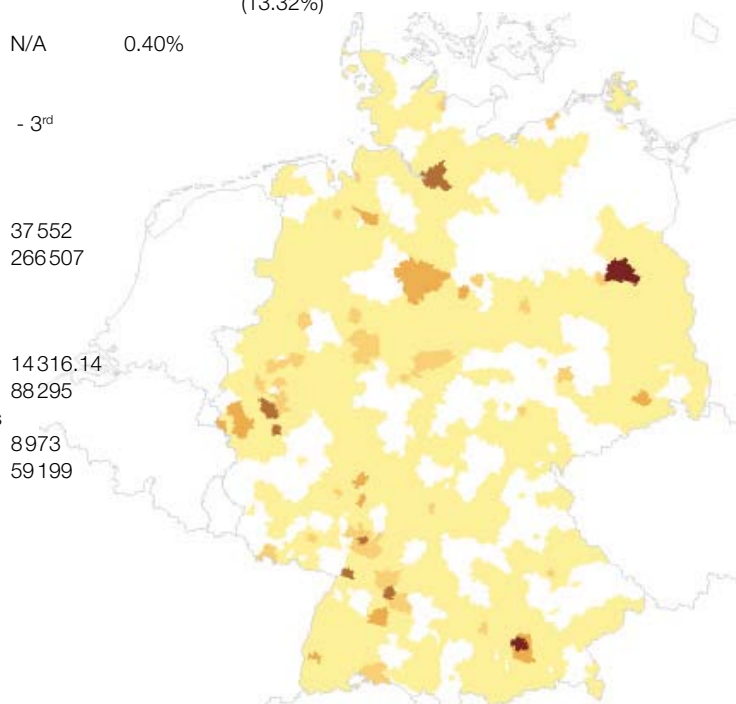
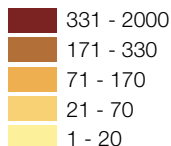


TABLE 1

**DE - Germany - 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	9995	4592.30	1965	19.66%	941.65	20.50%
Marie-Curie Actions	4573	n/a	1004	21.95%	n/a	n/a
Health	3665	1856.85	881	24.04%	423.16	22.79%
Transport (including Aeronautics)	2962	1010.64	899	30.35%	352.06	34.84%
Research for the benefit of SMEs	2707	380.84	562	20.76%	77.00	20.22%
Environment (including Climate Change)	2222	654.88	510	22.95%	141.71	21.64%

TABLE 2

**DE - Germany - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all DE grant holders	EC contribution (EUR million)	% of total EC contribution to DE
Information and Communication Technologies	1990	24.87%	862.67	28.26%
Health	880	11.00%	397.59	13.02%
ERC	223	2.79%	324.85	10.64%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	820	10.25%	298.59	9.78%
Transport (including Aeronautics)	708	8.85%	230.39	7.55%
Marie-Curie Actions	820	10.25%	222.04	7.27%

Notes: Report generated on: 2011/03/24.11:59 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**DE - Germany - 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	12990	4208.50	2784	21.43%	908.77	21.59%	2788	1138.09	37.28%
PRC	11140	3551.09	2860	25.67%	982.24	27.66%	2615	818.57	26.81%
REC	9445	3736.32	2495	26.42%	1012.64	27.10%	2275	1023.59	33.53%
OTH	1544	411.84	329	21.31%	104.02	25.26%	97	17.69	0.58%
PUB	1023	237.02	277	27.08%	54.06	22.81%	227	54.97	1.80%
SME	9421	2713.72	1994	21.17%	558.33	20.57%	1317	356.68	11.68%

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

TABLE 4

**DE - Germany - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

DE - Germany region	Number of grant holders	% of all DE - Germany grant holders	EC contribution (M euro)	% of total EC contribution to DE
M ½ ½nchen, Kreisfreie Stadt (DE212)	1318	16.47%	595.42	19.50%
Berlin (DE300)	595	7.44%	203.85	6.68%
K ½ ½ln, Kreisfreie Stadt (DEA23)	319	3.99%	129.80	4.25%
Stuttgart, Stadtkreis (DE111)	275	3.44%	100.65	3.30%
Heidelberg, Stadtkreis (DE125)	266	3.32%	148.38	4.86%

TABLE 5

**DE - Germany - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all DE grant holders	EC contribution (M euro)	% of total EC contribution to DE grant holders
Fraunhofer-Gesellschaft Zur Foerderung Der Angewandten Forschung E.V (Fraunhofer)	491	6.14%	225.11	7.37%
Max Planck Gesellschaft Zur Foerderung Der Wissenschaften E.V. (MPG)	338	4.22%	170.56	5.59%
Deutsches Zentrum Fuer Luft - Und Raumfahrt EV (DLR)	201	2.51%	92.01	3.01%
Karlsruher Institut Fuer Technologie (KIT)	180	2.25%	61.13	2.00%
European Molecular Biology Laboratory (EMBL)	86	1.07%	60.31	1.98%

# COUNTRY PROFILE

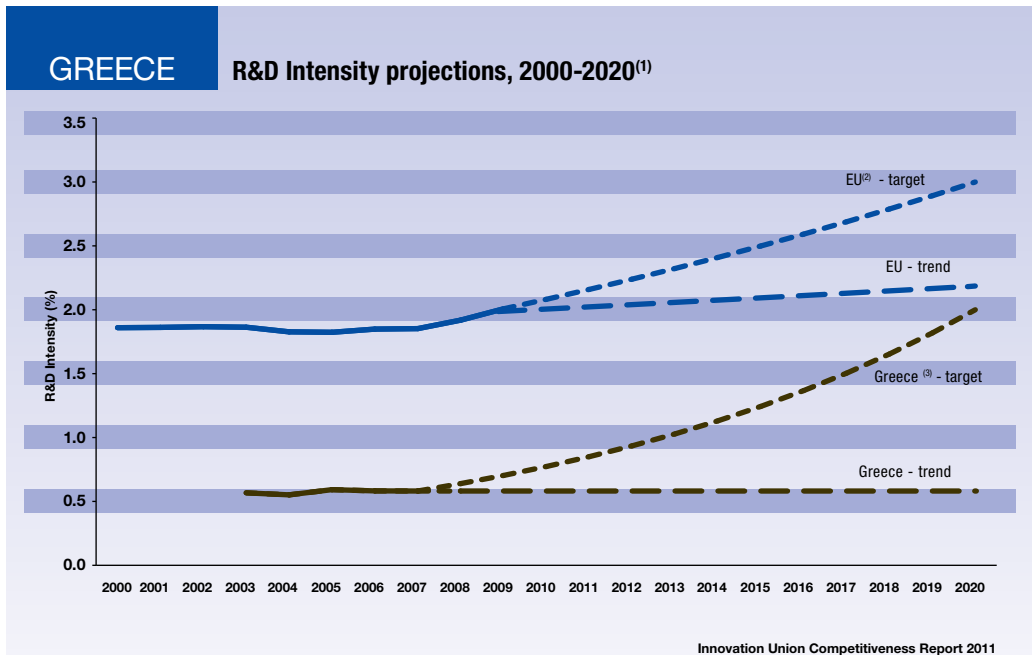


## EL - Greece

### Progress towards meeting the Europe 2020 R&D intensity target

In the last decade, R&D intensity in Greece has stagnated remaining at 0.58% of GDP. This stagnation has been caused by a decrease in the already very low private R&D intensity, which fell from 0.19% to 0.16% in 2007, i.e. an

average annual fall rate of 2.1%. Public R&D intensity, on the other hand, slightly increased, passing from 0.39% to 0.42%. It should be noted that overall GERD investment growth in Greece has been significant, but this growth was not as high as the rapid GDP growth during the years 2000-2006, hence the fall in R&D intensity.



Source: DG Research and Innovation

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 for 2000-2009 in the case of the EU and for 2001-2007 in the case of Greece.

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

(3) EL: This projection is based on a tentative R&D Intensity target of 2.0% for 2020.

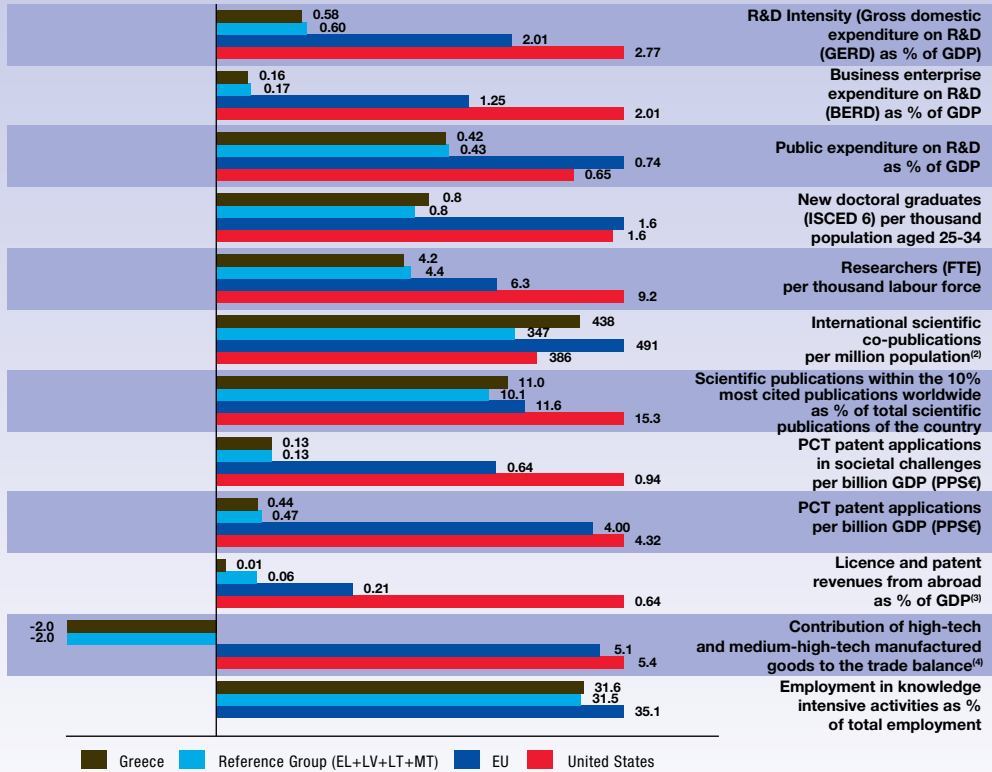
### Research and Innovation Performance

Greece is one of the moderate innovators with a performance below the EU average<sup>8</sup>. Actions to foster the research and innovation capacity will depend significantly on the financing from EU Structural Funds both at national and regional level: over the period 2007-2013. Greece is expected to spend around 4 billion Euros on innovation. There is a large potential for job

creation by strengthening the business environment, reinforcing R&D and innovation and making the relationship between the public and the private sector more dynamic. Existing and planned programs support R&D&I in enterprises, in particular SMEs. The success of these programmes is linked also with the need to increase the capacity of absorption of the R&D and innovation system. The innovativeness of the Greek economy is of a "catching-up" kind, depending on imported technology and know-how. It flourishes

GREECE

R&D profile, 2009<sup>(1)</sup>



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; (iii) LV, LT and MT are not included in the Reference Group.  
 (5) Elements of estimation were involved in the compilation of the data.

Innovation Union Competitiveness Report 2011

thanks to organisational and marketing innovations and less on the production and exploitation of new knowledge. EU programmes (the Research Framework Programme and the Structural Funds) play a major role in both R&D and innovation activity in Greece.

In the field of human resources for research, Greece is below the EU average with 4.2 researchers (FTE) per thousand labour force (the EU average is 6.3). While these figures are low the number of researchers and new doctoral graduates (ISCED 6) per thousand population aged 25-34 have been growing at a faster rate than the EU average (over the period 2000-2008), indicating that a catching up is underway.

The Greek national innovation system has grown faster than the EU on average, enhancing human resources, scientific quality and technological capacity. However, the private sector is less dynamic in the respect of total

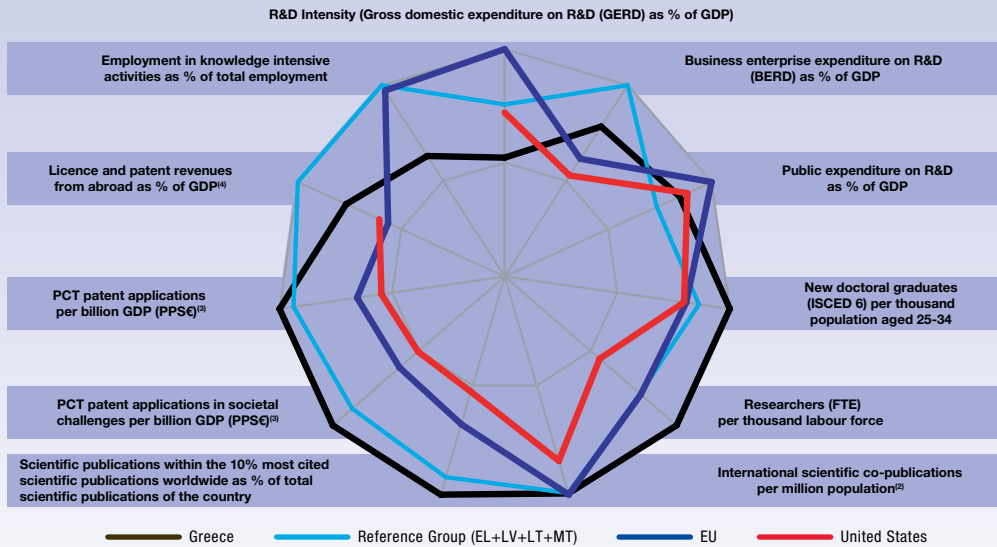
expenditure on R&D, thus reflecting the low demand for research-based knowledge from business enterprises. Restricted access to capital, especially for new firms, due to the reluctance of the financial institutions to finance innovation and risky investments is also among the factors hindering mobilisation of resources for R&D.

Participation in the European Research Area: Scientific and Technological collaborations

Greece is well placed regarding scientific production, reaching close to the average EU figures, 438 co-publications per million population against 491 for the EU average. Reinforcing this indicator, Greece is above the average in the scientific publications within the top 10% most cited publications worldwide as a percentage of total scientific publications of the country. These two results indicate that Greek research is of a good degree of quality and show a considerable achievement given

# GREECE

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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

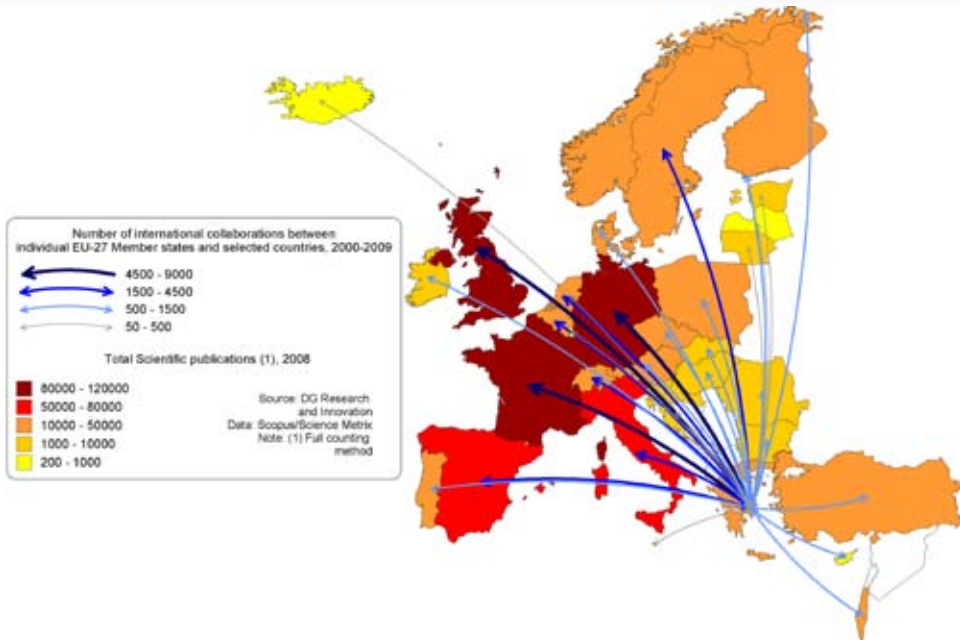
(3) Average annual growth refers to real growth.

(4) EU refers to extra-EU.

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

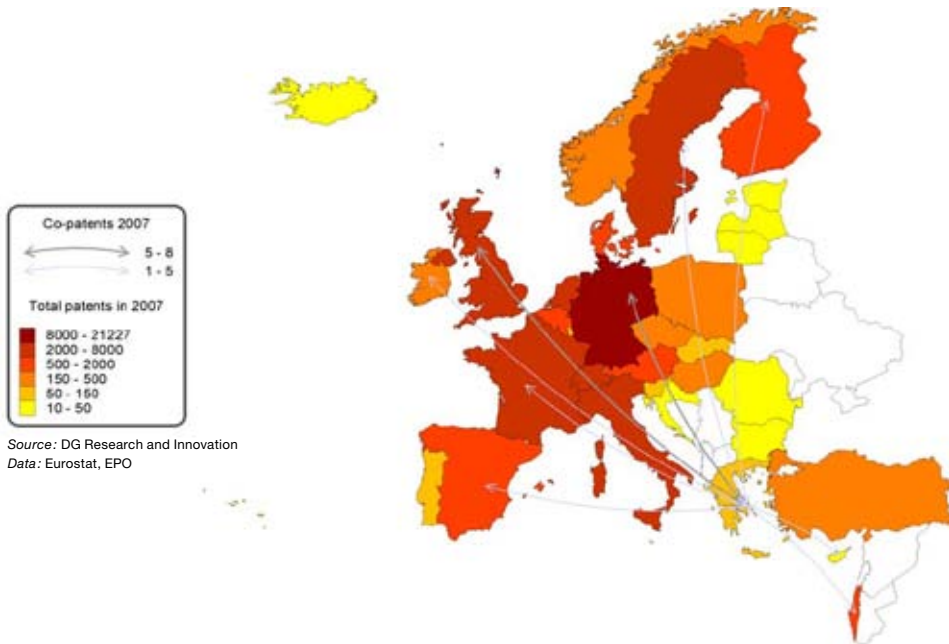
# GREECE

## Co-publications between Greece and European Countries in 2000-2009



## GREECE

## Co-invented patent applications between Greece and European Countries, 2007



the lower share of Greek researchers. In addition, Greece is in a leading position with regard to FP7 collaborative links with European countries per 1000 researchers FTE (see Part II, chapter 4 of this report). This favourable position is partly due to the fact that Greece has a smaller number of researchers than most of the EU countries.

Technological collaboration as expressed through co-patenting applications is very modest, when compared with the EU average. More than 65% of the total patent applications are made by a single inventor and thus less than 35% in collaboration. From these, 7.4% are co-patents involving a non EU country, a low figure which highlights the need for more collaboration and internationalisation of the technological innovation activities.

### Structural change towards more knowledge-intensive economy

Greece experienced big changes in its industrial structure after 1995. During the period 1995-2005, an increase was registered in the share of BERD by both manufacturing and services, manufacturing representing 56% and services 36%. Business R&D is concentrated in 4 sectors, accounting for more than 51% of BERD. In Greece, 12 sectors account for more than 80% of industrial R&D, with the Radio, TV and Communications Equipment sector and the Computer Services sector holding the leading share of 40%. Chemicals and

chemical products forms the third sector, with a 9% share of total business enterprise R&D.

The graph below illustrates the lack of dynamism of the economy towards more research intensive sectors. The economic structure of the country has slightly shifted towards less research oriented activities. The small increase registered in BERD after 1995 (with a negative trend in the period post 2000) was caused by the increase in the research intensity of few individual sectors, in particular the chemicals and chemical products sector.

### FP7 Key facts and figures

#### Applications

As of 2011/03/16, a total of

- 8 157 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 12 177 applicants from Greece (4.57% of EU-27\*) and
- requesting EUR 3 798.98m of EC contribution (4.30% of EU-27\*)

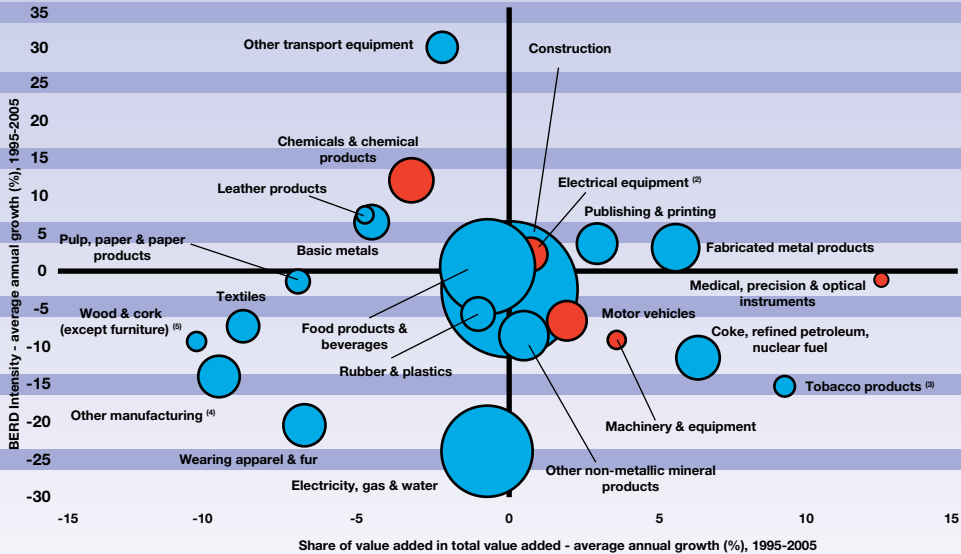
Among the EU-27\* Greece (EL) ranks:

- 7<sup>th</sup> in terms of number of applicants and
- 7<sup>th</sup> in terms of requested EC contribution



## GREECE

## Share of value added versus BERD Intensity - Average annual growth, 1995-2005



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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) Electrical equipment includes: 'Office, accounting and computing machinery', 'Electrical machinery and apparatus', and 'Radio, TV and communication equipment'.

(3) 'Tobacco products': average annual growth refers to 2000-2005.

(4) 'Other manufacturing': average annual growth refers to 1995-2003.

(5) 'Wood and cork (except furniture)': average annual growth refers to 1995-2004.

(6) 'Recycling' is not included on the graph.

### Success rates

- The EL applicant success rate of 16.2% is lower than the EU-27\* applicant success rate of 21.6%.
- The EL EC financial contribution success rate of 13.0% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 1371 proposals were retained for funding (16.8%)
- involving 1976 (16.2%) successful applicants from Greece and
- requesting EUR 495.31m (13.0%) of EC financial contribution

Among the EU-27\*, Greece (EL) ranks:

- 25<sup>th</sup> in terms of applicants success rate and
- 19<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Greece (EL) participates in

- 1205 signed grant agreements
- involving 14476 participants of which 1769 (12.22%) are from Greece

- benefiting from a total of EUR 3950.69m of EC financial contribution of which EUR 481.91m (12.20%) is dedicated to participants from Greece.

Among the EU-27\* in all FP7 signed grant agreements, Greece (EL) ranks:

- 9<sup>th</sup> in number of participations and
- 9<sup>th</sup> in budget share

### SME performance and participation

- The EL SME applicant success rate of 12.87% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The EL SME EC financial contribution success rate of 11.28% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 3373 EL SME applicants requesting EUR 840.81m
- 434 (12.87%) successful SMEs requesting EUR 94.85m (11.28%)

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

- 304 EL SME grant holders, i.e., 17.18% of total EL participation
- EUR 71.12m, i.e., 14.76% of total EL budget share

**Top 3 collaborative links with**

- DE - Germany (1 634)
- UK - United Kingdom (1 372)
- IT - Italy (1 232)

**Nr. of Researchers		
as% of population	N/A	0.40%
Rank in EU-27*		
Innovation scoreboard (2008)		- 18 <sup>th</sup>
- Below EU-27 average		
- Moderate Innovator		
Nr. of FP7 applicants (% EU-27*)	12 177	
	266 507	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	3 798.98	
	88 295	
Nr. of successful FP7 applicants (% EU-27*)	1 976	
	59 199	
Req. EC contribution		

by successful FP7 applicants in EUR million

(% EU-27*)	495.31	
(2.71%)	18 262.02	
Success rate FP7 applicants	16.2%	21.6%
Success rate FP7 EC contribution	13.0%	20.7%
Nr. of FP7 grant holders (% EU-27*)	1 769	
(3.45%)	51 279	
EC contribution to FP7 grant holders in EUR million (% EU-27*)	481.91	
(2.91%)	16 578.15	
Nr. of FP7 coordinators (% of grant holders)	352	
(19.90%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	304	
(17.18%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	71.12	
(14.76%)	2 207.73	
(13.32%)		

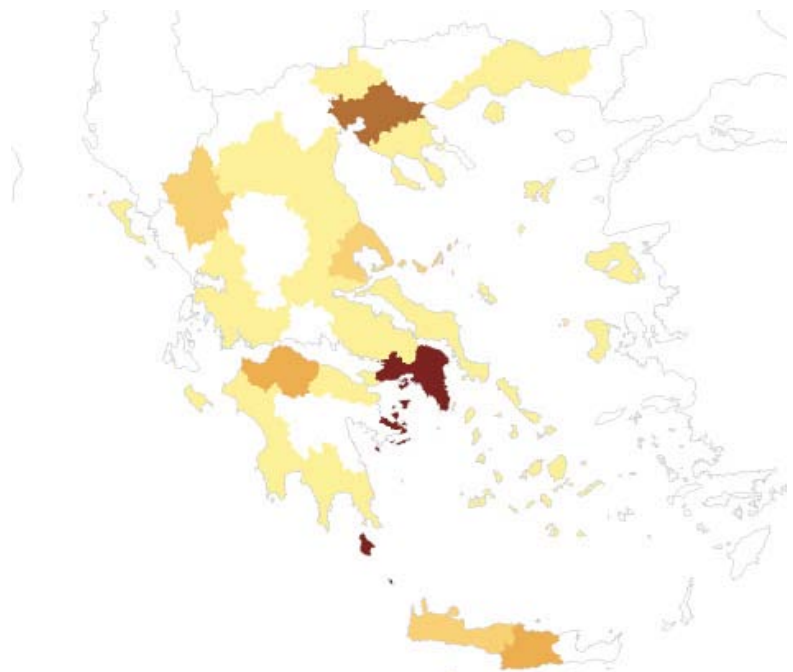
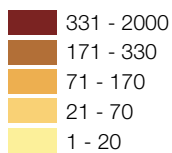


TABLE 1

**EL - Greece - 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	3920	1 381.00	461	11.76%	169.81	12.30%
Research for the benefit of SMEs	1 215	146.64	199	16.38%	20.73	14.14%
Marie-Curie Actions	1 124	n/a	297	26.42%	n/a	n/a
Transport (including Aeronautics)	940	224.89	177	18.83%	38.97	17.33%
Environment (including Climate Change)	863	219.17	118	13.67%	25.99	11.86%
Security	538	152.67	84	15.61%	24.39	15.98%

TABLE 2

**EL - Greece - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all EL grant holders	EC contribution (EUR million)	% of total EC contribution to EL
Information and Communication Technologies	466	26.34%	164.80	34.20%
Marie-Curie Actions	236	13.34%	37.48	7.78%
Research Potential	31	1.75%	34.24	7.11%
Transport (including Aeronautics)	154	8.71%	31.48	6.53%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	104	5.88%	31.30	6.49%
Health	82	4.64%	26.83	5.57%

Notes: Report generated on: 2011/03/25.04:37 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**EL - Greece - 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	4091	1162.46	644	15.74%	150.95	12.99%	566	149.37	31.00%
REC	3360	1135.05	666	19.82%	178.48	15.72%	661	208.39	43.24%
PRC	3253	822.26	476	14.63%	111.93	13.61%	459	116.63	24.20%
OTH	680	137.80	97	14.26%	12.52	9.08%	32	3.23	0.67%
PUB	428	73.20	81	18.93%	17.80	24.32%	51	4.29	0.89%
SME	3373	840.81	434	12.87%	94.85	11.28%	304	71.12	14.76%

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

TABLE 4

**EL - Greece - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

EL - Greece region	Number of grant holders	% of all EL - Greece grant holders	EC contribution (M euro)	% of total EC contribution to EL
Attiki (EL300)	1033	58.39%	291.58	60.51%
Thessaloniki (EL122)	232	13.11%	62.13	12.89%
Irakleio (EL431)	172	9.72%	51.16	10.62%
Achaia (EL232)	111	6.27%	29.84	6.19%
Magnisia (EL143)	45	2.54%	6.22	1.29%

TABLE 5

**EL - Greece - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all EL grant holders	EC contribution (M euro)	% of total EC contribution to EL grant holders
Foundation for Research and Technology Hellas (FORTH)	147	8.31%	47.73	9.91%
Centre for Research and Technology Hellas (CERTH)	92	5.20%	32.24	6.69%
National Technical University of Athens (NTUA)	92	5.20%	31.19	6.47%
National Center for Scientific Research "Demokritos"	65	3.67%	26.44	5.49%
Institute of Communication and Computer Systems (ICCS)	64	3.62%	25.06	5.20%

# COUNTRY PROFILE



## HU - Hungary

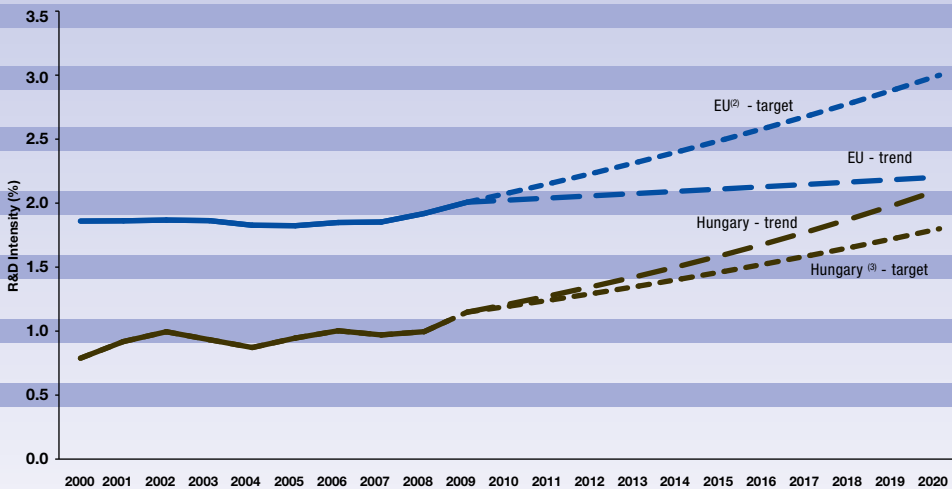
### Progress towards meeting the Europe 2020 R&D intensity target

Over the period 2000-2009, Hungary's R&D intensity had a cyclical evolution. Even if the business R&D intensity

has grown, the low level of overall innovation activity in the private sector is a major challenge. The Hungarian government set a R&D intensity target of 1.8% of GDP by 2020.

### HUNGARY

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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 for 2000-2009 in the case of the EU and for 2004-2009 in the case of Hungary.

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

(3) HU: This projection is based on a tentative R&D Intensity target of 1.8% for 2020.

(4) HU: There is a break in series between 2004 and the previous years.

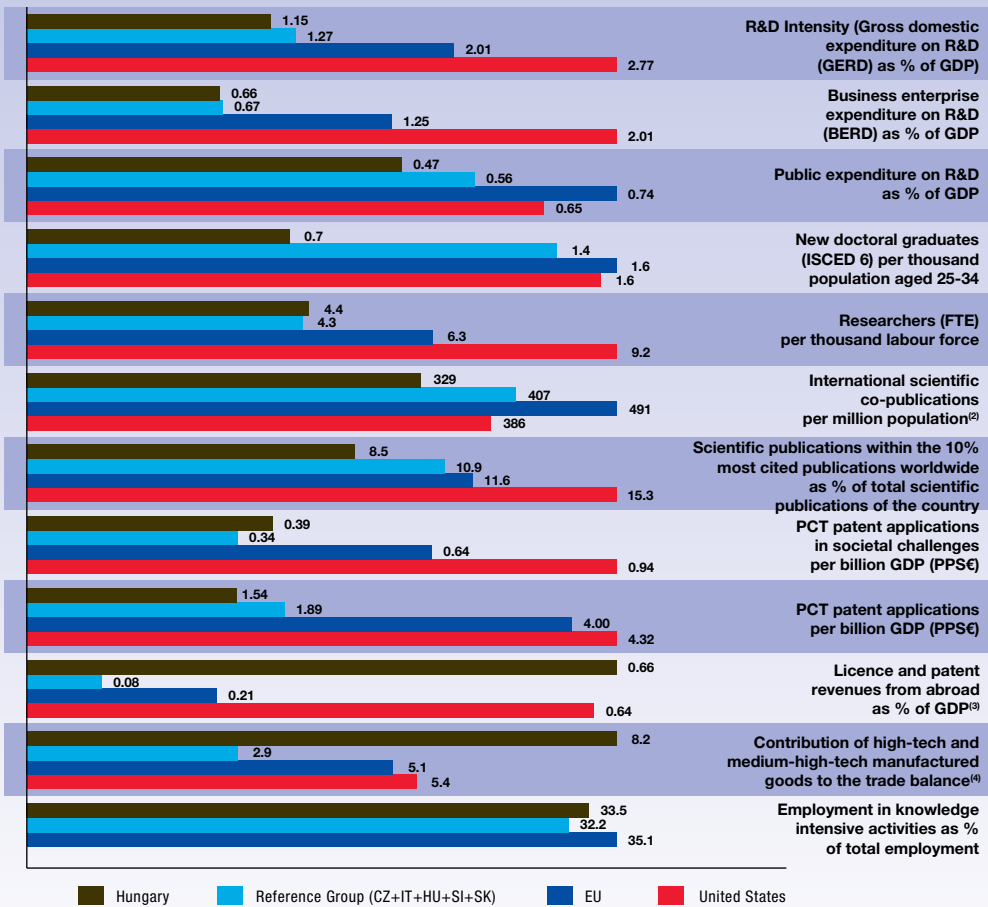
Innovation Union Competitiveness Report 2011

### Research and Innovation Performance

According to the Innovation Union Scoreboard 2010, Hungary belongs to the 'moderate innovators' group of countries, which means an improvement over the last decade although the research and innovation profile has remained mainly unchanged in the recent years. Research and innovation are rather concentrated in large foreign-owned enterprises and in a few sectors.

There is some improvement in human resources in science and technology such as the employment rate in knowledge intensive activities as percentage of total employment which is very close to the EU average. Also noticeable is the excellent performance of Hungary as regards the licence and patent revenues from abroad and the contribution of high-tech and medium-high-tech manufactured goods to the trade balance. This demonstrates a good positioning in new sectors as

## HUNGARY

R&D profile, 2009<sup>(1)</sup>

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.

Innovation Union Competitiveness Report 2011

well as a progressive structural change towards more knowledge-intensive sectors, as illustrated in the last graph of the present profile.

In dynamic terms, the Hungarian research and innovation system is improving private sector financial input and overall R&D intensity, alongside scientific quality and patent revenues. However, public sector R&D intensity and the internationalisation of science is less dynamic than the EU average or countries with

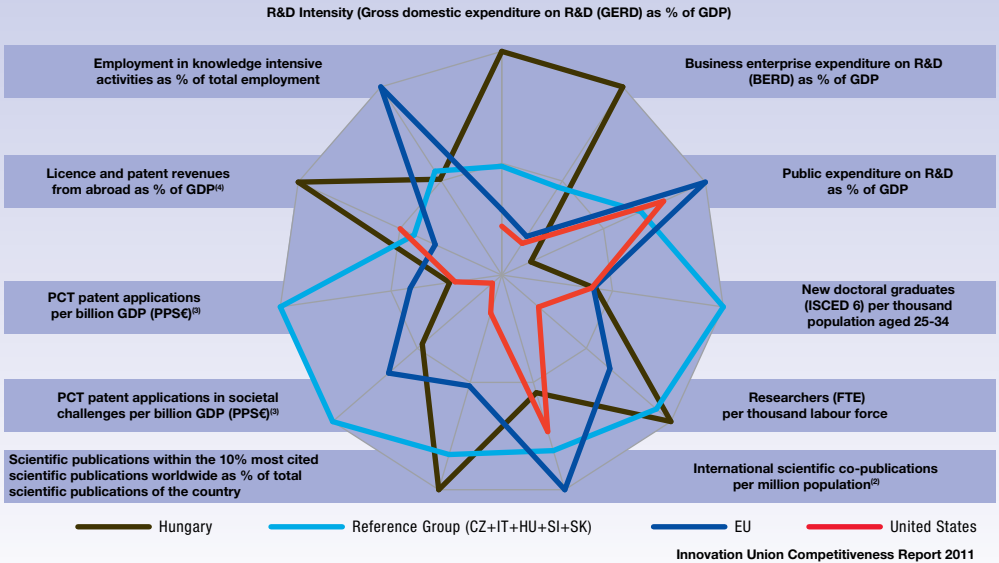
a similar industrial structure and knowledge capacity to Hungary.

### Participation in the European Research Area: Scientific and Technological collaborations

Hungary is rather well interconnected in terms of co-publications with Germany, the United Kingdom and France. Its interconnections in terms of co-invented patent applications are much more limited, with links notably with Germany and Sweden, but at a low level.

# HUNGARY

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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.

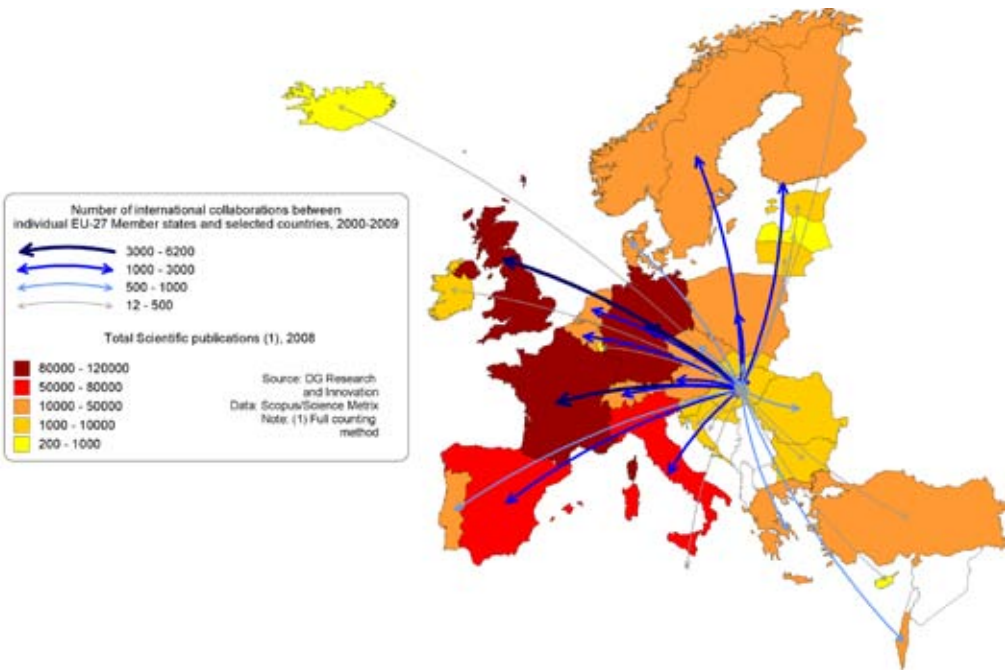
(3) Average annual growth refers to real growth.

(4) EU refers to extra-EU.

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

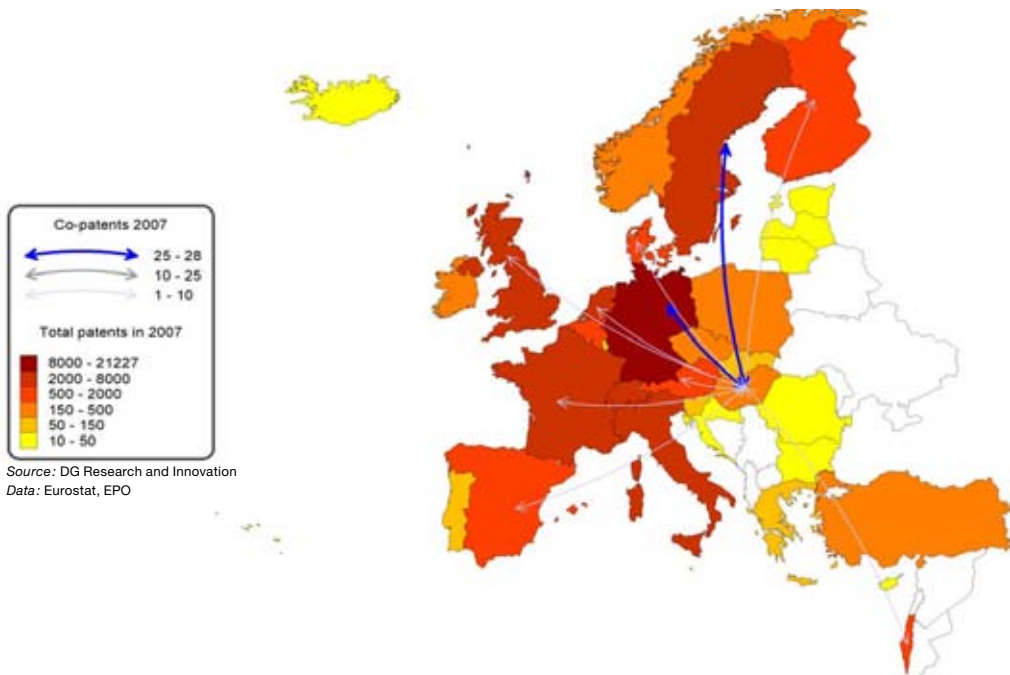
# HUNGARY

## Co-publications between Hungary and European Countries in 2000-2009



## HUNGARY

## Co-invented patent applications between Hungary and European Countries, 2007



Moreover, as seen in the report, Hungary's share of international scientific co-publications per million population, and respectively the PCT patent applications per billion GDP, are under the EU average.

### Structural change towards more knowledge-intensive economy

Manufacturing is important for Hungary with a percentage of value added in 2008 of 21%, superior to the average EU level of 17% for the same year. Hungary is specialised in sectors demanding low skills but it also counts on a growing and promising trend of specialisation in high-tech sectors. Among the medium-low-tech sector, the speed of increase of R&D intensity of the publishing and printing sector is particularly noticeable. The key challenge for the Hungarian authorities is how to support structural changes towards a more research and innovation intensive business sector. Private investments in R&D are primarily carried out by a small number of big foreign-owned enterprises, making the growth relatively vulnerable. With the renewal and the implementation of the research and innovation strategies until the end of 2011, the government is planning measures to encourage SMEs participation in innovation activities,

including non-technological innovation, to reduce the relative high level of administrative burden and to strengthen the links and networks between public and private research.

### FP7 Key facts and figures

#### Applications

As of 2011/03/16, a total of

- 3 491 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 4 436 applicants from Hungary (1.66% of EU-27\*) and
- requesting EUR 1 001.20m of EC contribution (1.13% of EU-27\*)

Among the EU-27\* Hungary (HU) ranks:

- 15<sup>th</sup> in terms of number of applicants and
- 16<sup>th</sup> in terms of requested EC contribution

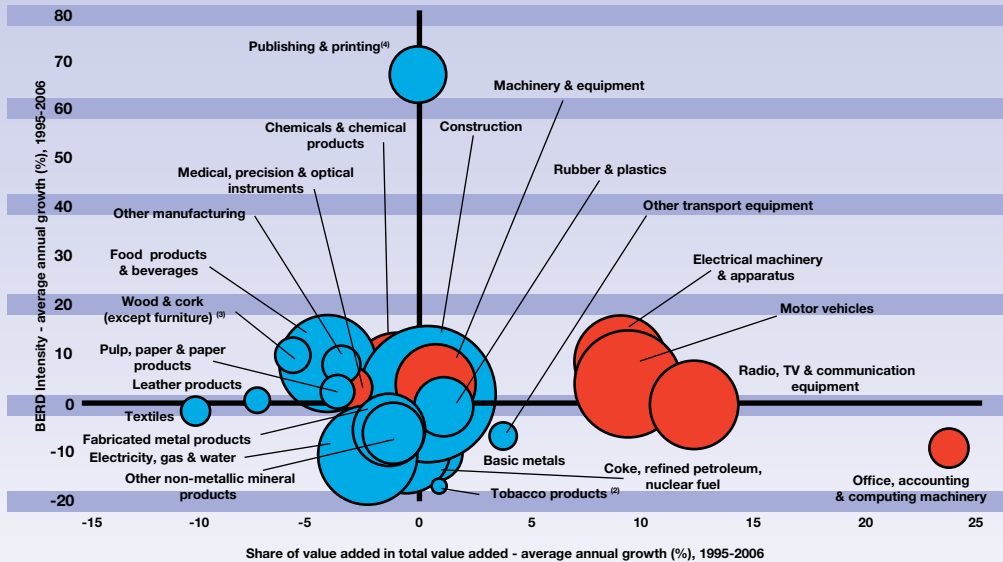
#### Success rates

- The HU applicant success rate of 20.7% is similar to the EU-27\* applicant success rate of 21.6%.



## HUNGARY

## Share of value added versus BERD Intensity - Average annual growth, 1995-2006



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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) 'Tobacco products': average annual growth refers to 1995-2005.

(3) 'Wood and cork (except furniture)': average annual growth refers to 1999-2006.

(4) 'Publishing and printing': average annual growth refers to 1996-2006.

(5) 'Wearing apparel and fur' and 'Recycling' are not included on the graph.

- The HU EC financial contribution success rate of 14.4% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 726 proposals were retained for funding (20.8%)
- involving 917 (20.7%) successful applicants from Hungary and
- requesting EUR 144.05m (14.4%) of EC financial contribution

Among the EU-27\*, Hungary (HU) ranks:

- 14<sup>th</sup> in terms of applicants success rate and
- 17<sup>th</sup> in terms of EC financial contribution success rate

Signed grant agreements

As of 2011/03/16, Hungary (HU) participates in

- 638 signed grant agreements
- involving 8596 participants of which 788 (9.17%) are from Hungary

- benefiting from a total of EUR 2079.19m of EC financial contribution of which EUR 133.04m (6.40%) is dedicated to participants from Hungary.

Among the EU-27\* in all FP7 signed grant agreements, Hungary (HU) ranks:

- 15<sup>th</sup> in number of participations and
- 16<sup>th</sup> in budget share

**SME performance and participation**

- The HU SME applicant success rate of 17.08% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The HU SME EC financial contribution success rate of 12.79% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1546 HU SME applicants requesting EUR 314.73m

- 264 (17.08%) successful SMEs requesting EUR 40.24m (12.79%)

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

- 182 HU SME grant holders, i.e., 23.10% of total HU participation
- EUR 31.07m, i.e., 23.35% of total HU budget share

**Top 3 collaborative links with**

- DE - Germany (1 025)
- UK - United Kingdom (742)
- FR - France (701)

**Nr. of Researchers		
as% of population	N/A	0.40%
Rank in EU-27*		
Innovation scoreboard (2008)		- 22 <sup>nd</sup>
- Below EU-27 average		
- Moderate Innovator		
Nr. of FP7 applicants (% EU-27*)	4 436	
(1.66%)	266 507	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	1 001.20	
(1.13%)	88 295	
Nr. of successful FP7 applicants (% EU-27*)	917	

(1.55%)	59 199	
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*)	144.05	
(0.79%)	18 262.02	
Success rate FP7 applicants	20.7%	21.6%
Success rate		
FP7 EC contribution	14.4%	20.7%
Nr. of FP7 grant holders (% EU-27*)	788	
(1.54%)	51 279	
EC contribution to FP7 grant holders in EUR million (% EU-27*)	133.04	
(0.80%)	16 578.15	
Nr. of FP7 coordinators (% of grant holders)	98	
(12.44%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	182	
(23.10%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	31.07	
(23.35%)	2 207.73	
(13.32%)		

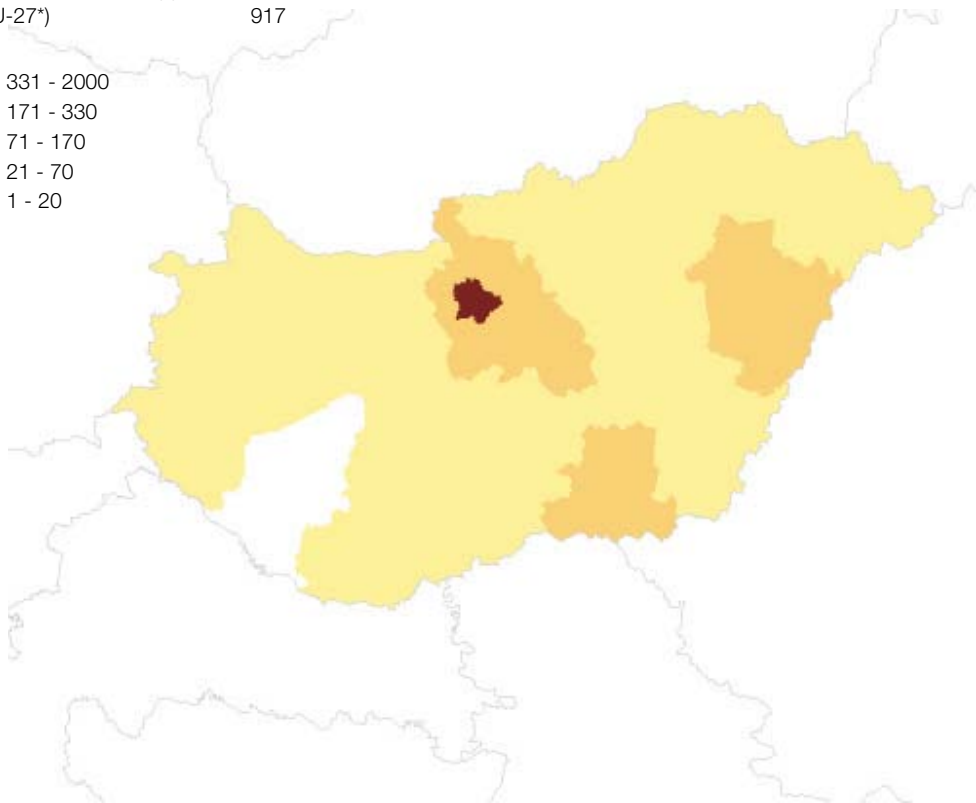
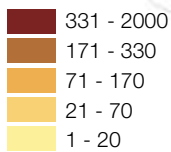


TABLE 1

**HU - Hungary - 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	797	223.08	104	13.05%	26.08	11.69%
Research for the benefit of SMEs	465	51.38	86	18.49%	9.20	17.90%
Marie-Curie Actions	444	n/a	170	38.29%	n/a	n/a
Socio-economic sciences and Humanities	429	63.96	43	10.02%	5.53	8.64%
Health	417	154.35	57	13.67%	11.77	7.62%
Environment (including Climate Change)	291	54.46	47	16.15%	6.15	11.29%

TABLE 2

**HU - Hungary - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all HU grant holders	EC contribution (EUR million)	% of total EC contribution to HU
Information and Communication Technologies	107	13.58%	23.09	17.36%
ERC	18	2.28%	18.16	13.65%
Marie-Curie Actions	117	14.85%	15.32	11.51%
Health	55	6.98%	9.42	7.08%
Research Infrastructures	52	6.60%	8.85	6.65%
Energy	25	3.17%	7.68	5.77%

Notes: Report generated on: 2011/03/25 04:39 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

### HU - Hungary - 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	1 602	304.86	295	18.41%	34.07	11.18%	292	49.50	37.21%
PRC	1 115	235.90	204	18.30%	32.37	13.72%	205	33.66	25.30%
REC	871	161.05	218	25.03%	27.68	17.19%	192	34.21	25.71%
OTH	398	67.25	82	20.60%	12.04	17.91%	19	2.21	1.66%
PUB	283	41.47	98	34.63%	12.48	30.09%	80	13.47	10.12%
SME	1 546	314.73	264	17.08%	40.24	12.79%	182	31.07	23.35%

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

TABLE 4

### HU - Hungary - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects

HU - Hungary region	Number of grant holders	% of all HU - Hungary grant holders	EC contribution (M euro)	% of total EC contribution to HU
Budapest (HU101)	528	67.01%	91.42	68.72%
Pest (HU102)	52	6.60%	12.17	9.14%
Hajdu-Bihar (HU321)	51	6.47%	8.36	6.28%
Csongrad (HU333)	35	4.44%	7.80	5.86%
Gyor-Moson-Sopron (HU221)	18	2.28%	1.55	1.16%

TABLE 5

### HU - Hungary - Most active organisations in terms of EC contribution granted to the FP7 research projects

Legal Name	Number of Participations	% of all HU grant holders	EC contribution (M euro)	% of total EC contribution to HU grant holders
Budapesti Muszaki Es Gazdasagtudomanyi Egyetem (Bme)	64	8.12%	12.83	9.64%
Eötvös Loránd Tudományegyetem (Elte)	23	2.92%	6.65	5.00%
Nemzeti Innovacios Hivatal (Nih)	28	3.55%	5.78	4.34%
Magyar Tudomanyos Akademia Szamitastechnikai Es Automatizalasi Kutato Intezet	18	2.28%	5.70	4.29%
Debreceni Egyetem	28	3.55%	5.22	3.93%

# COUNTRY PROFILE



## IS - Iceland

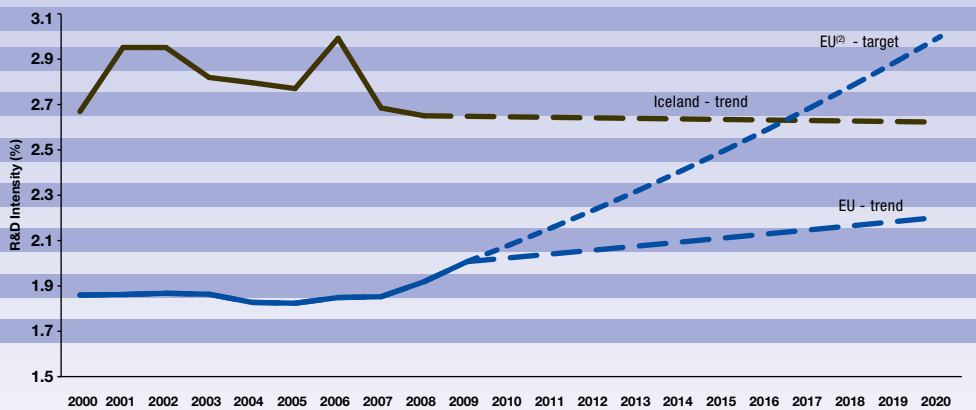
### Progress towards increasing the R&D intensity

The most recent figures for Iceland on R&D intensity are 3.1% for 2009 (of which 1.25% public and 1.51% private - apart from abroad sources). The figure below shows Eurostat data, which is slightly below the data in national statistics. Comparing to other European countries, the most noticeable is Iceland's very high public expenditure

on R&D. Even if Iceland as an associated country to the European research cooperation does not form part of the Europe 2020 strategy of the European Union, certain associated countries do envisage fixing an objective for research investment and initiatives for fast growing innovative enterprises. This is the case for Iceland, which has set an R&D intensity target of 4% of GDP for 2020.

### ICELAND

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

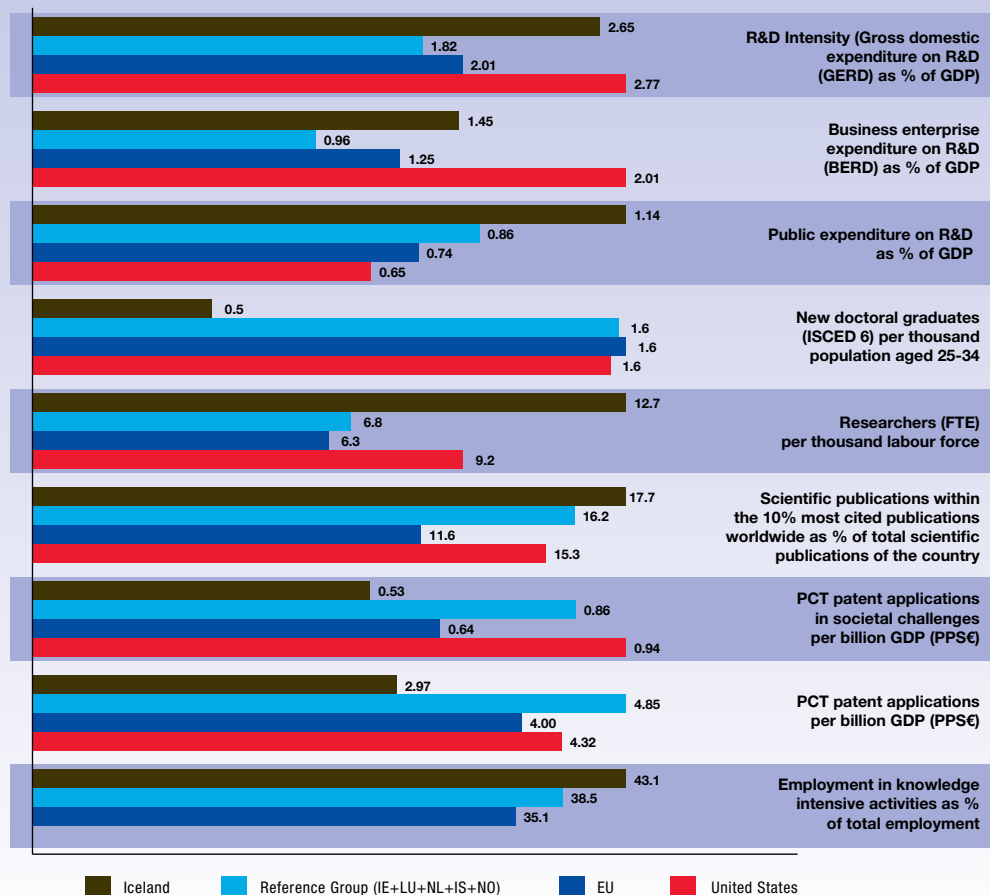
Data: DG Research and Innovation, Eurostat

Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity for 2000-2009 in the case of the EU and for 2000-2008 in the case of Iceland.

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

Innovation Union Competitiveness Report 2011

## ICELAND

R&D profile, 2009<sup>(1)</sup>

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

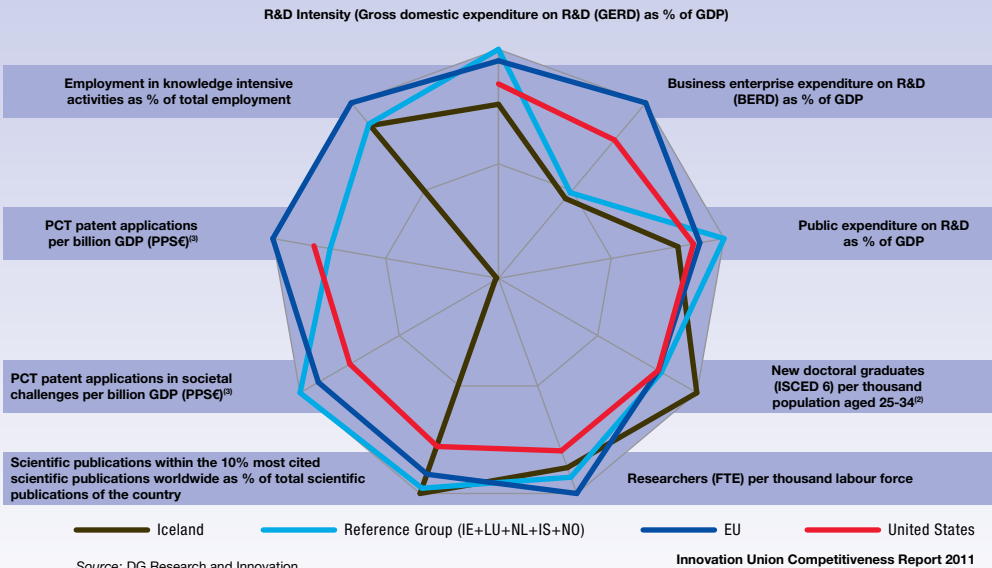
Iceland is a very knowledge-intensive country, with over 43% of employment in knowledge-intensive activities and R&D intensity far above other countries with a comparable industrial structure and knowledge capacity (see reference group). Iceland counts on a strong public science system with high funding and excellent research quality (17.7% of Iceland's scientific articles are among the 10% most cited articles in the world, which is one of the highest ratios in the world). Iceland also has achieved remarkably high researcher intensity in the labour force. However, it is a challenge to maintain this strength given a relatively low level of new doctoral graduates per thousand population. A

relative weakness compared to the other countries is the patenting activity, measured by PCT patent intensity. The report shows that also for EPO patent application per billion GDP, Iceland is well below the EU average with a decreasing trend over the period 2000-2007.

The dynamic picture below shows that over the period 2000-2009, Iceland reinforced its strengths and weaknesses in its research and innovation system with a stable and strong public research system and human resources, but with a business dynamics showing lower average annual growth in R&D investment and lower patenting intensity growth than comparable countries and the EU on average.

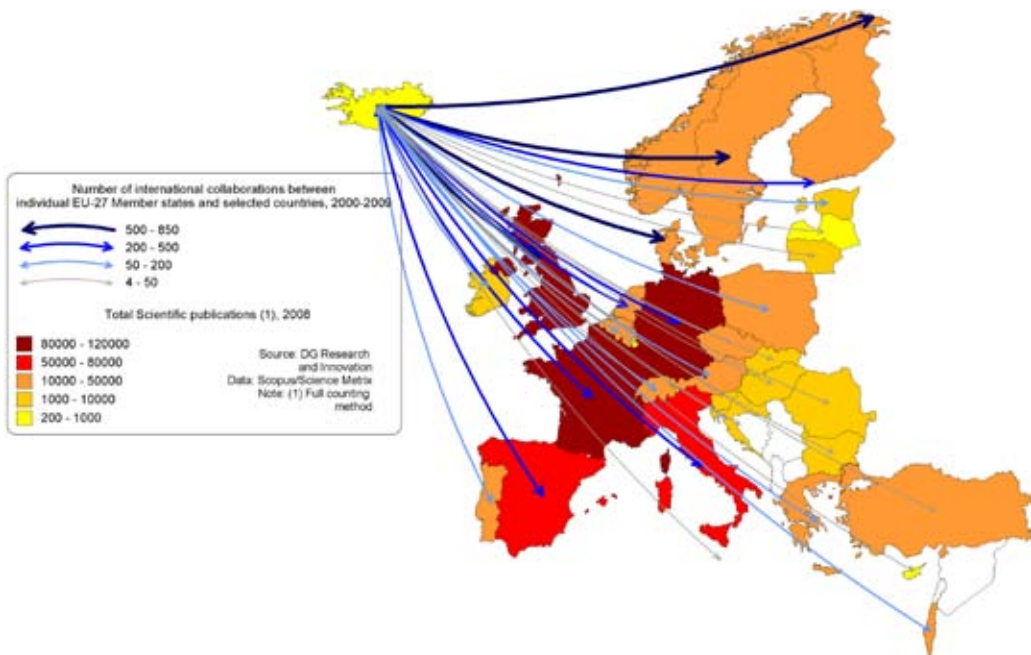
# ICELAND

## Average annual growth (%), 2000-2009<sup>(1)</sup>



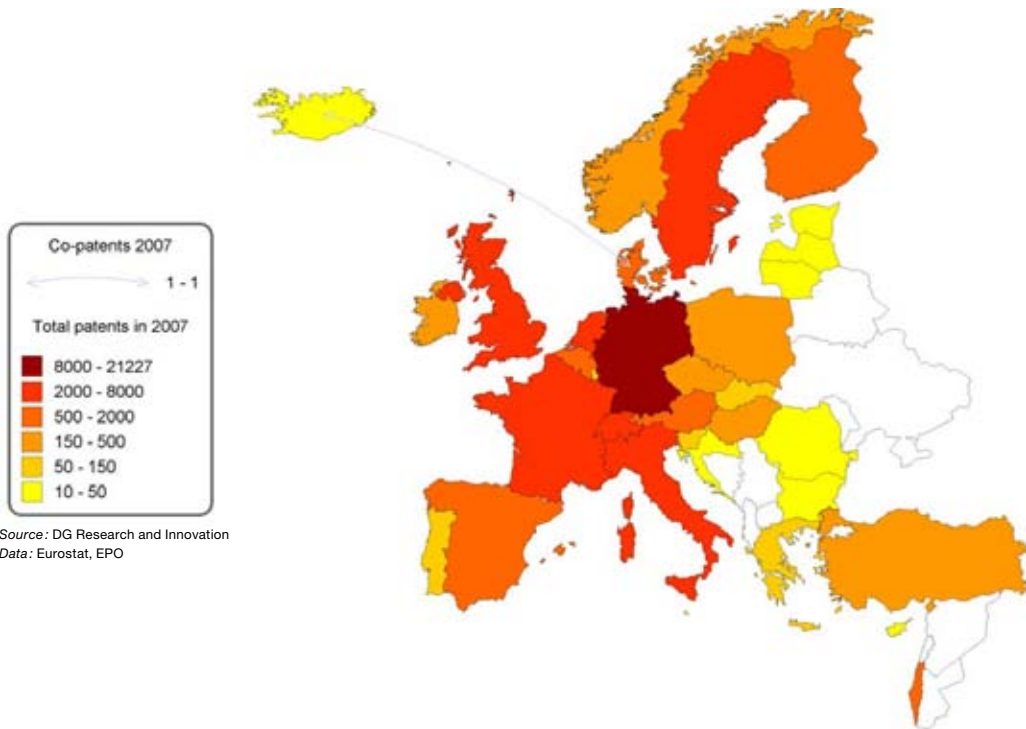
# ICELAND

## Co-publications between Iceland and European Countries in 2000-2009



## ICELAND

## Co-invented patent applications between Iceland and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO

### Participation in the European Research Area: Scientific and Technological collaborations

Iceland's scientific cooperation (measured by co-publications) with other European countries is much broader and more intense than its technological cooperation (measured by co-patents). This reflects the strong public research base and the excellent science output in Iceland and it provides a potential for growing internationalisation also of technology

cooperation. The main scientific partner countries are the Nordic neighbours and the United Kingdom. As a difference from technological cooperation, co-publications are intensive with almost all EU Member States and with associated countries to the European Research Area. However, overall network maps in the report shows that while Iceland does count on relatively well distributed scientific cooperation, the scale is too small to be visible in the dominant European scientific co-publication networks.



## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 423 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 570 applicants from Iceland (9.25% of Candidate Countries) and
- requesting EUR 162.75m of EC contribution (7.83% of Candidate Countries)

Among the Candidate Countries Iceland (IS) ranks:

- 3<sup>rd</sup> in terms of number of applicants and
- 3<sup>rd</sup> in terms of requested EC contribution

### Success rates

- The IS applicant success rate of 22.8% is higher than the Candidate Countries applicant success rate of 17.9%.
- The IS EC financial contribution success rate of 16.1% is higher than the Candidate Countries rate of 7.3%.

Specifically, following evaluation and selection, a total of

- 112 proposals were retained for funding (26.5%)
- involving 130 (22.8%) successful applicants from Iceland and
- requesting EUR 26.22m (16.1%) of EC financial contribution

Among the Candidate Countries, Iceland (IS) ranks:

- 2<sup>nd</sup> in terms of applicants success rate and
- 1<sup>st</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Iceland (IS) participates in

- 97 signed grant agreements
- involving 1 464 participants of which 105 (7.17%) are from Iceland
- benefiting from a total of EUR 288.61m of EC financial contribution of which EUR 22.56m (7.82%) is dedicated to participants from Iceland.

Among the Candidate Countries in all FP7 signed grant agreements, Iceland (IS) ranks:

- 3<sup>rd</sup> in number of participations and
- 3<sup>rd</sup> in budget share

### SME performance and participation

- The IS SME applicant success rate of 19.81% is higher than the Candidate Countries SME applicant success rate of 15.12%.
- The IS SME EC financial contribution success rate of 16.66% is higher than the corresponding Candidate Countries rate of 10.71%.

Specifically,

- 207 IS SME applicants requesting EUR 50.28m
- 41 (19.81%) successful SMEs requesting EUR 8.38m (16.66%)

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

- 20 IS SME grant holders, i.e., 19.05% of total IS participation
- EUR 9.38m, i.e., 41.58% of total IS budget share

### Top 3 collaborative links with

- UK - United Kingdom (159)
- FR - France (97)
- DE - Germany (95)

Nr. of FP7 applicants (% Candidate Countries)	570 9.25%	
Req. EC contribution by FP7 applicants in EUR million	162.75 (7.83%)	2079
Nr. of successful FP7 applicants (% Candidate Countries)	130 (12.13%)	1072
Req. EC contribution by successful FP7 applicants in EUR million	26.22 (17.19%)	152.58
Success rate FP7 applicants	22.8%	17.9%
Success rate FP7 EC contribution	16.1%	7.3%
Nr. of FP7 grant holders (% Candidate Countries)	105 (12.03%)	873
EC contribution		

to FP7 grant holders  
in EUR million  
(% Candidate Countries)

22.56  
135.27

Nr. of FP7 coordinators  
(% of grant holders)  
(21.90%)  
(22.34%)

23  
195

Nr. of FP7 SME grant holders  
(% of grant holders)  
(19.05%)  
(15.01%)

20  
131

EC contribution to FP7 SME  
grant holders in EUR million  
(% of grant holders)  
(41.58%)

9.38  
30.20

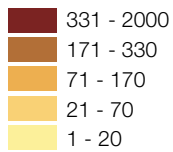


TABLE 1

**IS - Iceland - 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)
Research for the benefit of SMEs	104	14.99	21	20.19%	2.79	18.64%
Marie-Curie Actions	87	n/a	26	29.89%	n/a	n/a
Information and Communication Technologies	71	21.39	5	7.04%	1.12	5.24%
Health	56	31.09	17	30.36%	9.40	30.23%
Food, Agriculture and Fisheries, and Biotechnology	52	16.24	10	19.23%	2.34	14.38%
Environment (including Climate Change)	49	12.43	14	28.57%	3.10	24.89%

TABLE 2

**IS - Iceland - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all IS grant holders	EC contribution (EUR million)	% of total EC contribution to IS
Health	13	12.38%	5.94	26.32%
Marie-Curie Actions	20	19.05%	5.10	22.63%
Environment (including Climate Change)	14	13.33%	2.44	10.81%
ERC	1	0.95%	2.40	10.64%
Food, Agriculture and Fisheries, and Biotechnology	9	8.57%	2.08	9.22%
Information and Communication Technologies	5	4.76%	1.06	4.69%

Notes: Report generated on: 2011/03/28.11:32 AM

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

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

\*\*E-STAT Reference year: 2007

\*\*European Innovation Scoreboard is available at the website of DG Enterprise and Industry

TABLE 3

## IS - Iceland - 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	198	42.02	35	17.68%	4.91	11.68%	30	7.84	34.73%
PRC	164	47.32	31	18.90%	9.77	20.64%	23	9.64	42.72%
REC	84	18.92	26	30.95%	3.30	17.44%	19	3.68	16.29%
PUB	66	9.68	26	39.39%	2.35	24.27%	33	1.41	6.26%
OTH	37	6.24	11	29.73%	2.41	38.63%	0	0.00	0.00%
SME	207	50.28	41	19.81%	8.38	16.66%	20	9.38	41.58%

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

TABLE 4

## IS - Iceland - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects

IS - Iceland region	Number of grant holders	% of all IS - Iceland grant holders	EC contribution (M euro)	% of total EC contribution to IS
Höfuðborgarsvæði (IS001)	100	95.24%	22.15	98.16%
Landsbyggð (IS002)	3	2.86%	0.18	0.82%

TABLE 5

## IS - Iceland - Most active organisations in terms of EC contribution granted to the FP7 research projects

Legal Name	Number of Participations	% of all IS grant holders	EC contribution (M euro)	% of total EC contribution to IS grant holders
Islensk Erfdagreining Ehf (DECODE)	14	13.33%	8.60	38.10%
Haskoli Íslands	21	20.00%	6.14	27.21%
Hafrannsóknastofnunin	6	5.71%	1.66	7.34%
The Icelandic Centre For Research (RANNIS)	29	27.62%	1.27	5.63%
Haskolinn I Reykjavik Ehf	5	4.76%	1.27	5.61%

# COUNTRY PROFILE



## IE - Ireland

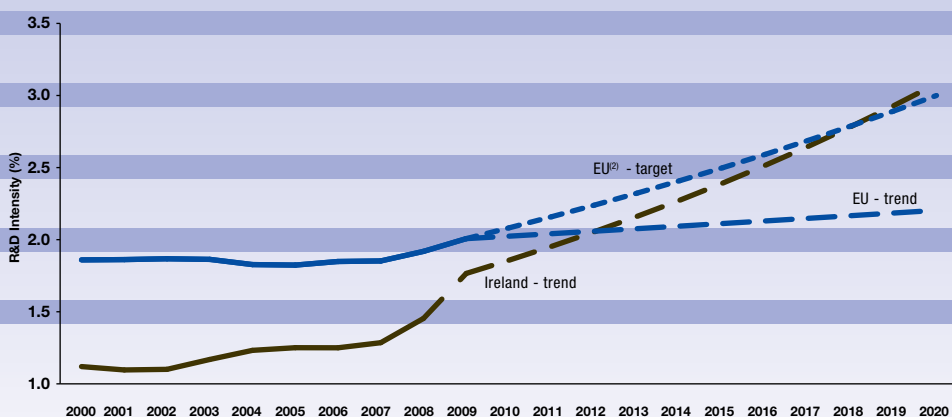
### Progress towards meeting the Europe 2020 R&D intensity target

In the last decade, overall R&D investment grew strong in real terms, and despite the relatively important GDP growth, R&D intensity in Ireland increased from 1.12% in 2000, to 1.45% in 2008 and up to 1.77% in 2009. However, the sharp acceleration of R&D intensity over the last two years can be largely attributed to the sharp drop in GDP in 2008 and 2009, when Ireland

was particularly hit by the international economic and financial crisis. The current financial difficulties that the country is experiencing can cast some doubts about the capacity of both the public and private sectors to maintain and increase their R&D investments in the short term, but R&D investment still remains a high priority for the country in order to boost its productivity and maintain its economic competitiveness and social progress.

### IRELAND

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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 for 2000-2009.

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

Innovation Union Competitiveness Report 2011

### Research and Innovation Performance

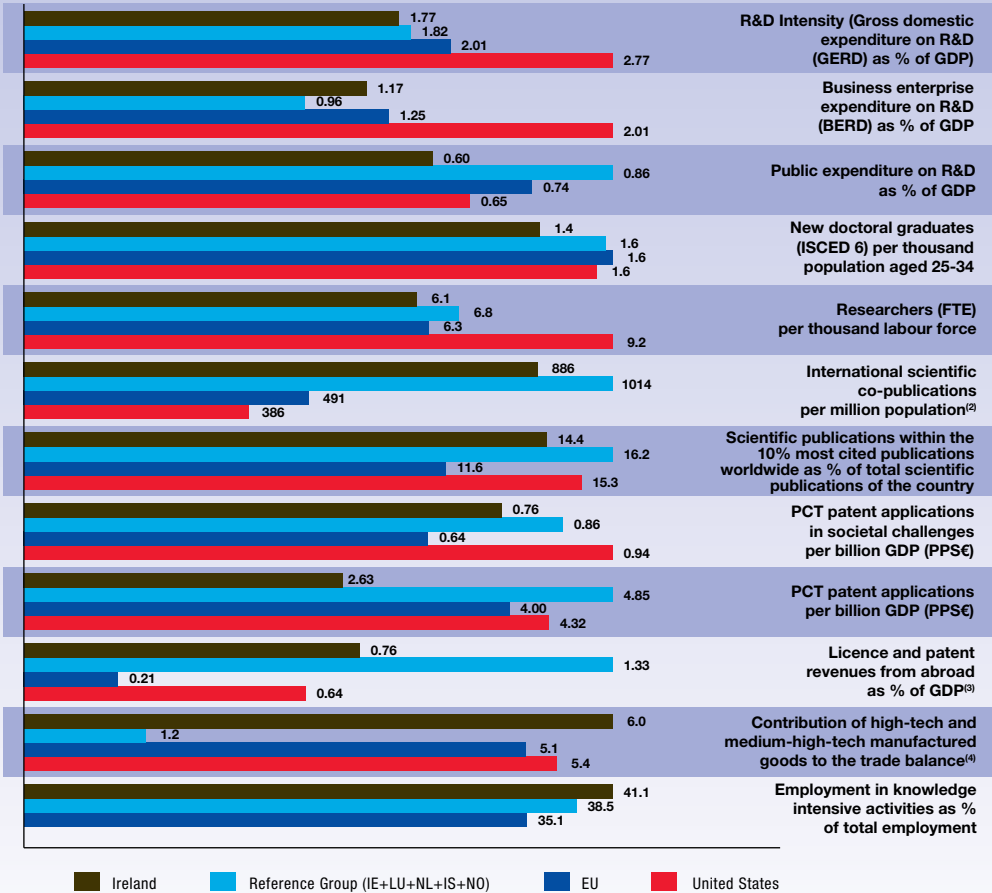
The Irish Research and innovation system is characterised by a strong high-quality scientific performance thanks to a well established number of renowned universities, and a large presence of foreign multinational companies, who account for a large share of the Irish scientific and technological performance and contribute to the positive manufacturing trade balance<sup>9</sup> in high-tech and medium high-tech products.

In general, Ireland performs quite well in most indicators, reaching similar values to the EU average and the group of countries sharing similar research and innovation characteristics. Perhaps, the exception lies on the level of inventiveness of the economy as measured by the number of PCT patents, which falls short in comparison to the EU or other similar systems. Given the relatively strong scientific performance and the relatively recent development of the research base, this may rather reflect a time-lag in bringing new ideas to market or

<sup>9</sup> The manufacturing trade balance is an indicator of competitive advantage

IRELAND

R&D profile, 2009<sup>(1)</sup>



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) (i) The EU value refers to the median rather than to the average (ii) IS and NO are not included in the Reference Group.  
 (3) EU refers to extra-EU.  
 (4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU; (iii) IS and NO are not included in the Reference Group.  
 (5) Elements of estimation were involved in the compilation of the data.

Innovation Union Competitiveness Report 2011

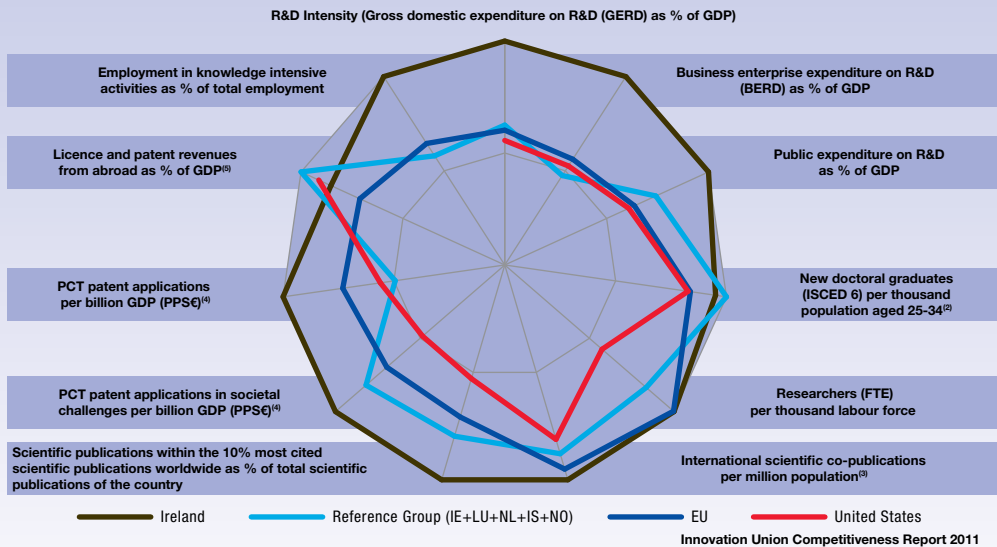
be due to the fact that in ICT, IP is often held in the country of head office and comprises copyright rather than patents. Current policy calls for multinationals present in Ireland to increase R&D activities in their core business that may lead to indigenous inventions and for more support for the emergence of technological based fast growing innovative local firms.

From a dynamic perspective, in the last decade, the Irish research and innovation system made good progress in all dimensions, from R&D investments to scientific

and technological performance or shifts towards more knowledge intensive activities. Ireland outperformed not only the EU average or the United States, but also the average of the reference group of countries with similar research characteristics. This good performance has allowed Ireland to rapidly catch-up with some strong scientific and technological performing countries in Europe, such as the Netherlands and approach values closer to the EU average.

# IRELAND

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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) LU is not included in the Reference Group.

(3) (i) The EU value refers to the median rather than to the average; (ii) IS and NO are not included in the Reference Group.

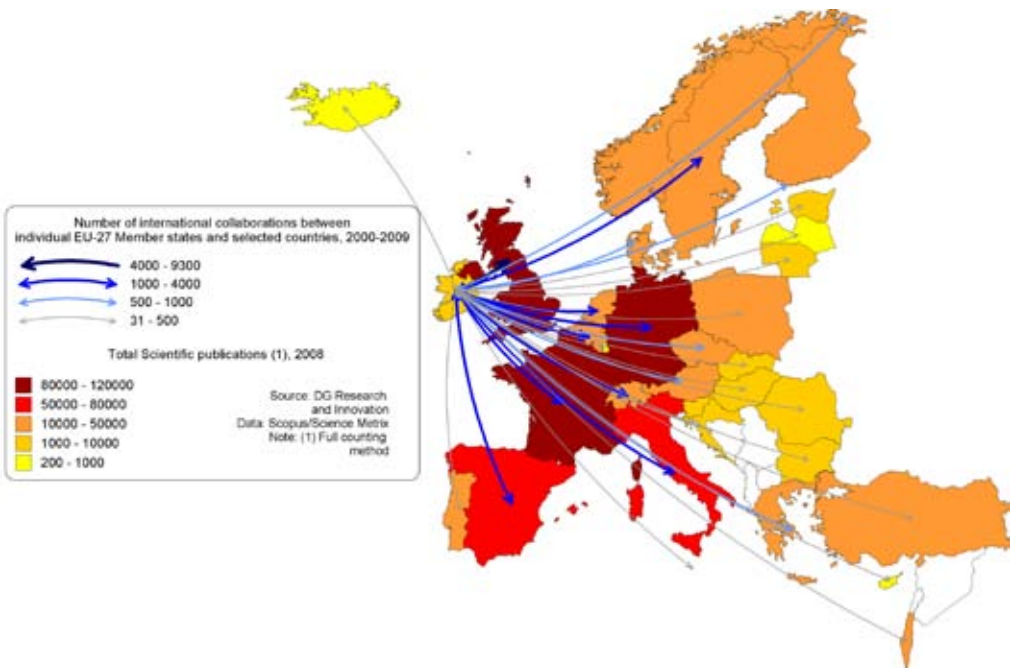
(4) Average annual growth refers to real growth.

(5) EU refers to extra-EU.

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

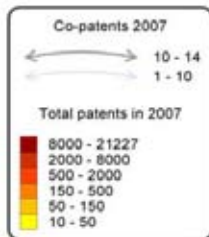
# IRELAND

## Co-publications between Ireland and European Countries in 2000-2009

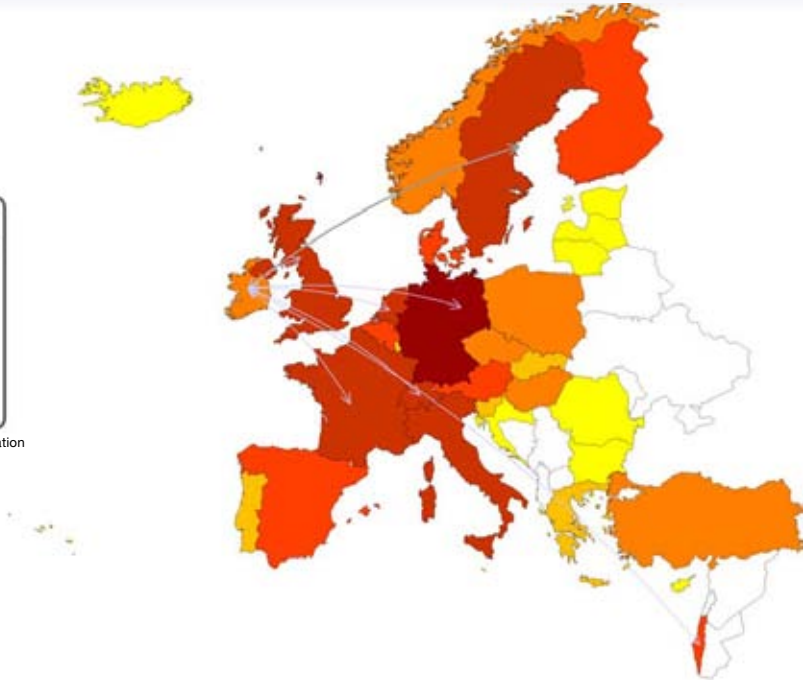


## IRELAND

## Co-invented patent applications between Ireland and European Countries, 2007



Source: DG Research and Innovation  
Data: Eurostat, EPO



### Participation in the European Research Area: Scientific and Technological collaborations

Ireland is a small and open economy and this reflects in its research and innovation system. The high level of co-publications evidences the openness of its scientific system. The strong links with the United Kingdom, the main scientific partner and one of the strongholds of scientific excellence and knowledge hubs in Europe, suggests a high capacity of the country to tap into international knowledge and potentially benefit from strong knowledge spillovers. In addition to the United Kingdom, Ireland also establishes strong links with other EU Member States and Associated countries such as Germany, France, Belgium, the Netherlands or Switzerland. This constitutes a strong asset for Ireland to host internationally attractive research centres.

In terms of co-patents patents, however, the linkages are much weaker in general and somehow evidence the relatively weaker position of Ireland in patenting. Addressing this weakness might be decisive in taking better economic advantage of the strong integration of Ireland in the European Research Area.

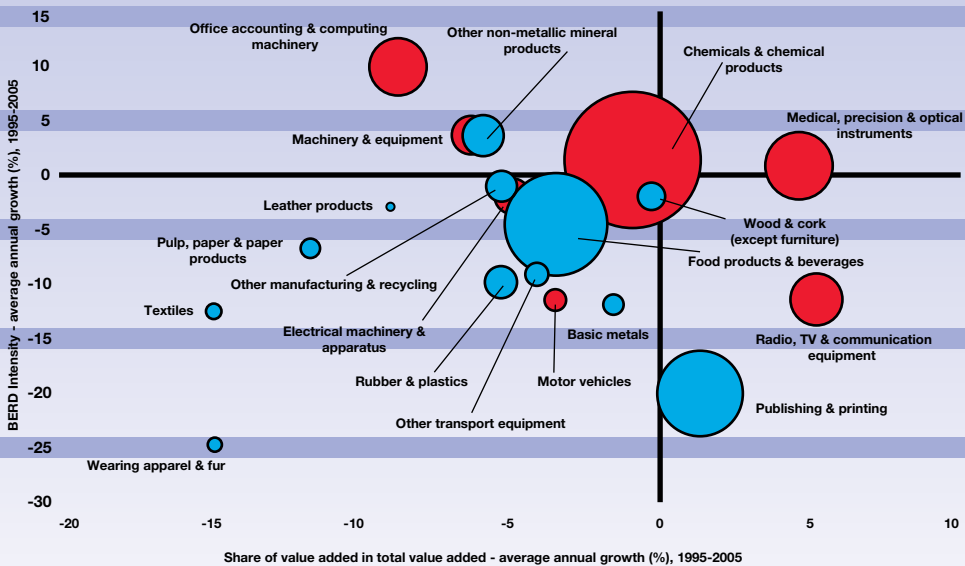
### Structural change towards more knowledge-intensive economy

In the last decade, private R&D intensity grew from 0.8% in 2000 to 1.17% in 2009. This relative progress was achieved mainly due to the rise in importance of some medium-high tech and high-tech sectors, such as medical, precision and optical instruments in the overall economy, and the move towards higher research-intensive segments in research intensity sectors such as office accounting and computing machinery. The weight and research intensity of the chemicals and chemical products sector are noticeable and constitute strong assets for the country. As a whole, the Irish economy is relatively well diversified and its trend towards a more knowledge and innovation intensive economy is a realistic prospect in spite of the current severe financial constraint. This will largely depend on the ability to maintain favourable framework conditions throughout the sectors and to encourage investment in R&I by less intensive sectors such as food products and beverages or publishing and printing.



## IRELAND

## Share of value added versus BERD Intensity - Average annual growth, 1995-2005



Innovation Union Competitiveness Report 2011

Source: DG Research and Innovation

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) 'Coke, refined petroleum products and nuclear fuel', 'Construction' and 'Electricity, gas and water' are not included on the graph.

(3) 'Fabricated metal products' is not visible on the graph.

## FP7 Key facts and figures

## Applications

As of 2011/03/16, a total of

- 3240 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 4097 applicants from Ireland (1.54% of EU-27\*) and
- requesting EUR 1359.44m of EC contribution (1.54% of EU-27\*)

Among the EU-27\* Ireland (IE) ranks:

- 17<sup>th</sup> in terms of number of applicants and
- 15<sup>th</sup> in terms of requested EC contribution

## Success rates

- The IE applicant success rate of 23.3% is higher than the EU-27\* applicant success rate of 21.6%.
- The IE EC financial contribution success rate of 18.4% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 747 proposals were retained for funding (23.1%)
- involving 953 (23.3%) successful applicants from Ireland and
- requesting EUR 250.56m (18.4%) of EC financial contribution

Among the EU-27\*, Ireland (IE) ranks:

- 8<sup>th</sup> in terms of applicants success rate and
- 10<sup>th</sup> in terms of EC financial contribution success rate

## Signed grant agreements

As of 2011/03/16, Ireland (IE) participates in

- 624 signed grant agreements
- involving 7291 participants of which 778 (10.67%) are from Ireland
- benefiting from a total of EUR 2203.49m of EC financial contribution of which EUR 243.98m (11.07%) is dedicated to participants from Ireland.

Among the EU-27\* in all FP7 signed grant agreements, Ireland (IE) ranks:

- 16<sup>th</sup> in number of participations and
- 13<sup>th</sup> in budget share

### SME performance and participation

- The IE SME applicant success rate of 23.30% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The IE SME EC financial contribution success rate of 23.38% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 073 IE SME applicants requesting EUR 283.33m
- 250 (23.30%) successful SMEs requesting EUR 66.24m (23.38%)

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

- 172 IE SME grant holders, i.e., 22.11% of total IE participation
- EUR 50.03m, i.e., 20.50% of total IE budget share

### Top 3 collaborative links with

- UK - United Kingdom (835)
- DE - Germany (801)
- FR - France (634)

\*\*Nr. of Researchers

as% of population

N/A 0.40%

Rank in EU-27\*

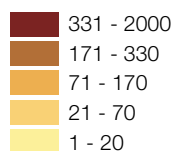
Innovation scoreboard (2008)

- 9<sup>th</sup>

- Above EU-27 average

- Innovation Follower

Nr. of FP7 applicants



(% EU-27*)	4 097	
(1.54%)	266 507	
Req. EC contribution by FP7 applicants in EUR million		
(% EU-27*)	1 359.44	
(1.54%)	88 295	
Nr. of successful FP7 applicants		
(% EU-27*)	953	
(1.61%)	59 199	
Req. EC contribution by successful FP7 applicants in EUR million		
(% EU-27*)	250.56	
(1.37%)	18 262.02	
Success rate FP7 applicants	23.3%	21.6%
Success rate		
FP7 EC contribution	18.4%	20.7%
Nr. of FP7 grant holders		
(% EU-27*)	778	
(1.52%)	51 279	
EC contribution to FP7 grant holders in EUR million		
(% EU-27*)	243.98	
(1.47%)	16 578.15	
Nr. of FP7 coordinators		
(% of grant holders)	181	
(23.26%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	172	
(22.11%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	50.03	
(20.50%)	2 207.73	
(13.32%)		



TABLE 1

**IE - Ireland - 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	1 023	416.38	189	18.48%	73.86	17.74%
Marie-Curie Actions	684	n/a	183	26.75%	n/a	n/a
Research for the benefit of SMEs	478	78.35	118	24.69%	17.51	22.35%
Health	327	143.51	75	22.94%	34.58	24.09%
Food, Agriculture and Fisheries, and Biotechnology	232	79.65	53	22.84%	14.41	18.09%
European Research Council	196	301.93	14	7.14%	20.46	6.78%

TABLE 2

**IE - Ireland - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all IE grant holders	EC contribution (EUR million)	% of total EC contribution to IE
Information and Communication Technologies	176	22.62%	65.60	26.89%
Marie-Curie Actions	143	18.38%	42.78	17.53%
Health	73	9.38%	31.06	12.73%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	54	6.94%	19.92	8.17%
ERC	12	1.54%	15.33	6.28%
Energy	24	3.08%	11.41	4.68%

Notes: Report generated on: 2011/03/25.04:39 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**IE - Ireland - 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	2 203	645.24	497	22.56%	127.88	19.82%	448	154.67	63.40%
PRC	1 079	291.83	256	23.73%	70.70	24.23%	219	62.02	25.42%
REC	229	45.49	78	34.06%	13.99	30.76%	64	16.10	6.60%
OTH	228	52.30	51	22.37%	10.42	19.92%	13	2.49	1.02%
PUB	162	22.66	57	35.19%	7.11	31.38%	34	8.70	3.57%
SME	1 073	283.33	250	23.30%	66.24	23.38%	172	50.03	20.50%

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

TABLE 4

**IE - Ireland - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects**

IE - Ireland region	Number of grant holders	% of all IE - Ireland grant holders	EC contribution (M euro)	% of total EC contribution to IE
Dublin (IE021)	381	48.97%	122.70	50.29%
South-West (IRL) (IE025)	136	17.48%	42.13	17.27%
West (IE013)	85	10.93%	27.37	11.22%
South-East (IRL) (IE024)	56	7.20%	15.24	6.25%
Mid-West (IE023)	38	4.88%	12.07	4.95%

TABLE 5

**IE - Ireland - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all IE grant holders	EC contribution (M euro)	% of total EC contribution to IE grant holders
The Provost Fellows & Scholars Of The College Of The Holy And Undivided Trinity Of Queen Elizabeth Near Dublin (Trinity College Dubl)	86	11.05%	34.04	13.95%
University College Cork, National University Of Ireland, Cork	91	11.70%	31.01	12.71%
University College Dublin, National University Of Ireland, Dublin	82	10.54%	27.45	11.25%
National University Of Ireland, Galway (NUI Galway)	58	7.46%	21.17	8.68%
University Of Limerick (University Of Limeri)	27	3.47%	9.30	3.81%

# COUNTRY PROFILE

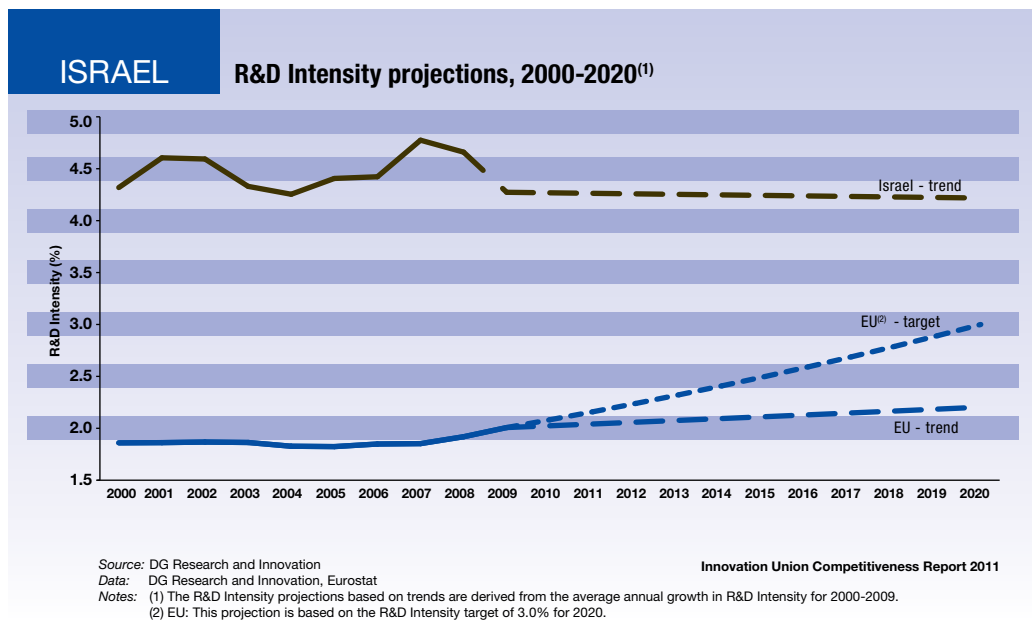


## IL - Israel

### Progress towards increasing the R&D intensity

The most recent figures for Israel on R&D intensity are 4.27% for 2009, which is the highest intensity in the world. The evolution of R&D intensity in Israel fluctuated over the period 2000-2009 with a slight increase. However, contrary to the EU average, since 2007 there has been a downward trend, partly reflecting a low average annual growth rate of public R&D expenditures as% of GDP. Concerning the overall public and private expenditure of

R&D (GERD), Israel has had an annual average growth rate of 2.8% over the period 2000-2009, which is slightly above the EU average and the US growth of 2.5% and 2.4% respectively. Even if the associated countries to the European research cooperation do not form part of the Europe 2020 strategy of the European Union, certain countries do envisage fixing an objective for research investment and initiatives for fast growing innovative enterprises. This strategy could be justified if based on a consultation with the stakeholders in the country.

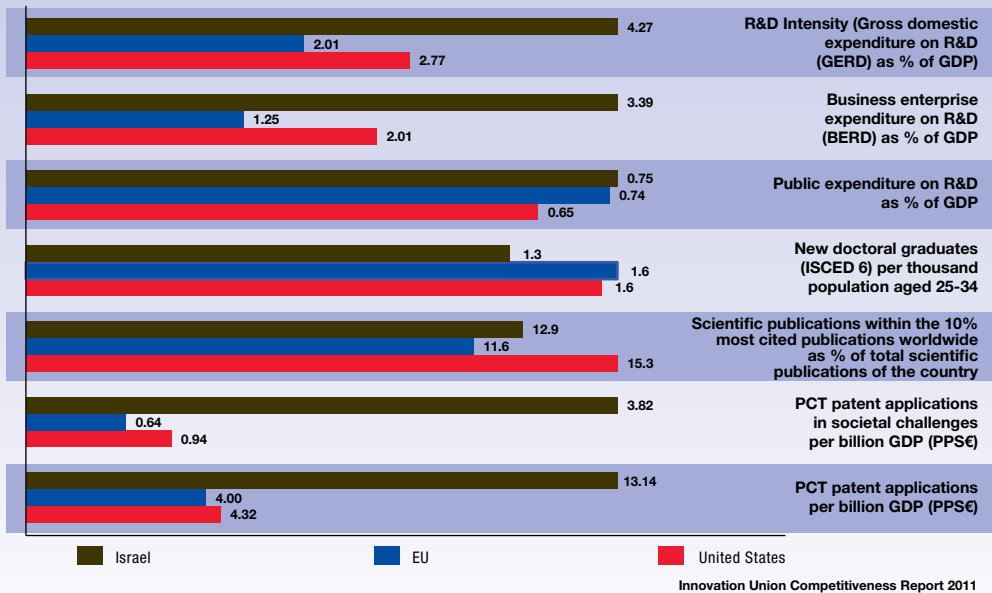


### Research and Innovation Performance

Israel is a relatively knowledge-intensive country, with strong business sector dynamics. Israel's main strengths are the research-intensity of its private sector, as indicated in a very high business expenditure on R&D and patenting activity. The report shows that Israel has also increased its EPO patenting activity between 2000 and 2007, to reach the highest share of EPO patent applications per billion GDP. Considering high-tech

EPO patent applications, Israel holds the third place, behind Finland and Sweden. A weaker dimension is the dynamics of human resources for research, with a lower ratio of new doctoral graduates per thousand population in a comparable age group. The quality of the scientific production in Israel, counting a ratio of 12.9% of the scientific articles among the 10% most cited worldwide, is higher than the EU average, but below that of the United States.

## ISRAEL

R&D profile, 2009<sup>(1)</sup>

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

The dynamic picture below reinforces the strengths and weaknesses in the Israeli science and innovation system with an enhanced private research system but with a public R&D expenditure showing lower average annual growth compared to the EU and the United States. However, there was a slight reinforcement of the new human resources for research over the period 2000-2009.

### Participation in the European Research Area: Scientific and Technological collaborations

Contrary to many other countries in the European Research Area, Israel's scientific cooperation (measured by co-publications) with other European countries is very similar in scope to its technological cooperation (measured by co-patents), showing the noticeable strong patenting activity in Israel. In both scientific and technological cooperation, Israel is well integrated in the European Research Area with partners in almost all European countries. The main scientific partner countries in absolute terms are the larger research countries such as the United Kingdom, Germany, France and Italy. However, the report describes the overall European research and technology cooperation

networks, where Israel holds a marginal position in the overall size of co-publication and co-patenting. The centre of the European networks is in the Western and Central part of Europe.

### FP7 Key facts and figures

#### Applications

As of 2011/03/16, a total of

- 3 778 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 4 790 applicants from Israel (23.68% of Associated Countries) and
- requesting EUR 2 209.42m of EC contribution (28.02% of Associated Countries)

Among the Associated Countries Israel (IL) ranks:

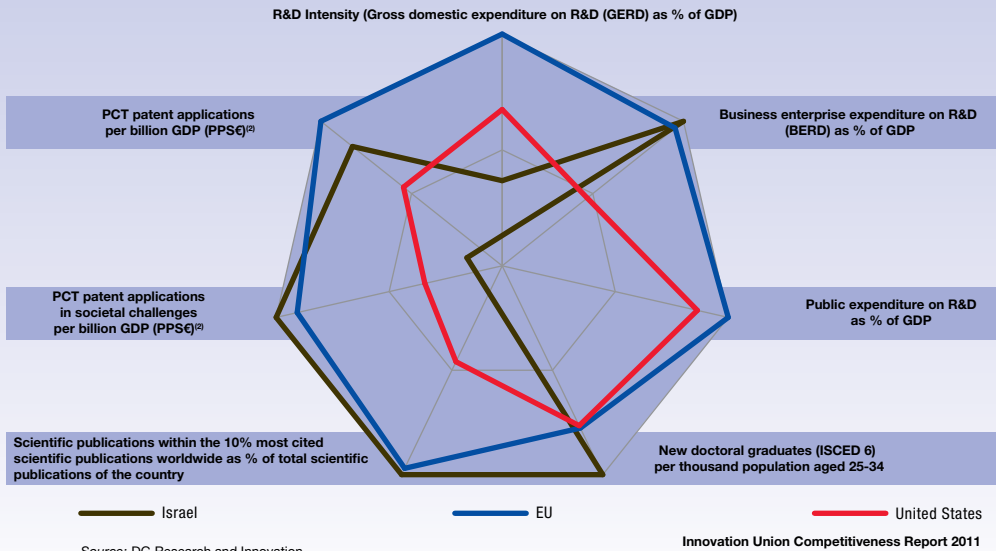
- 3<sup>rd</sup> in terms of number of applicants and
- 2<sup>nd</sup> in terms of requested EC contribution

#### Success rates

- The IL applicant success rate of 21.5% is lower than the Associated Countries applicant success rate of 23.5%.

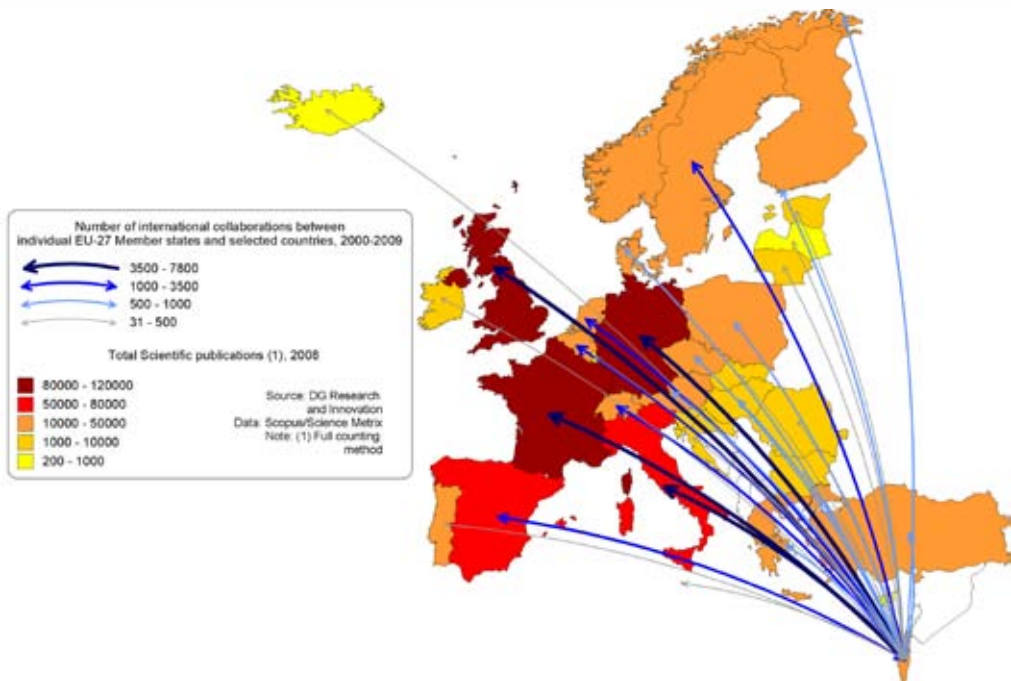
# ISRAEL

## Average annual growth (%), 2000-2009<sup>(1)</sup>



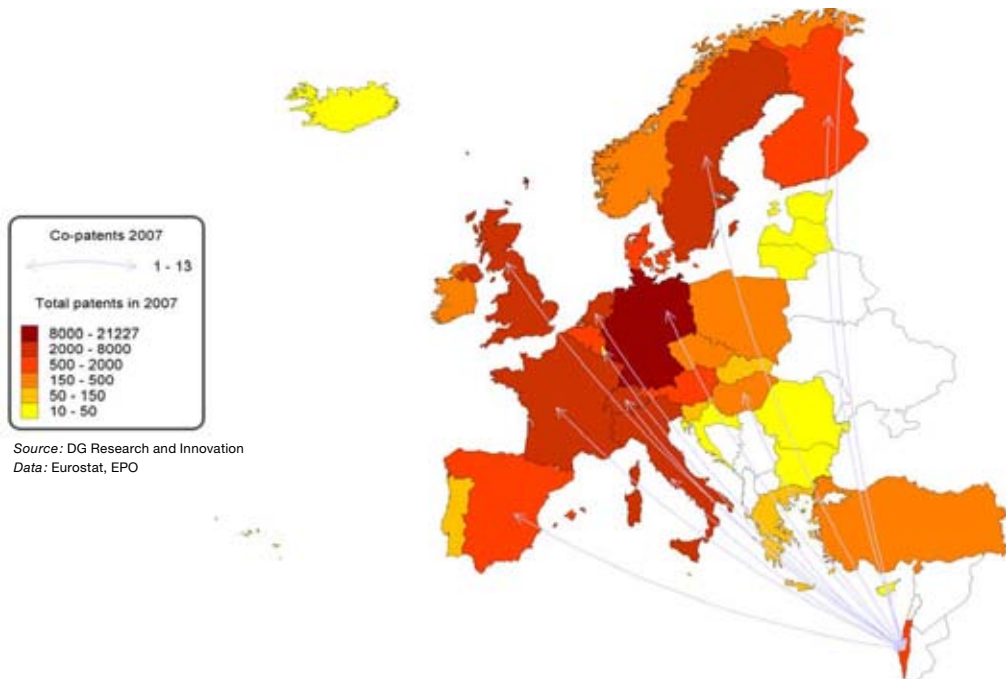
# ISRAEL

## Co-publications between Israel and European Countries in 2000-2009



## ISRAEL

## Co-invented patent applications between Israel and European Countries, 2007



- The IL EC financial contribution success rate of 16.7% is lower than the Associated Countries rate of 21.7%.

Specifically, following evaluation and selection, a total of

- 842 proposals were retained for funding (22.3%)
- involving 1 030 (21.5%) successful applicants from Israel and
- requesting EUR 369.90m (16.7%) of EC financial contribution

Among the Associated Countries, Israel (IL) ranks:

- 4<sup>th</sup> in terms of applicants success rate and
- 5<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Israel (IL) participates in

- 754 signed grant agreements
- involving 6 729 participants of which 919 (13.66%) are from Israel
- benefiting from a total of EUR 2 261.74m of EC financial contribution of which EUR 352.03m (15.56%) is dedicated to participants from Israel.

Among the Associated Countries in all FP7 signed grant agreements, Israel (IL) ranks:

- 3<sup>rd</sup> in number of participations and
- 2<sup>nd</sup> in budget share

### SME performance and participation

- The IL SME applicant success rate of 15.88% is lower than the Associated Countries SME applicant success rate of 20.42%.
- The IL SME EC financial contribution success rate of 13.24% is lower than the corresponding Associated Countries rate of 18.51%.

Specifically,

- 1 102 IL SME applicants requesting EUR 389.21m
- 175 (15.88%) successful SMEs requesting EUR 51.51m (13.24%)

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

- 126 IL SME grant holders, i.e., 13.71% of total IL participation
- EUR 42.32m, i.e., 12.02% of total IL budget share



**Top 3 collaborative links with**

■ DE - Germany (815)			
■ UK - United Kingdom (616)			
■ IT - Italy (584)			
Nr. of FP7 applicants			
(% Associated Countries)	4 790		
(23.68%)	20 227		
Req. EC contribution			
by FP7 applicants			
in EUR million			
(% Associated Countries)	2 209.42		
(28.02%)	7 884		
Nr. of successful FP7 applicants			
(% Associated Countries)	1 030		
(21.45%)	4 802		
Req. EC contribution			
by successful FP7 applicants			
in EUR million			
(% Associated Countries)	369.90		
(21.62%)	1 711.27		
Success rate FP7 applicants	21.5%	23.5%	
Success rate			

FP7 EC contribution	16.7%	21.7%
Nr. of FP7 grant holders		
(% Associated Countries)	919	
(22.46%)	4 092	
EC contribution		
to FP7 grant holders		
in EUR million		
(% Associated Countries)	352.03	
(22.93%)	1 535.13	
Nr. of FP7 coordinators		
(% of grant holders)	329	
(35.80%)	915	
(22.36%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	126	
(13.71%)	634	
(15.49%)		
EC contribution to FP7 SME		
grant holders in EUR million		
(% of grant holders)	42.32	
(12.02%)	175.41	
(11.43%)		

**TABLE 1****IL - Israel - 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	1 201	512.14	179	14.90%	78.25	15.28%
Marie-Curie Actions	776	n/a	329	42.40%	n/a	n/a
European Research Council	540	916.61	96	17.78%	160.84	17.55%
Health	533	248.71	84	15.76%	35.04	14.09%
Security	316	127.45	54	17.09%	21.15	16.60%
Food, Agriculture and Fisheries, and Biotechnology	232	70.31	27	11.64%	6.87	9.77%

TABLE 2

**IL - Israel - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all IL grant holders	EC contribution (EUR million)	% of total EC contribution to IL
ERC	97	10.55%	134.91	38.33%
Information and Communication Technologies	183	19.91%	73.76	20.95%
Marie-Curie Actions	275	29.92%	33.62	9.55%
Health	78	8.49%	31.63	8.99%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	63	6.86%	26.94	7.65%
Security	37	4.03%	15.01	4.26%

Notes: Report generated on: 2011/03/28.11:36 AM

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

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

\*\*E-STAT Reference year: 2007

\*\*European Innovation Scoreboard is available at the website of DG Enterprise and Industry

TABLE 3

**IL - Israel - 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	2177	551.01	540	24.80%	89.62	16.26%	586	247.31	70.25%
PRC	1377	562.64	235	17.07%	95.72	17.01%	218	87.59	24.88%
PUB	307	69.12	96	31.27%	11.47	16.59%	70	8.26	2.35%
REC	254	72.93	42	16.54%	8.46	11.60%	36	7.45	2.12%
OTH	135	37.11	21	15.56%	3.78	10.20%	9	1.43	0.41%
SME	1102	389.21	175	15.88%	51.51	13.24%	126	42.32	12.02%

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

TABLE 4

**IL - Israel - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all IL grant holders	EC contribution (M euro)	% of total EC contribution to IL grant holders
The Hebrew University of Jerusalem (HUJI)	119	12.95%	67.44	19.16%
Weizmann Institute of Science (WEIZMANN)	107	11.64%	67.24	19.10%
Technion - Israel Institute of Technology (IIT)	103	11.21%	42.00	11.93%
Tel aviv university (TAU)	99	10.77%	27.32	7.76%
IBM Israel - Science and Technology Ltd (IBM Israel)	30	3.26%	20.11	5.71%

# COUNTRY PROFILE

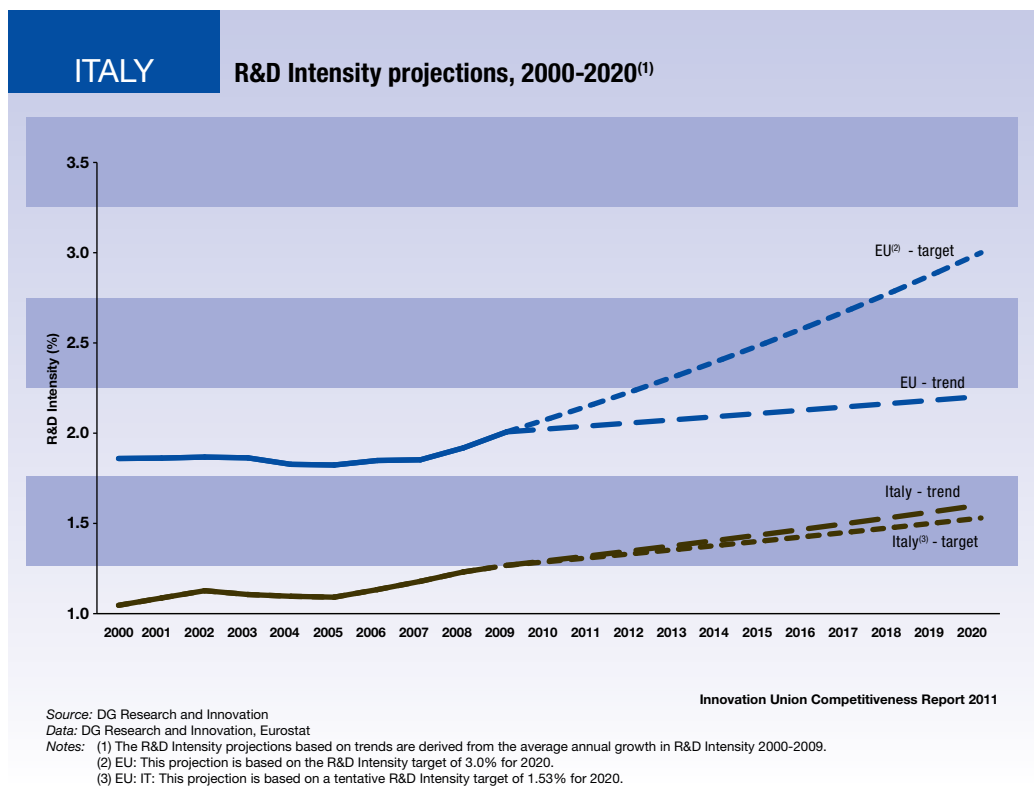


## IT – Italy

### Progress towards meeting the Europe 2020 R&D intensity target

R&D intensity in Italy increased around 2.3% annually over the 2000-2009 period, passing from 1.05% of GDP in 2000 to 1.27% in 2009. Both public and private R&D have grown during the period, but modestly. In 2009, public R&D intensity was 0.57% and private R&D intensity

was 0.64%. Considering the 2020 R&D target, Italy set the value of 1.53%. Given the trend scenario presented below, this target is achievable but is not ambitious. The difference between Italy's R&D intensity (1.27%) and the EU-average (1.90%) is mainly due to lower industrial R&D (business R&D intensity in Italy is 0.64% of GDP compared to an EU-27 average of 1.23% of GDP).

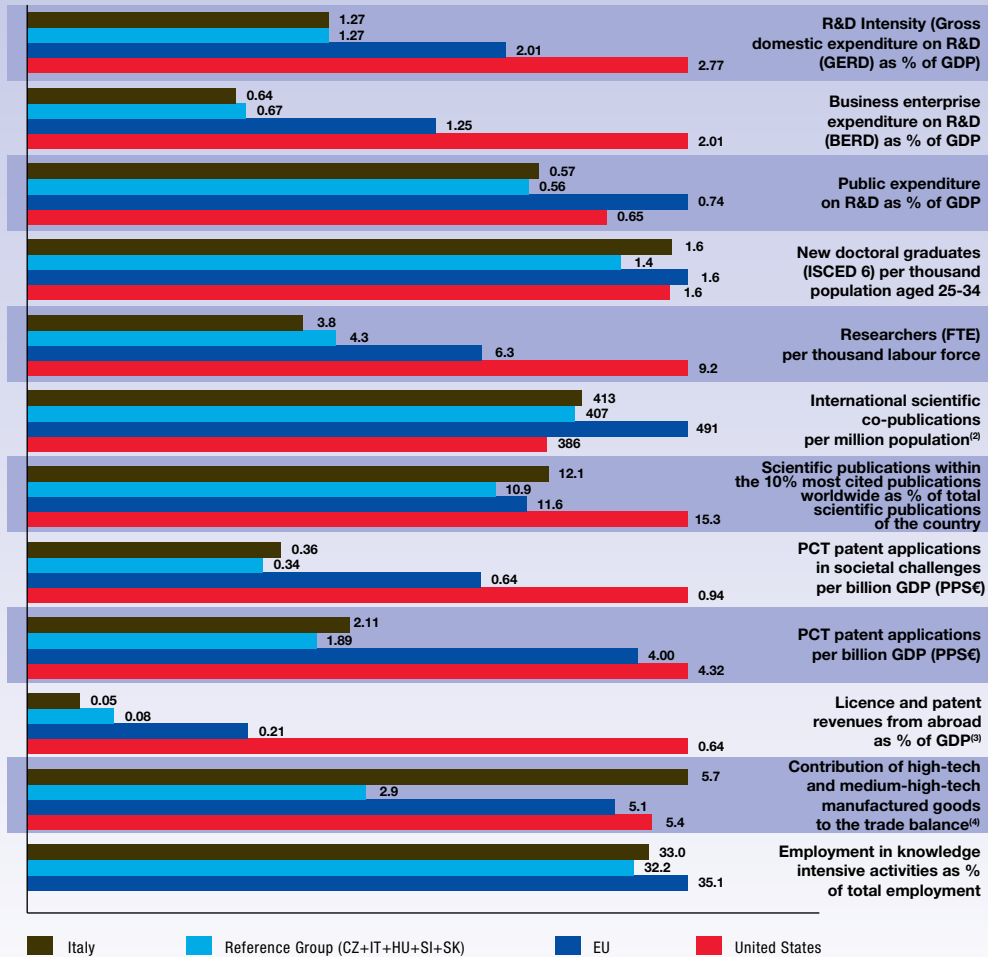


### Research and Innovation Performance

The Italian R&D and innovation system shows positive and negative aspects. In innovation, Italy ranks below the EU average as a moderate innovator. Policy intervention has opened many possibilities which have not been completely exploited due to two types of structural weaknesses:

inertia regarding modernisation within the public research system and the difficulty to realise growth and innovation within the industrial system, particularly with regard to the most high-tech sectors. The levels of population with tertiary education (11.6%) and participation in life-long learning (6.8%) are below the EU averages of 22.8% and

## ITALY

R&D profile 2009<sup>(1)</sup>

Italy

Reference Group (CZ+IT+HU+SI+SK)

EU

United States

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.

Innovation Union Competitiveness Report 2011

9.8% respectively. The total number of researchers (FTE) had an annual average growth rate of almost 4% between 2000 and 2009, but is still well below the EU average (3.38 researchers versus 6.3 in 2009). The number of foreign researchers that choose Italy as a place to perform research is lower than the number of Italian researchers choosing to work abroad. However, the quality of the scientific base as measured by the scientific publications within the 10% most cited publications worldwide as a percentage of the total scientific publications of the country is above the EU average. The positive contribution of high-tech and medium-high-tech manufactured goods to the trade balance also demonstrates the potential of the

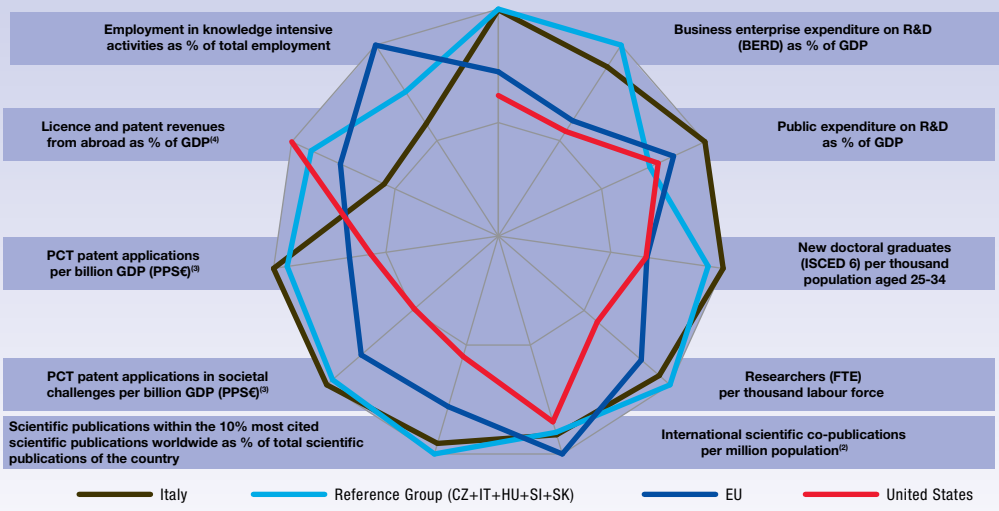
country to steer reforms of the R&I system and to derive economic benefits from future efforts.

The business sector in Italy is characterised by a large number of small and medium-sized firms, specialised in products that require high-quality design and engineering, whose average size is significantly smaller than the EU average. Italy scores clearly above the EU average concerning the share of high-growth enterprises and slightly above average concerning time required to start a business, the enterprise survival rate after two years and bank loan conditions deemed acceptable by companies. However, it scores clearly below the average concerning early stage financing and the business churn.

# ITALY

## Average annual growth (%), 2000-2009<sup>(1)</sup>

R&D Intensity (Gross domestic expenditure on R&D (GERD) as % of GDP)

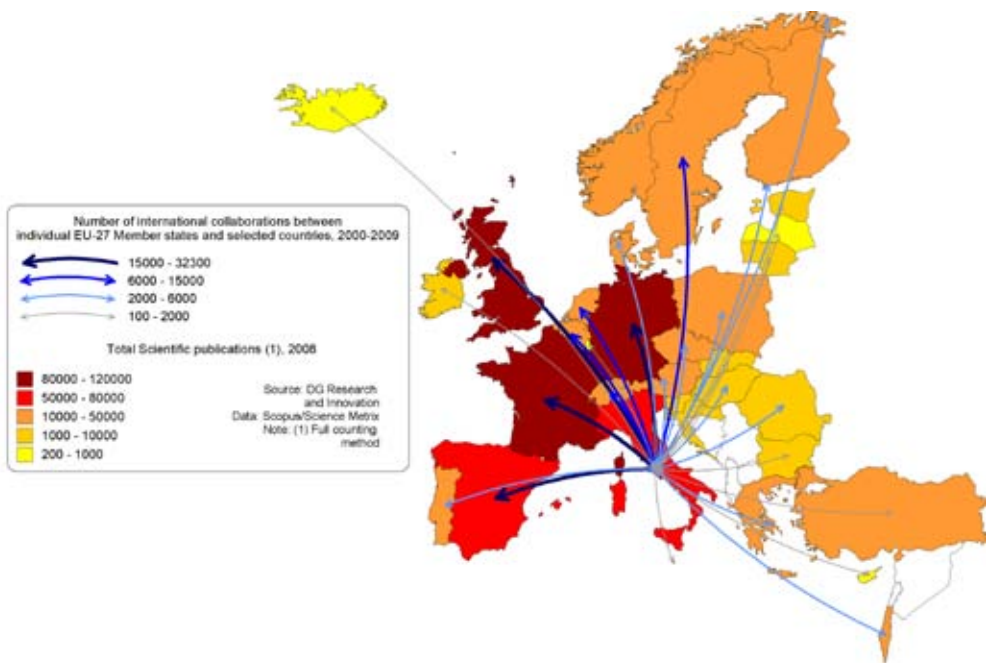


Source: DG Research and Innovation  
 Data: Eurostat, OECD, Science Metrix / Scopus (Elsevier)  
 Notes: (1) Growth rates which do not refer to 2000-2009 refer to growth between the earliest available year and the latest available year over the period 2000-2010.  
 (2) The EU value refers to the median 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.

Innovation Union Competitiveness Report 2011

# ITALY

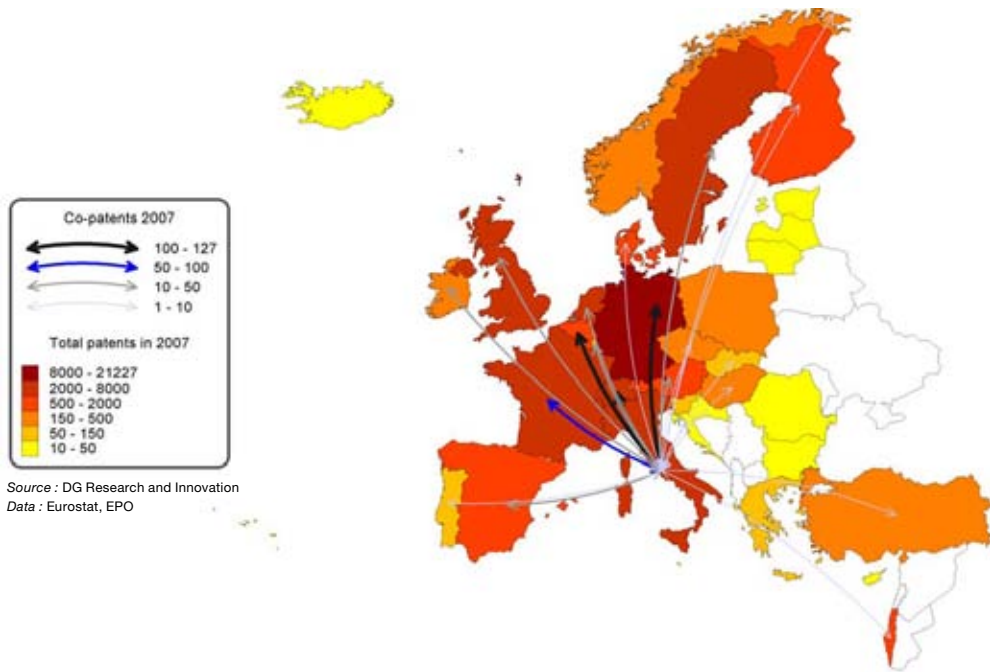
## Co-publications between Italy and European Countries in 2000-2009



Source: DG Research and Innovation  
 Data: Scopus/Science Metrix  
 Note: (1) Full counting method

## ITALY

## Co-invented patent applications between Italy and European Countries, 2007



### Participation in the European Research Area : Scientific and Technological collaborations

Italy is well integrated in the European research and innovation system. Together with Germany, France and the United Kingdom, Italy is among the highest producers of overall publications and of cross-border co-publications. The preferred partners for scientific collaboration with Italy are among these three countries plus Spain and Switzerland.

The same partnerships are verified in the technological cooperation, co-patents being mainly with the same countries. However, Italy is, in general, less international in technological cooperation, since co-patents are only half of all the Italian patents (the EU average share of co-patents in the total patent applications is around 64%). The level of co-patents applications with third countries (non EU) also represents a very small share with 5.1% of the total.

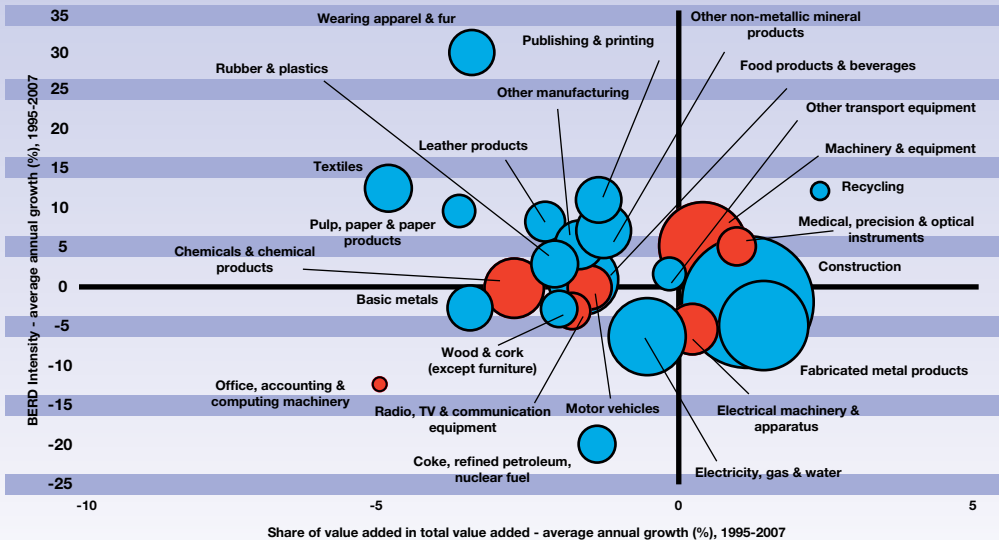
In the context of the EU Framework Programmes Italy has built a solid position and in the networking constitutes one of the central links, together with Germany, the United Kingdom and France.

### Structural change towards a more knowledge-intensive economy

Manufacturing accounts for a larger share in the economy in Italy than in the EU in 2009 (19.3% of total employment versus 15.7% for the EU). This is mainly due to the specialisation in some traditional sectors such as footwear, textiles and clothing and, to a lesser extent, other machinery, basic metal products and non-metallic mineral products. These sectors have lower R&D intensities when compared with similar sectors in other countries (see for example, the box on the textile sector in chapter 3, Part III of this report). Thus the potential to incorporate additional knowledge in the relevant sectors is considerable, if facilitated by a structural change in the traditional sectors and a supply of high and high-intermediate skills. In services, Italy's sectoral composition follows the EU picture, with a share slightly smaller than the average. Over the period 2000-2009 the R&D intensity increased moderately reaching 1.27% in 2009, with equally modest contributions from both the public and the private sectors. Overall, the R&D intensity of existing sectors increased in the last decade, but only to reach levels that remain very far from the countries

## ITALY

## Share of value added versus BERD Intensity - Average annual growth, 1995-2007



Source: DG Research and Innovation  
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) 'Tobacco products' is not included on the graph.

Innovation Union Competitiveness Report 2011

at the technology frontier, thus suggesting a trend towards a specialisation in lower technology intensive products. The BERD intensity slightly increased in the period 1995-2007 mainly due to increases in the BERD sectoral intensities without changes in the research orientation of the economy.

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 18053 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 33015 applicants from Italy (12.39% of EU-27\*) and
- requesting EUR 11 009.55m of EC contribution (12.47% of EU-27\*)

Among the EU-27\* Italy (IT) ranks:

- 3<sup>rd</sup> in terms of number of applicants and
- 3<sup>rd</sup> in terms of requested EC contribution

### Success rates

- The IT applicant success rate of 18.3% is lower than the EU-27\* applicant success rate of 21.6%.

- The IT 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

- 3342 proposals were retained for funding (18.5%)
- involving 6057 (18.3%) successful applicants from Italy and
- requesting EUR 1750.61m (15.9%) of EC financial contribution

Among the EU-27\*, Italy (IT) ranks:

- 22<sup>nd</sup> in terms of applicants success rate and
- 14<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Italy (IT) participates in

- 2875 signed grant agreements
- involving 32 340 participants of which 5321 (16.45%) are from Italy
- benefiting from a total of EUR 9 177.46m of EC financial contribution of which EUR 1 533.27m (16.71%) is dedicated to participants from Italy.

Among the EU-27\* in all FP7 signed grant agreements, Italy (IT) ranks:

- 4<sup>th</sup> in number of participations and
- 4<sup>th</sup> in budget share

**SME performance and participation**

- The IT SME applicant success rate of 15.73% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The IT SME EC financial contribution success rate of 13.93% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 8655 IT SME applicants requesting EUR 2243.88m
- 1361 (15.73%) successful SMEs requesting EUR 312.47m (13.93%)

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

- 959 IT SME grant holders, i.e., 18.02% of total IT participation
- EUR 218.67m, i.e., 14.26% of total IT budget share

**Top 3 collaborative links with**

- DE - Germany (4229)
- UK - United Kingdom (3310)
- FR - France (3100)

\*\*Nr. of Researchers as% of population N/A 0.40%  
 Rank in EU-27\*  
 Innovation scoreboard (2008) - 19th  
 - Below EU-27 average  
 - Moderate Innovator  
 Nr. of FP7 applicants

(% EU-27*)	33015	
(12.39%)	266507	
Req. EC contribution by FP7 applicants in EUR million		
(% EU-27*)	11 009.55	
(12.47%)	88295	
Nr. of successful FP7 applicants		
(% EU-27*)	6057	
(10.23%)	59199	
Req. EC contribution by successful FP7 applicants in EUR million		
(% EU-27*)	1 750.61	
(9.59%)	18262.02	
Success rate FP7 applicants	18.3%	21.6%
Success rate		
FP7 EC contribution	15.9%	20.7%
Nr. of FP7 grant holders		
(% EU-27*)	5321	
(10.38%)	51279	
EC contribution to FP7 grant holders in EUR million		
(% EU-27*)	1 533.27	
(9.25%)	16578.15	
Nr. of FP7 coordinators		
(% of grant holders)	871	
(16.37%)	9383	
(18.30%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	959	
(18.02%)	8845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	218.67	
(14.26%)	2207.73	
(13.32%)		

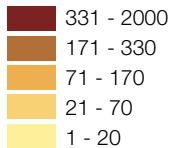




TABLE 1

**IT - Italy - 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	8 234	2 986.57	1 198	14.55%	423.31	14.17%
Marie-Curie Actions	3 230	n/a	749	23.19%	n/a	n/a
Health	3 051	1 380.21	519	17.01%	205.80	14.91%
Research for the benefit of SMEs	3 000	421.49	485	16.17%	69.31	16.44%
Transport (including Aeronautics)	2 487	711.36	594	23.88%	182.41	25.64%
Environment (including Climate Change)	2 148	570.57	341	15.88%	78.00	13.67%

TABLE 2

**IT - Italy - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all AT grant holders	EC contribution (EUR million)	% of total EC contribution to IT
Information and Communication Technologies	1 205	22.65%	397.18	25.90%
Health	511	9.60%	181.19	11.82%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	471	8.85%	145.01	9.46%
ERC	127	2.39%	135.45	8.83%
Transport (including Aeronautics)	455	8.55%	124.89	8.15%
Marie-Curie Actions	558	10.49%	107.19	6.99%

Notes : Report generated on: 2011/03/25.04:40 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**IT - Italy - 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	10914	3081.59	1975	18.10%	486.27	15.78%	1784	542.98	35.41%
PRC	10106	2836.29	1845	18.26%	511.56	18.04%	1708	441.95	28.82%
REC	6439	2062.99	1458	22.64%	431.75	20.93%	1514	489.06	31.90%
OTH	2096	509.18	359	17.13%	89.26	17.53%	112	20.46	1.33%
PUB	1448	303.50	294	20.30%	51.62	17.01%	203	38.82	2.53%
SME	8655	2243.88	1361	15.73%	312.47	13.93%	959	218.67	14.26%

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

TABLE 4

**IT - Italy - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

IT - Italy region	Number of grant holders	% of all IT - Italy grant holders	EC contribution (M euro)	% of total EC contribution to IT
Roma (ITE43)	1380	25.93%	393.61	25.67%
Milano (ITC45)	826	15.52%	277.18	18.08%
Torino (ITC11)	417	7.84%	111.73	7.29%
Genova (ITC33)	248	4.66%	74.73	4.87%
Firenze (ITE14)	232	4.36%	62.91	4.10%

TABLE 5

**IT - Italy - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all IT grant holders	EC contribution (M euro)	% of total EC contribution to IT grant holders
Consiglio Nazionale Delle Ricerche (CNR)	338	6.35%	116.14	7.57%
Politecnico di Milano (POLIMI)	106	1.99%	37.85	2.47%
Universita Degli Studi di Roma la Sapienza	106	1.99%	37.14	2.42%
Alma Mater Studiorum-Universita di Bologna (Unibo)	118	2.22%	35.14	2.29%
Centro Ricerche Fiat Scpa (Centro Ricerche Fiat)	88	1.65%	33.57	2.19%

# COUNTRY PROFILE



## LV - Latvia

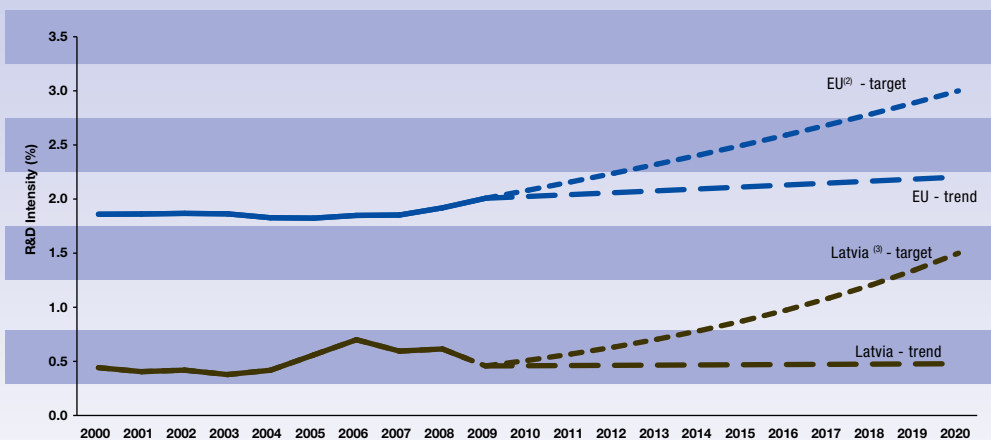
### Progress towards meeting the Europe 2020 R&D intensity target

Latvia is aware that an effort in R&D is necessary to ensure a sustainable development of the country, which has badly suffered from the financial crisis. Latvia increased its R&D intensity during the 2000-2008 period by an average annual growth rate of 4.1%, passing from 0.44% in the year 2000 to 0.61% in 2008.

This increase has been fuelled thanks to an increase in public R&D investment, which rose at an average annual growth rate of 7.1% (from 0.26% to 0.46%). On the other hand, private R&D fell from 0.18% to 0.15%. However, with the deterioration of the economic situation in the country, the public and private sector investment in R&D decreased in 2009 (0.46%) and again in 2010.

### LATVIA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

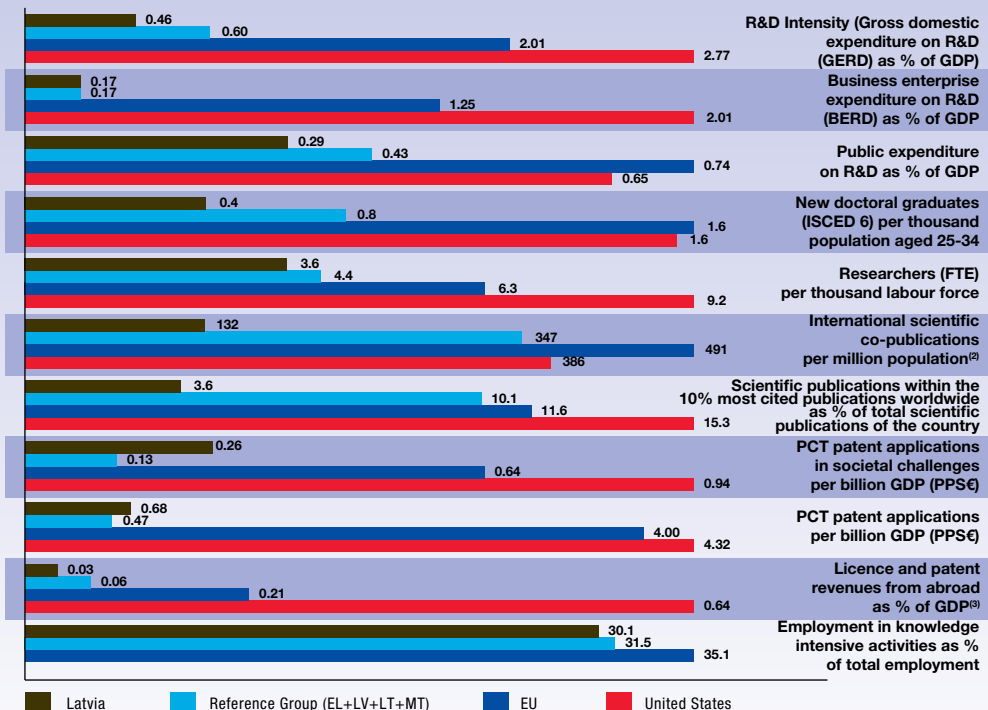
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity 2000-2009.

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

(3) LV: This projection is based on a tentative R&D Intensity target of 1.5% for 2020.

Innovation Union Competitiveness Report 2011

## LATVIA

R&D profile, 2009<sup>(1)</sup>

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

Latvia is characterised by a very weak performance in terms of Research and Innovation performance both in comparison to the EU in general but also in comparison to the reference group (see composition in the following graph). While a strong and innovative industry is a means to ensure investment in R&D, Latvia is characterised by a weak funding and participation of industry in R&D.

Latvia's growth since independence has been very much built on low labour costs and production of products of low added value. As costs and incomes start to converge with wider EU norms, companies need to shift the base of their competitiveness. In that respect creation and growth of innovative firms is a key to economic regeneration.

While other indicators such as employment in knowledge intensive activities as % of total employment and growth of the number of PhDs progress, albeit from a low

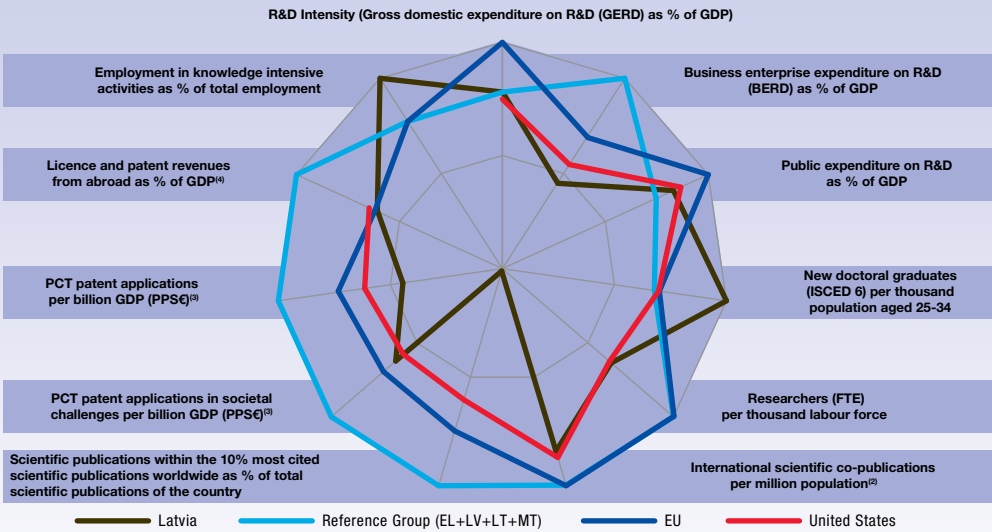
basis, they point to a real problem in internationalisation and international publication of research. Latvian researchers publish in Latvian journals instead of trying to publish in international journals. Access to international journals and international publication databases is a problem, owing to cost. International collaboration can sometimes give indirect access.

## Participation in the European Research Area : Scientific and Technological collaborations

The low level of Latvia's participation in the European Research Area reflects the global level of its R&D performance. Co-publications are significant with its neighbours (Sweden, Finland, and Estonia), but also with Germany and Denmark, while co-patenting activity in absolute values stayed at a low level in 2007.

# LATVIA

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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.

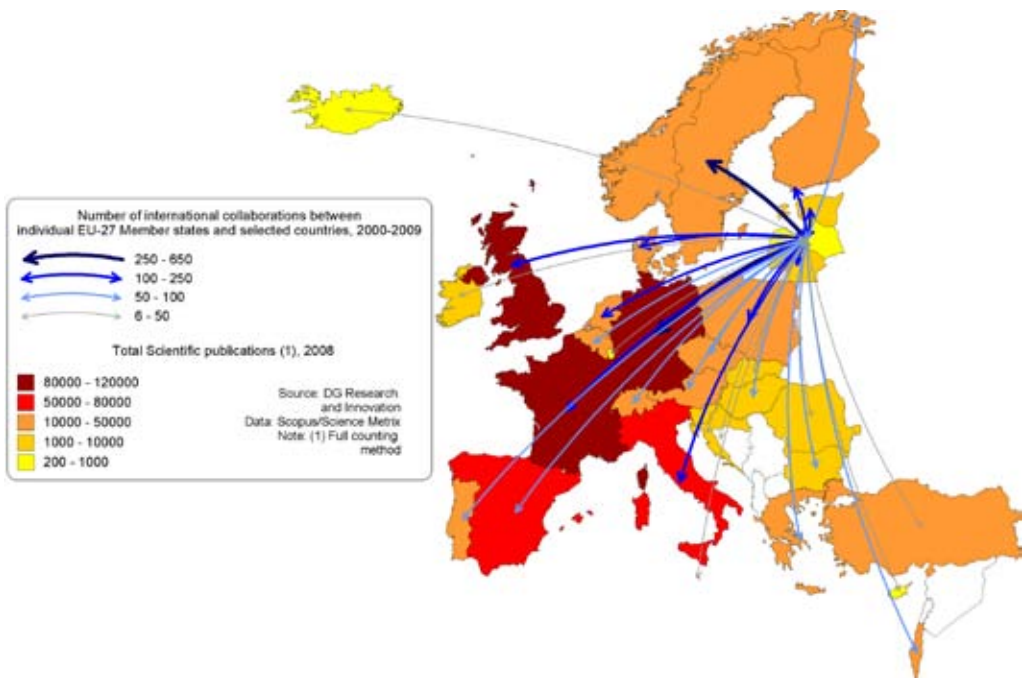
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

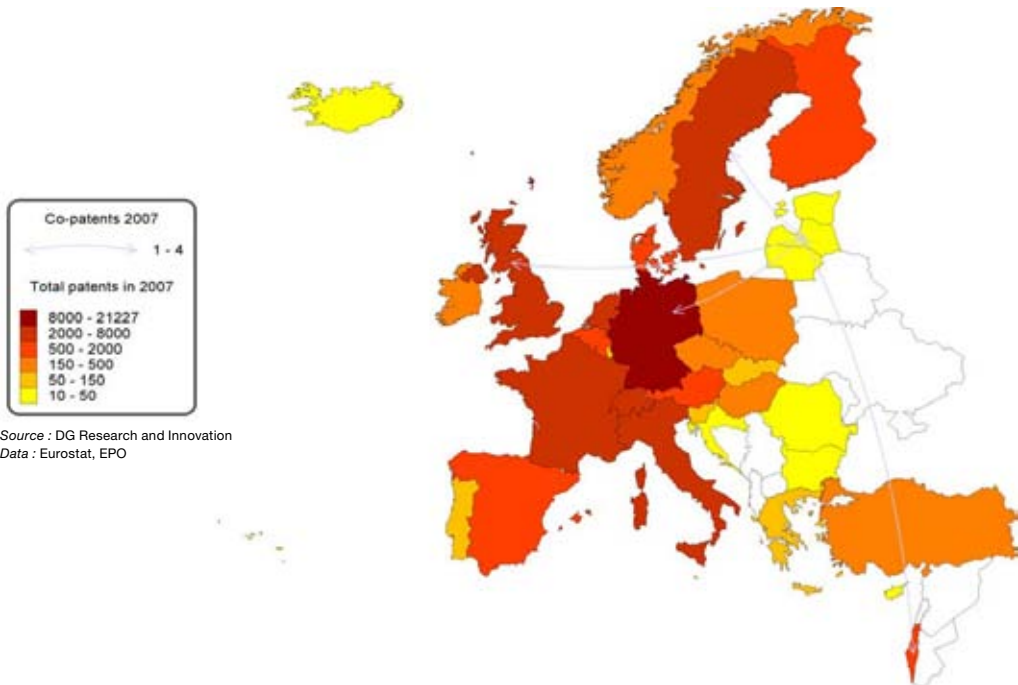
# LATVIA

## Co-publications between Latvia and European Countries in 2000-2009



## LATVIA

## Co-invented patent applications between Latvia and European Countries, 2007



Source : DG Research and Innovation  
Data : Eurostat, EPO

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 636 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 800 applicants from Latvia (0.30% of EU-27\*) and
- requesting EUR 150.66m of EC contribution (0.17% of EU-27\*)

Among the EU-27\* Latvia (LV) ranks:

- 25<sup>th</sup> in terms of number of applicants and
- 25<sup>th</sup> in terms of requested EC contribution

### Success rates

- The LV applicant success rate of 22.1% is similar to the EU-27\* applicant success rate of 21.6%.
- The LV EC financial contribution success rate of 11.2% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 131 proposals were retained for funding (20.6%)
- involving 177 (22.1%) successful applicants from Latvia and
- requesting EUR 16.81m (11.2%) of EC financial contribution

Among the EU-27\*, Latvia (LV) ranks:

- 11<sup>th</sup> in terms of applicants success rate and
- 24<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Latvia (LV) participates in

- 122 signed grant agreements
- involving 2 136 participants of which 165 (7.72%) are from Latvia
- benefiting from a total of EUR 471.83m of EC financial contribution of which EUR 15.19m (3.22%) is dedicated to participants from Latvia.

Among the EU-27\* in all FP7 signed grant agreements, Latvia (LV) ranks:

- 26<sup>th</sup> in number of participations and
- 27<sup>th</sup> in budget share

#### **SME performance and participation**

- The LV SME applicant success rate of 17.74% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The LV SME EC financial contribution success rate of 14.32% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 310 LV SME applicants requesting EUR 57.29m
- 55 (17.74%) successful SMEs requesting EUR 8.20m (14.32%)

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

- 20 LV SME grant holders, i.e., 12.12% of total LV participation
- EUR 3.11m, i.e., 20.44% of total LV budget share

#### **Top 3 collaborative links with**

- UK - United Kingdom (157)
- DE - Germany (141)
- IT - Italy (136)

**Nr. of Researchers as% of population	N/A	0.40%	Success rate FP7 EC contribution	11.2%	20.7%
Rank in EU-27*			Nr. of FP7 grant holders (% EU-27*)	165	
Innovation scoreboard (2008)	- 26 <sup>th</sup>		(0.32%)	51 279	
- Below EU-27 average			EC contribution to FP7 grant holders in EUR million (% EU-27*)	15.19	
- Catching-up Country			(0.09%)	16 578.15	
Nr. of FP7 applicants (% EU-27*)	800		Nr. of FP7 coordinators (% of grant holders)	12	
(0.30%)	266 507		(7.27%)	9 383	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	150.66		(18.30%)		
(0.17%)	88 295		Nr. of FP7 SME grant holders (% of grant holders)	20	
Nr. of successful FP7 applicants (% EU-27*)	177		(12.12%)	8 845	
(0.30%)	59 199		(17.25%)		
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*)	16.81		EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	3.11	
(0.09%)	18 262.02		(20.44%)	2 207.73	
Success rate FP7 applicants	22.1%	21.6%	(13.32%)		

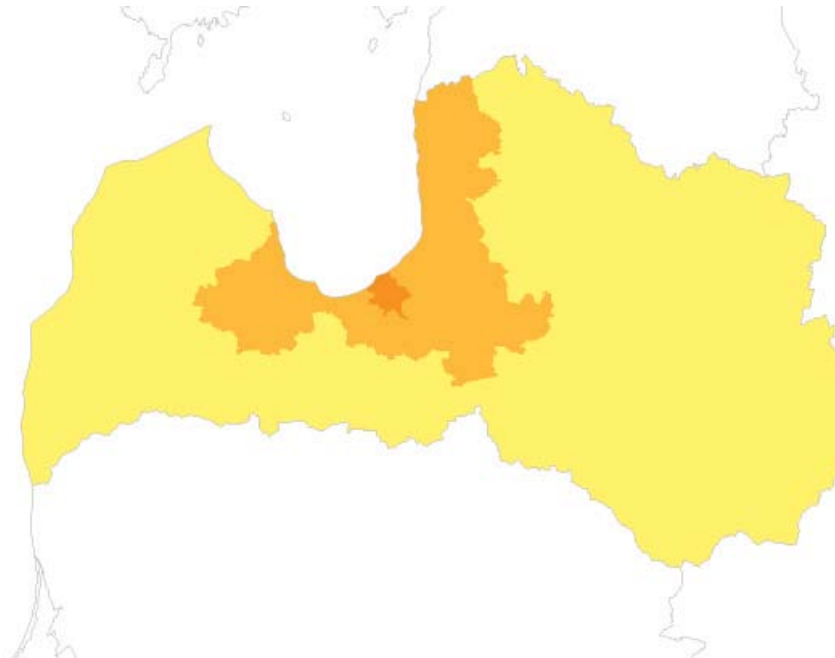
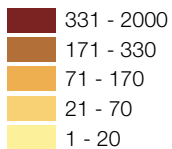




TABLE 1

**LV - Latvia - 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	8234	2986.57	1198	14.55 %	423.31	14.17 %
Marie-Curie Actions	3230	n/a	749	23.19 %	n/a	n/a
Health	3051	1380.21	519	17.01 %	205.80	14.91 %
Research for the benefit of SMEs	3000	421.49	485	16.17 %	69.31	16.44 %
Transport (including Aeronautics)	2487	711.36	594	23.88 %	182.41	25.64 %
Environment (including Climate Change)	2148	570.57	341	15.88 %	78.00	13.67 %

TABLE 2

**LV - Latvia - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all LV grant holders	EC contribution (EUR million)	% of total EC contribution to LV
Research Potential	3	1.82%	2.17	14.29%
Information and Communication Technologies	9	5.45%	1.63	10.75%
Research Infrastructures	16	9.70%	1.60	10.55%
Research for the benefit of SMEs	12	7.27%	1.59	10.45%
Marie-Curie Actions	44	26.67%	1.48	9.77%
Food, Agriculture and Fisheries, and Biotechnology	11	6.67%	1.44	9.47%

Notes : Report generated on: 2011/03/28.10:45 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**LV - Latvia - 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	312	49.38	76	24.36%	5.97	12.08%	71	6.65	43.79%
PRC	186	31.92	26	13.98%	3.19	10.00%	16	2.48	16.31%
REC	132	28.38	40	30.30%	3.91	13.79%	49	4.06	26.72%
OTH	76	12.47	12	15.79%	1.01	8.13%	6	0.78	5.13%
PUB	73	10.25	22	30.14%	2.59	25.27%	23	1.22	8.05%
SME	310	57.29	55	17.74%	8.20	14.32%	20	3.11	20.44%

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

TABLE 4

**LV - Latvia - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

LV - Latvia region	Number of grant holders	% of all LV - Latvia grant holders	EC contribution (M euro)	% of total EC contribution to LV
Riga (LV006)	90	54.55%	8.53	56.16%
Pieriga (LV007)	52	31.52%	4.99	32.82%
Latgale (LV005)	7	4.24%	0.04	0.23%
Kurzeme (LV003)	6	3.64%	0.24	1.59%
Zemgale (LV009)	5	3.03%	1.12	7.36%

TABLE 5

**LV - Latvia - Most active organisations in terms of EC contribution  
granted to the FP7 research projects**

Legal Name	Number of Participations	% of all LV grant holders	EC contribution (M euro)	% of total EC contribution to LV grant holders
Rīgas Tehniskā Universitāte (RTU)	17	10.30%	1.92	12.63%
Latvijas Valsts Koksnes Kimijas Institūts (LSIWC)	7	4.24%	1.83	12.02%
Latvijas Universitāte (LU)	19	11.52%	1.73	11.38%
Latvijas Lauksaimniecības Universitāte (LLU)	5	3.03%	1.12	7.36%
Tilde Sia (Tilde)	3	1.82%	1.00	6.60%

# COUNTRY PROFILE



## LT - Lithuania

### Progress towards meeting the Europe 2020 R&D intensity target

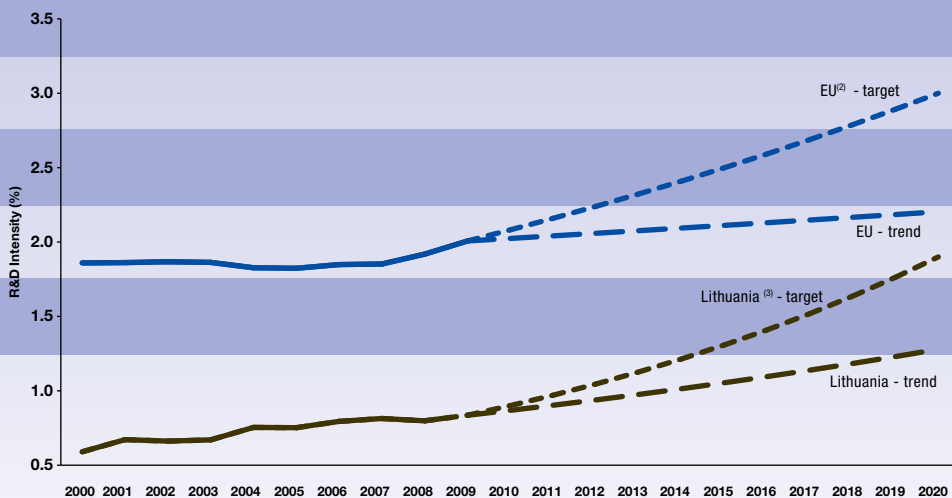
In the last decade, R&D intensity in Lithuania increased from 0.59% of GDP in 2000 to 0.84% in 2009, i.e. an annual average growth rate of 3.9%. It is to be noted that the increase in R&D intensity in 2009 compared to 2008 (0.80% of GDP) is due to a more severe drop in GDP than in nominal R&D expenditure. Lithuania's R&D intensity is still among the lowest in the European Union. In order to maintain and increase its economic

competitiveness and secure high-quality jobs, Lithuania will have to sharply increase its investments in research and innovation.

Lithuanian authorities have recognised this and have set a very ambitious national R&D target for 2020: R&D intensity in Lithuania should account for 1.9% of the national GDP in 2020. This net increase of around 1.1% would be similar to the one needed for the EU to reach the 3% R&D target.

### LITHUANIA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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.

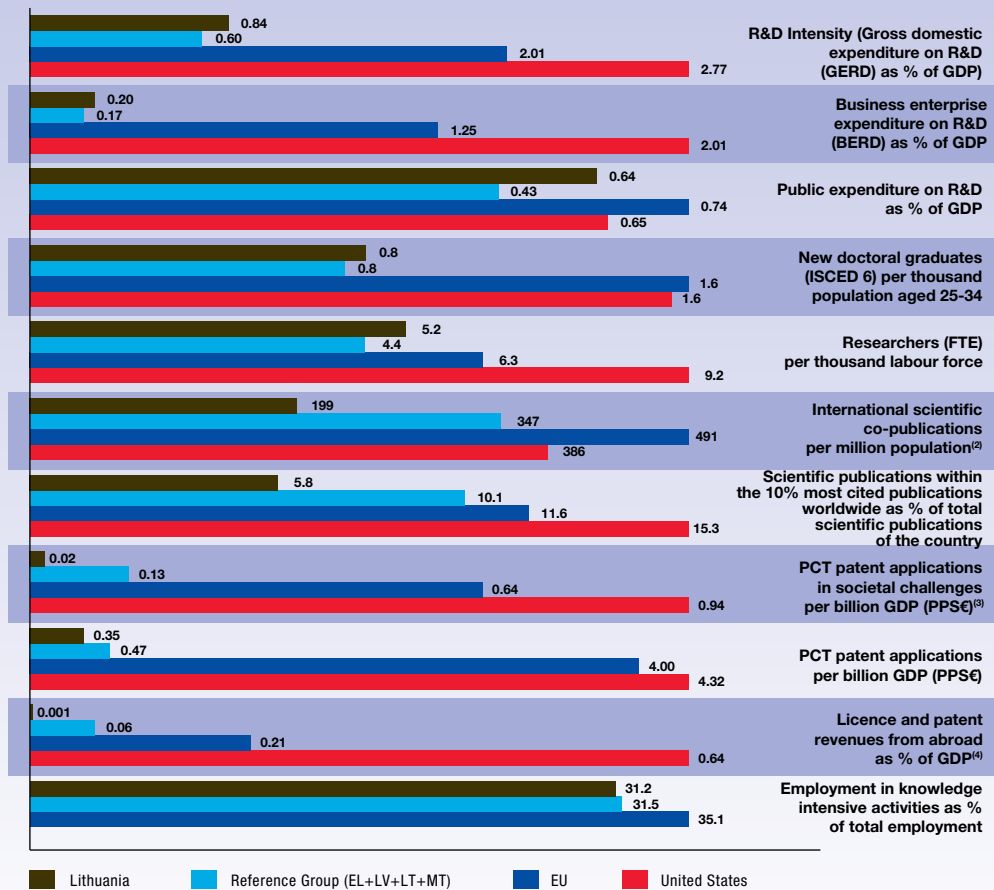
(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.

(3) LT: This projection is based on a tentative R&D Intensity target of 1.9% for 2020.

Innovation Union Competitiveness Report 2011

LITHUANIA

R&D profile, 2009<sup>(1)</sup>



Source: DG Research and Innovation

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

Innovation Union Competitiveness Report 2011

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

Research and Innovation Performance

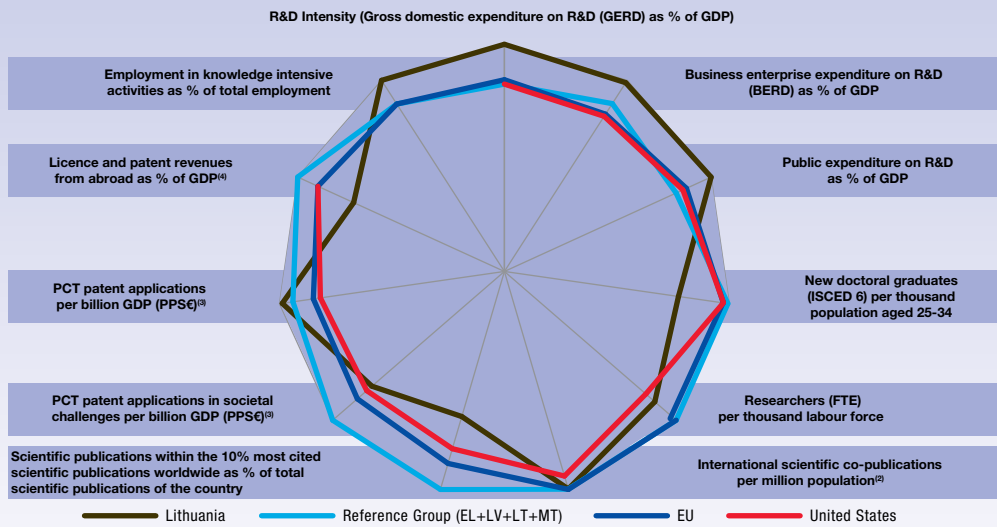
The low level of R&D expenditure in Lithuania, in particular in the business sector, gives rise to a poor scientific and technological performance. Compared to the EU average, but also compared to countries of similar scientific and technological profile, Lithuania scores low in all indicators except R&D expenditure in the public sector and employment activities, whose levels in Lithuania are closer to the EU value. The number of researchers in the labour force is also among the relative strengths of Lithuania. However, the science base appears relatively closed and very few of the scientific publications involving authors based in Lithuania have a high impact. Exploitation of R&D

results by the business sector is extremely limited with low business R&D expenditure and very few patented inventions – to the point that Lithuania has virtually no licence and patent revenue from abroad.

In dynamic terms, Lithuania has been progressing in input indicators at a similar pace as the average of the countries that have a similar scientific and technological profile, except in new doctoral graduates where progress in Lithuania is slower. Progress of Lithuania in outputs was less rapid than in comparable countries, except in the overall level of PCT patents. If this trend continues, it could have important consequences for the future international economic competitiveness of Lithuania.

# LITHUANIA

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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.

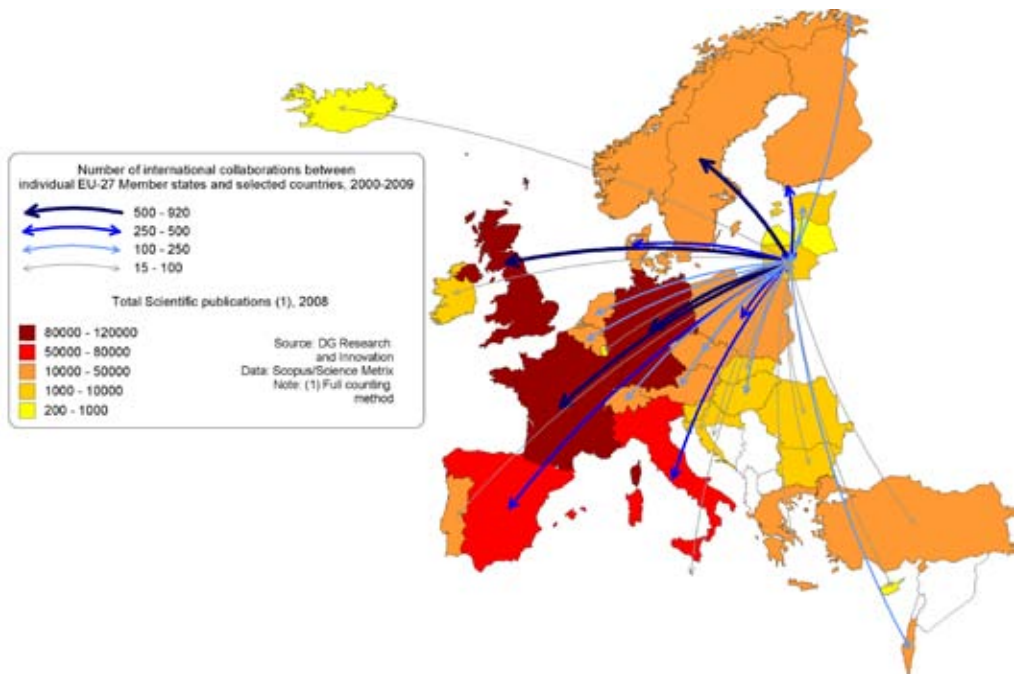
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

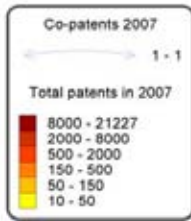
# LITHUANIA

## Co-publications between Lithuania and European Countries in 2000-2009

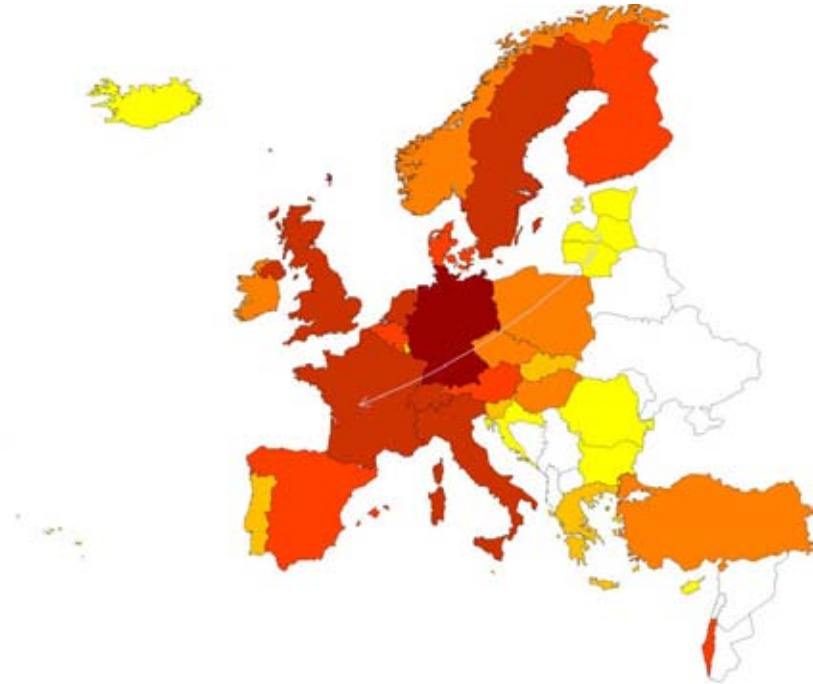


LITHUANIA

Co-invented EPO patent applications between Lithuania and European Countries, 2007



Source : DG Research  
Data : Eurostat, EPO



Participation in the European Research Area : Scientific and Technological collaborations

As shown in the R&D profile above, Lithuania is one of the European countries with the lowest rates of overall co-publications per million population. This suggests that the country is not actively participating in, and benefiting from, the international scientific knowledge flows favoured by the construction of the European Research Area. The main scientific partners of Lithuania are Germany, France and the United Kingdom, largely reflecting the size of the national research systems of these countries. Lithuania has also important linkages with Sweden, Finland, Denmark — probably due to geographical proximity.

Lithuania is virtually unconnected with other countries in patenting activities. In 2007, only one EPO patent application was co-invented by an inventor based in

Lithuania and an inventor(s) based in another European country (France).

FP7 Key facts and figures

Applications

As of 2011/03/16, a total of

- 986 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 1208 applicants from Lithuania (0.45% of EU-27\*) and
- requesting EUR 199.80m of EC contribution (0.23% of EU-27\*)

Among the EU-27\* Lithuania (LT) ranks:

- 24<sup>th</sup> in terms of number of applicants and
- 24<sup>th</sup> in terms of requested EC contribution

### Success rates

- The LT applicant success rate of 20.9% is similar to the EU-27\* applicant success rate of 21.6%.
- The LT 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

- 196 proposals were retained for funding (19.9%)
- involving 252 (20.9%) successful applicants from Lithuania and
- requesting EUR 31.78m (15.9%) of EC financial contribution

Among the EU-27\*, Lithuania (LT) ranks:

- 13<sup>th</sup> in terms of applicants success rate and
- 13<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Lithuania (LT) participates in

- 163 signed grant agreements
- involving 2 709 participants of which 209 (7.72%) are from Lithuania
- benefiting from a total of EUR 647.89m of EC financial contribution of which EUR 25.23m (3.89%) is dedicated to participants from Lithuania.

Among the EU-27\* in all FP7 signed grant agreements, Lithuania (LT) ranks:

- 24<sup>th</sup> in number of participations and
- 25<sup>th</sup> in budget share

### SME performance and participation

- The LT SME applicant success rate of 18.91% is similar to the EU-27\* SME applicant success rate of 19.33%.
- The LT SME EC financial contribution success rate of 14.64% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 386 LT SME applicants requesting EUR 67.55m
- 73 (18.91%) successful SMEs requesting EUR 9.89m (14.64%)

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

- 36 LT SME grant holders, i.e., 17.22% of total LT participation
- EUR 6.52m, i.e., 25.83% of total LT budget share

### Top 3 collaborative links with

- UK - United Kingdom (249)
- DE - Germany (234)
- FR - France (212)

**Nr. of Researchers as% of population	N/A	0.40%	FP7 EC contribution	15.9%	20.7%
Rank in EU-27*			Nr. of FP7 grant holders (% EU-27*)	209	
Innovation scoreboard (2008)	- 24 <sup>th</sup>		(0.41%)	51 279	
- Below EU-27 average			EC contribution to FP7 grant holders in EUR million (% EU-27*)	25.23	
- Moderate Innovator			(0.15%)	16 578.15	
Nr. of FP7 applicants (% EU-27*)	1 208		Nr. of FP7 coordinators (% of grant holders)	8	
(0.45%)	266 507		(3.83%)	9 383	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	199.80		(18.30%)		
(0.23%)	88 295		Nr. of FP7 SME grant holders (% of grant holders)	36	
Nr. of successful FP7 applicants (% EU-27*)	252		(17.22%)	8 845	
(0.43%)	59 199		(17.25%)		
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*)	31.78		EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	6.52	
(0.17%)	18 262.02		(25.83%)	2 207.73	
Success rate FP7 applicants	20.9%	21.6%	(13.32%)		
Success rate					

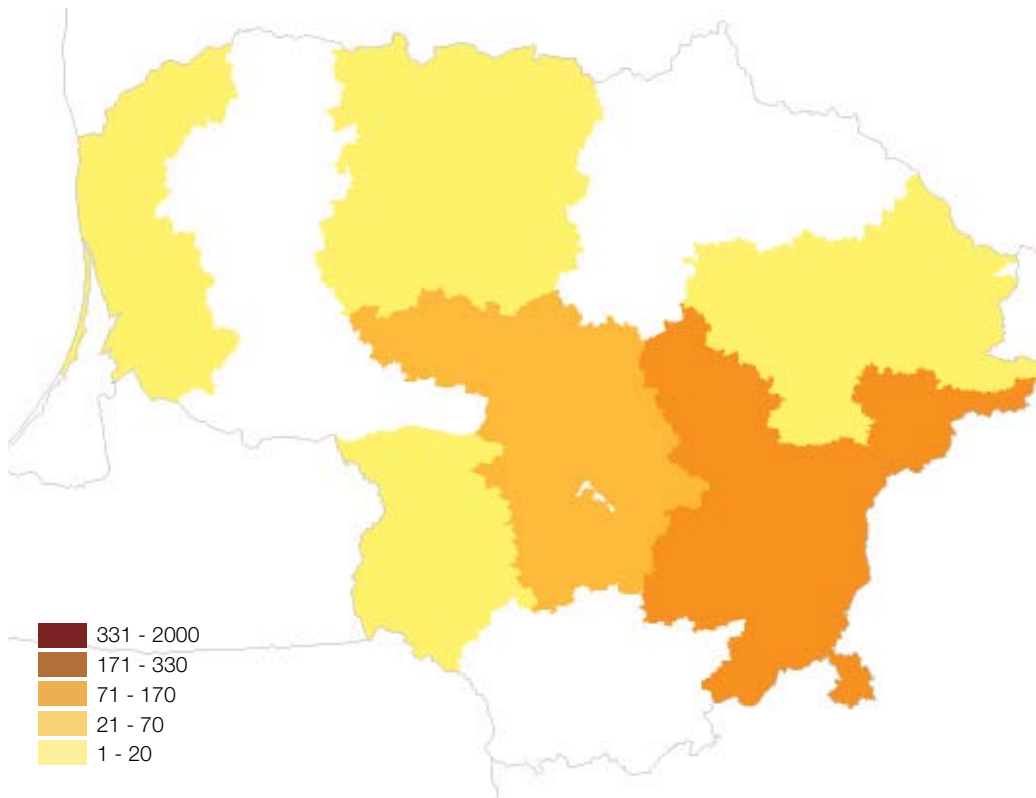




TABLE 1

**LT - Lithuania - 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)
Research for the benefit of SMEs	191	19.51	37	19.37%	3.45	17.68%
Information and Communication Technologies	150	32.30	14	9.33%	1.96	6.08%
Socio-economic sciences and Humanities	127	17.12	7	5.51%	0.68	3.95%
Marie-Curie Actions	102	n/a	42	41.18%	n/a	n/a
Health	91	22.18	20	21.98%	5.39	24.32%
Transport (including Aeronautics)	76	13.69	18	23.68%	1.32	9.64%

TABLE 2

**LT - Lithuania - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all LT grant holders	EC contribution (EUR million)	% of total EC contribution to LT
Energy	19	9.09%	3.99	15.81%
Health	19	9.09%	3.90	15.45%
Research for the benefit of SMEs	29	13.88%	3.74	14.84%
Research Potential	4	1.91%	2.46	9.74%
Information and Communication Technologies	18	8.61%	2.12	8.40%
Marie-Curie Actions	24	11.48%	1.74	6.88%

Notes : Report generated on: 2011/03/25.04:40 PM

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

FP7 grant agreements and participation figures are valid as of 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

**TABLE 3**

**LT - Lithuania - 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	565	78.48	111	19.65%	11.77	15.00%	93	10.84	42.98%
PRC	219	44.63	37	16.89%	7.04	15.76%	46	7.54	29.88%
REC	187	30.10	45	24.06%	5.68	18.85%	28	2.76	10.93%
PUB	99	12.59	38	38.38%	4.68	37.20%	37	3.62	14.33%
OTH	99	14.20	21	21.21%	2.61	18.38%	5	0.48	1.88%
SME	386	67.55	73	18.91%	9.89	14.64%	36	6.52	25.83%

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

**TABLE 4**

**LT - Lithuania - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects**

LT - Lithuania region	Number of grant holders	% of all LT - Lithuania grant holders	EC contribution (M euro)	% of total EC contribution to LT
Information and Communication Technologies	8234	2986.57	1198	14.55 %
Marie-Curie Actions	3230	n/a	749	23.19 %
Health	3051	1380.21	519	17.01 %
Research for the benefit of SMEs	3000	421.49	485	16.17 %
Transport (including Aeronautics)	2487	711.36	594	23.88 %

**TABLE 5**

**LT - Lithuania - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all LT grant holders	EC contribution (M euro)	% of total EC contribution to LT grant holders
Vilniaus Universitetas (VU)	29	13.88%	5.33	21.12%
Kauno Technologijos Universitetas (KTU)	26	12.44%	2.88	11.42%
Birstono Savivaldynes Taryba	1	0.48%	1.48	5.85%
Uab Modernios E-Technologijos	2	0.96%	1.10	4.36%
Valstybinis Moksliniu Tyrimu Institutas Fiziniu ir Technologijos Mokslu Centras (FTMC)	7	3.35%	0.97	3.85%

# COUNTRY PROFILE



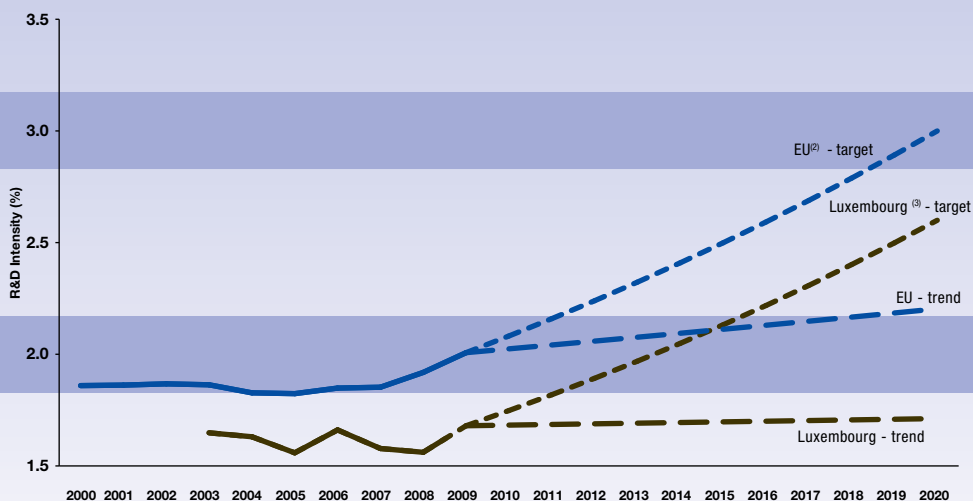
## LU - Luxembourg

### Progress towards meeting the Europe 2020 R&D intensity target

R&D intensity in Luxembourg has fluctuated over the last decade. More precisely, it decreased from 1.65% in 2000 to 1.56% in 2005, increased to 1.66% in 2006 and slightly decreased to 1.56% in 2008, before increasing to 1.68% in 2009. These fluctuations are mirrored by fluctuations in the R&D intensity of the private sector over the same period. Public sector (government plus higher education) has increased steadily, even if it has remained relatively low, from 0.12% in 2000 to 0.44% in 2009. This shows that R&D financed by the business sector

is the component most affected by the business cycle. The economic crisis did not trigger any cuts in public sector expenditure on R&D. The country was able to increase his nominal R&D budget. This indicates that Luxembourg regards R&D as a priority and as a means of ensuring a better and more rapid economic recovery and economic growth in the longer term. In this context, Luxembourg has set an ambitious, albeit realistic R&D intensity target of 2.6% of GDP for 2020. The private sector would contribute 1.8-1.9% of GDP, i.e. approximately 70%, and the public sector 0.70- 0.80%, i.e. around 30%.

### LUXEMBOURG R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

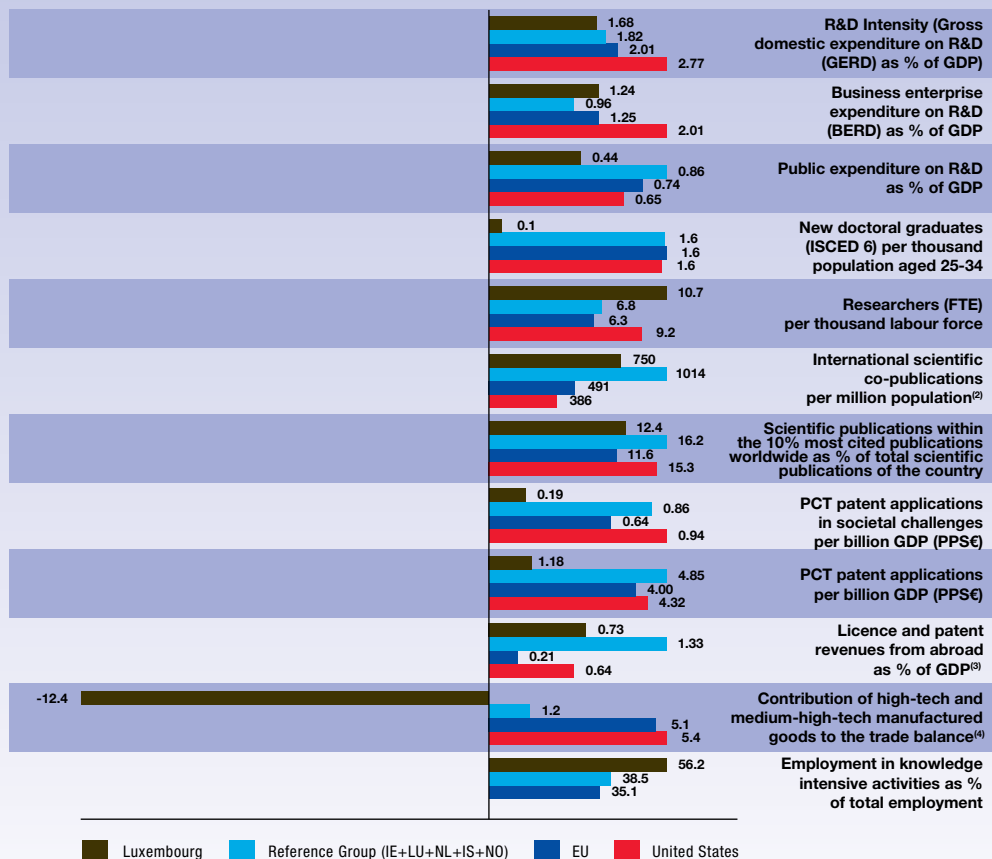
Data: DG Research and Innovation, Eurostat

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) LU: This projection is based on a tentative R&D Intensity target of 2.6% for 2020.

Innovation Union Competitiveness Report 2011

LUXEMBOURG R&D profile, 2009<sup>(1)</sup>

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) (i) The EU value refers to the median rather than to the average (ii) IS and NO are not included in the Reference Group.

(3) EU refers to extra-EU.

(4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU; (iii) IS and NO are not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

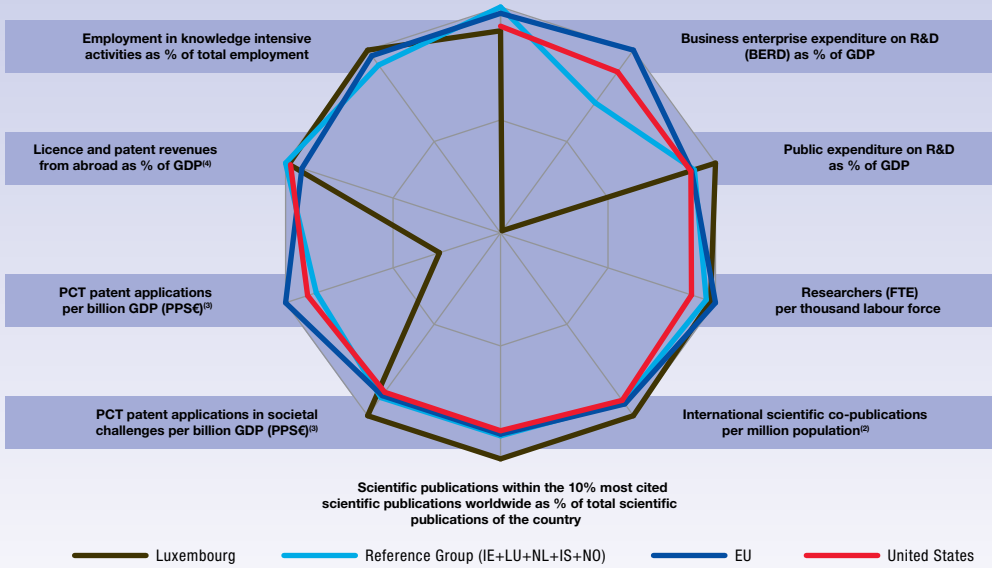
The country's research and innovation performance shows strengths and weaknesses. In terms of strengths, Luxembourg scores higher than the EU average in the share of high-impact scientific publications, licence and patent revenues from abroad as percentage of GDP and employment in knowledge intensive activities. Moreover, although Luxembourg's higher education system produces less doctoral graduates relative to its population aged 25-34 than the average in the EU, the country is above the EU average in the number of researchers in the labour force. All these indicators evidence the importance of knowledge intensive activities in the national economy. But there are also

some weaknesses in the research and innovation system. As previously mentioned, R&D intensity is below the EU average and the reference group countries average. The reason for proportionally lower investment lies mainly in the relatively low public R&D investment, which remains at 0.44% in 2009, well below the EU average. As a result, the technological inventiveness of the country and the contribution of high-tech and medium-high-tech manufactured goods to the trade balance is lower than the EU average. To a large extent, this is linked to Luxembourg's economy structure, largely based on the financial sector and other business services, which account for almost half of the economy total value added.

LUXEMBOURG

Average annual growth (%), 2000-2009<sup>(1)</sup>

R&D Intensity (Gross domestic expenditure on R&D (GERD) as % of GDP)



Source: DG Research and Innovation

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) (i) The EU value refers to the median rather than to the average; (ii) IS and NO are not included in the Reference Group.

(3) Average annual growth refers to real growth.

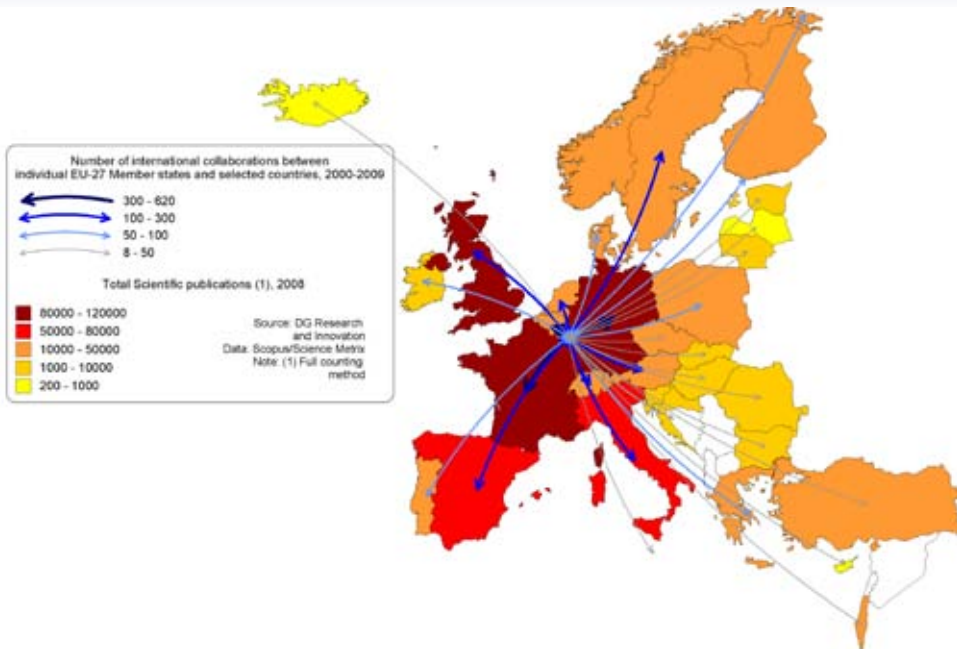
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

LUXEMBOURG

Co-publications between Luxembourg and European Countries in 2000-2009



Number of international collaborations between individual EU-27 Member states and selected countries, 2000-2009

- 300 - 620
- 100 - 300
- 50 - 100
- 8 - 50

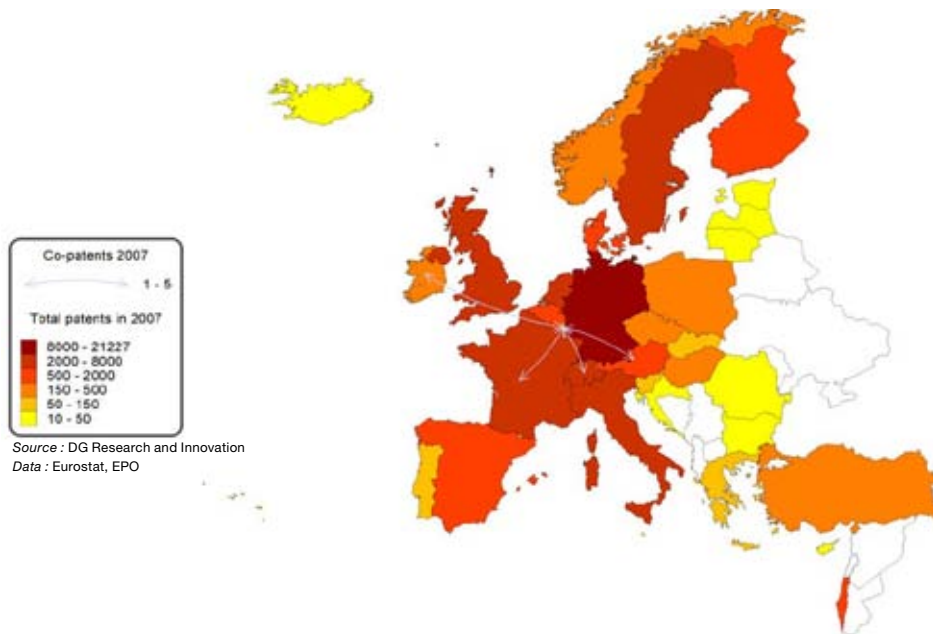
Total Scientific publications (1), 2008

- 80000 - 120000
- 50000 - 80000
- 10000 - 50000
- 1000 - 10000
- 200 - 1000

Source: DG Research and Innovation  
Data: Scopus/Science Metrix  
Note: (1) Full counting method

## LUXEMBOURG

## Co-invented patent applications between Luxembourg and European Countries, 2007



In the last decade, Luxembourg has made good progress in several fronts, including its public R&D investment, high quality scientific performance measured by high-impact publications and the transition towards an even more knowledge intensive economy. Nevertheless, in the same period, private R&D investment and the technological inventiveness of the economy, measured by PCT patent applications, declined.

The business sector still finances the lion's share of R&D, but Luxembourg lags behind the EU average in terms of private R&D intensity. Moreover, in the context of the financial and economic downturn, private investments in R&D can be further affected.

### Participation in the European Research Area : Scientific and Technological collaborations

Luxembourg is a small economy that also reflects on its scientific collaborations. In this respect, although Luxembourg counts on a larger number of international scientific co-publications than the EU average, it scores below other small and open economies. The main partners in science are, as it is expected, the

neighbouring countries, i.e. France, Germany and Belgium, followed by the United Kingdom, Sweden, Italy, Spain, Switzerland and Austria.

In terms of co-inventions of patents, Luxembourg scores very low, despite recent intellectual property tax incentives (in particular, since January 2008 it offers an 80% tax cut on intellectual property profits). This is a reflection of the size of the country, the low number of overall patents and the economic structure, based on knowledge intensive services. The main technological partners are France and Switzerland, followed by Ireland and Austria.

### FP7 Key facts and figures

#### Applications

As of 2011/03/16, a total of

- 444 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 515 applicants from Luxembourg (0.19% of EU-27\*) and
- requesting EUR 144.43m of EC contribution (0.16% of EU-27\*)

Among the EU-27\* Luxembourg (LU) ranks:

- 27<sup>th</sup> in terms of number of applicants and
- 26<sup>th</sup> in terms of requested EC contribution

#### Success rates

- The LU applicant success rate of 18.6% is lower than the EU-27\* applicant success rate of 21.6%.
- The LU EC financial contribution success rate of 11.3% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 88 proposals were retained for funding (19.8%)
- involving 96 (18.6%) successful applicants from Luxembourg and
- requesting EUR 16.36m (11.3%) of EC financial contribution

Among the EU-27\*, Luxembourg (LU) ranks:

- 21<sup>st</sup> in terms of applicants success rate and
- 22<sup>nd</sup> in terms of EC financial contribution success rate

#### Signed grant agreements

As of 2011/03/16, Luxembourg (LU) participates in

- 87 signed grant agreements
- involving 1 386 participants of which 94 (6.78%) are from Luxembourg
- benefiting from a total of EUR 368.59m of EC financial contribution of which EUR 19.21m (5.21%) is dedicated to participants from Luxembourg.

Among the EU-27\* in all FP7 signed grant agreements, Luxembourg (LU) ranks:

- 28<sup>th</sup> in number of participations and
- 26<sup>th</sup> in budget share

#### SME performance and participation

- The LU SME applicant success rate of 16.29% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The LU SME EC financial contribution success rate of 12.21% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 178 LU SME applicants requesting EUR 44.43m
- 29 (16.29%) successful SMEs requesting EUR 5.42m (12.21%)

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

- 13 LU SME grant holders, i.e., 13.83% of total LU participation
- EUR 3.21m, i.e., 16.69% of total LU budget share

#### Top 3 collaborative links with

- DE - Germany (136)
- FR - France (116)
- IT - Italy (90)

**Nr. of Researchers as% of population	N/A	0.40%	(0.18%)	51 279
Rank in EU-27*			EC contribution to FP7 grant holders in EUR million	
Innovation scoreboard (2008)	- 7 <sup>th</sup>		(% EU-27*)	19.21
- Above EU-27 average			(0.12%)	16578.15
- Innovation Follower			Nr. of FP7 coordinators (% of grant holders)	12
Nr. of FP7 applicants (% EU-27*)	515		(12.77%)	9383
(0.19%)	266507		(18.30%)	
Req. EC contribution by FP7 applicants in EUR million			Nr. of FP7 SME grant holders (% of grant holders)	13
(% EU-27*)	144.43		(13.83%)	8845
(0.16%)	88295		(17.25%)	
Nr. of successful FP7 applicants (% EU-27*)	96		EC contribution to FP7 SME grant holders in EUR million	
(0.16%)	59199		(% of grant holders)	3.21
Req. EC contribution by successful FP7 applicants in EUR million			(16.69%)	2207.73
(% EU-27*)	16.36		(13.32%)	
(0.09%)	18262.02			
Success rate FP7 applicants	18.6%	21.6%		
Success rate FP7 EC contribution	11.3%	20.7%		
Nr. of FP7 grant holders (% EU-27*)	94			

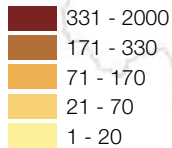




TABLE 1

**LU - Luxembourg - 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	167	55.69	22	13.17%	5.30	9.53%
Security	51	12.21	9	17.65%	2.50	20.48%
Transport (including Aeronautics)	50	11.81	12	24.00%	2.20	18.62%
Health	37	12.61	4	10.81%	0.78	6.17%
Marie-Curie Actions	35	n/a	11	31.43%	n/a	n/a
Environment (including Climate Change)	34	5.26	6	17.65%	0.44	8.44%

TABLE 2

**LU - Luxembourg - most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all LU grant holders	EC contribution (EUR million)	% of total EC contribution to LU
Information and Communication Technologies	24	25.53%	5.84	30.42%
Marie-Curie Actions	10	10.64%	4.92	25.62%
Energy	5	5.32%	2.05	10.65%
Security	6	6.38%	1.64	8.51%
Health	6	6.38%	1.12	5.82%
Transport (including Aeronautics)	7	7.45%	1.02	5.33%

Notes: Report generated on: 2011/03/28.10:45 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**LU - Luxembourg - 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
PRC	222	66.68	38	17.12%	9.61	14.42%	50	10.14	52.76%
HES	97	25.39	12	12.37%	2.31	9.10%	9	2.20	11.45%
REC	88	30.61	10	11.36%	1.01	3.31%	10	1.59	8.27%
OTH	56	9.48	17	30.36%	2.15	22.63%	12	1.57	8.19%
PUB	46	5.65	19	41.30%	1.28	22.67%	13	3.71	19.33%
SME	178	44.43	29	16.29%	5.42	12.21%	13	3.21	16.69%

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

TABLE 4

**LU - Luxembourg - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects**

LU - Luxembourg region	Number of grant holders	% of all LU - Luxembourg grant holders	EC contribution (M euro)	% of total EC contribution to LU
Luxembourg (Grand-Duché) (LU000)	93	98.94%	18.93	98.51%

TABLE 5

**LU - Luxembourg - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all LU grant holders	EC contribution (M euro)	% of total EC contribution to LU grant holders
Fonds National de la Recherche	10	10.64%	3.53	18.38%
Universite du Luxembourg (UI)	9	9.57%	2.20	11.45%
Intrasoft International Sa	6	6.38%	1.72	8.96%
Ses Astra Techcom Sa (SES)	4	4.26%	1.44	7.49%
Soil-Concept Sa (Soil-Concept)	1	1.06%	1.15	5.96%

# COUNTRY PROFILE



## MT - Malta

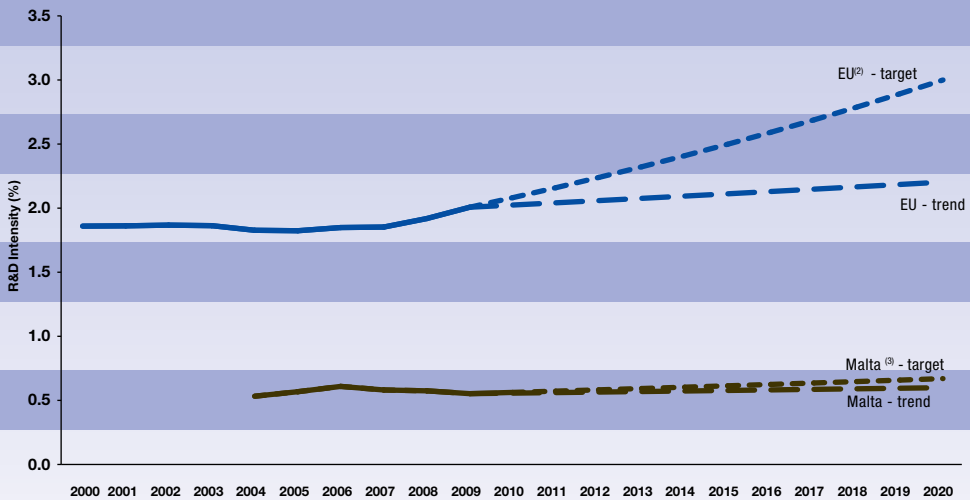
### Progress towards meeting the Europe 2020 R&D intensity target

In the last decade, R&D intensity in Malta reached a peak of 0.61% in 2006 and a decline to 0.55% in 2009. Despite this overall progress in R&D intensity, Malta still scores very low and far from the EU average. An economic structure organised around the service sector, dominated by micro enterprises with less than 10 employees, somehow determines the capacity of the country to increase its overall R&D intensity.

As a result, Malta has set a R&D target of 0.67% to be achieved by 2020. Given the size of the country and the capacity of the research system, Malta will need to specialise its R&D investments in particular niche fields where the system can achieve sufficient critical mass to support the local economy. Presently, Malta has identified health and biotechnology, energy and environmental technologies, ICT and value added manufacturing and services as potential areas to focus on.

### MALTA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

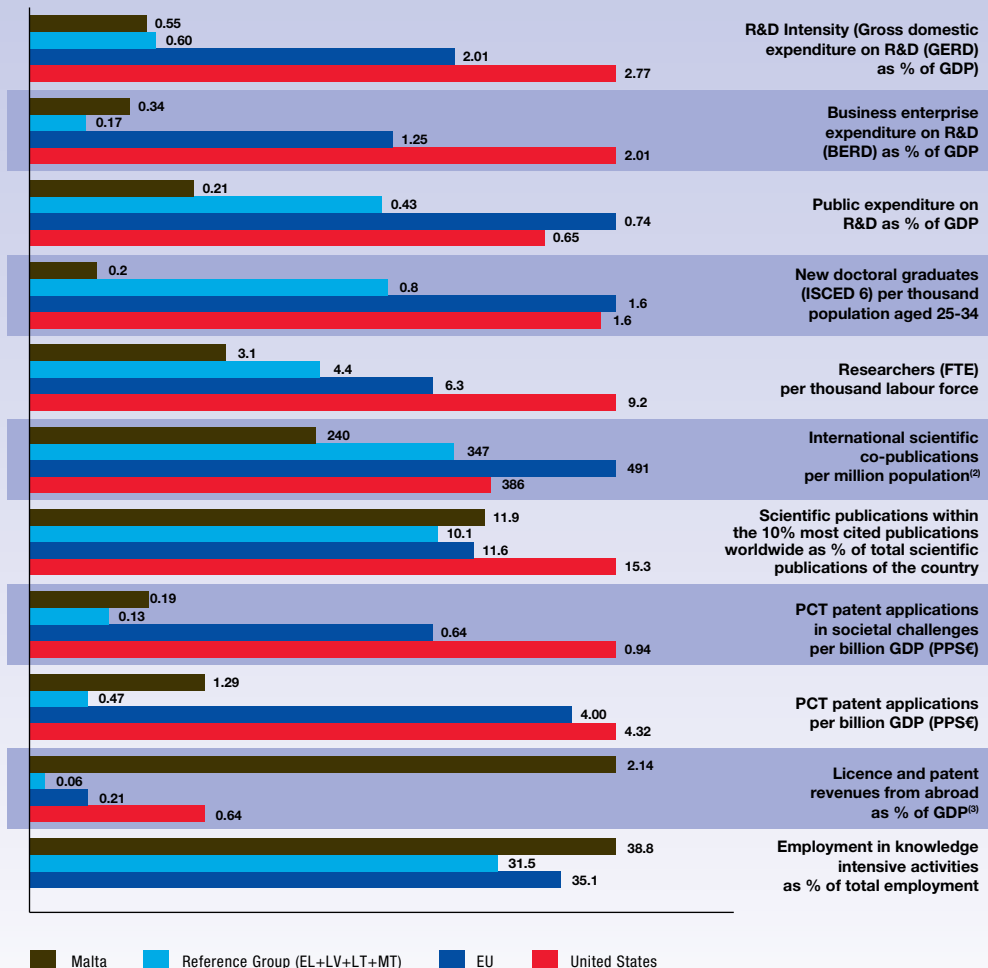
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity for 2000-2009 in the case of the EU and for 2004-2009 in the case of Malta.

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

(3) MT: This projection is based on a tentative R&D Intensity target of 0.67% for 2020.

Innovation Union Competitiveness Report 2011

## MALTA

R&D profile, 2009<sup>(1)</sup>

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

To some extent, the Maltese research and innovation system is characterised by its need to increase its research capacity and reach out more to the business sector. Until quite recently, R&D intensity in Malta was very low, with low rates of public research that have resulted in a shortage of research skills in key areas such as science or engineering.

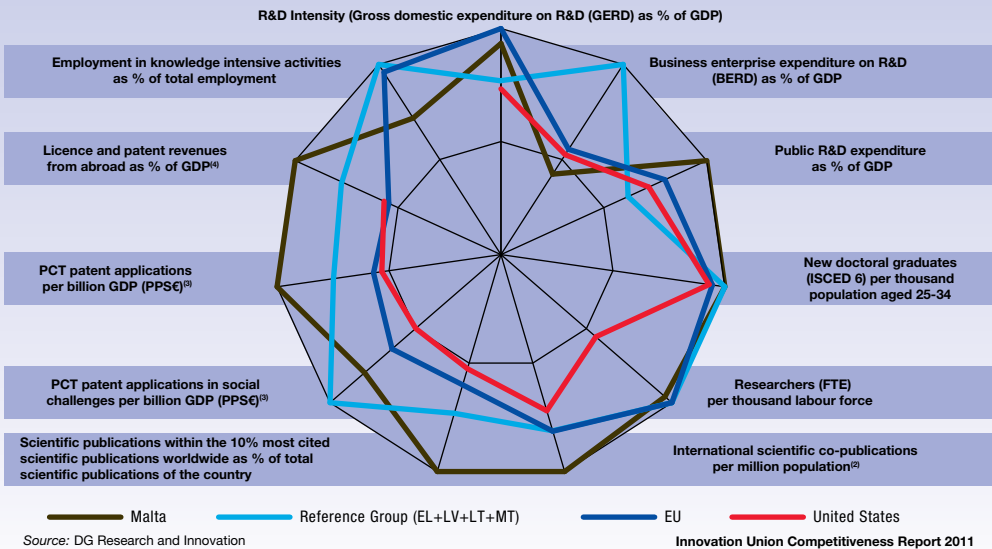
Research and Innovation activities have traditionally concentrated around a cluster of large firms that have

significantly increased their R&D investments in the last years, but there are still numerous indigenous small and micro-enterprises that undertake minimal or no research activities.

In dynamic terms, as mentioned earlier, Malta has been progressing in terms of R&D investments and this also reflects in its scientific and technological outputs. However, in absolute terms, they still remain relatively modest. The recognised need to specialise in particular promising fields where Malta can build on its

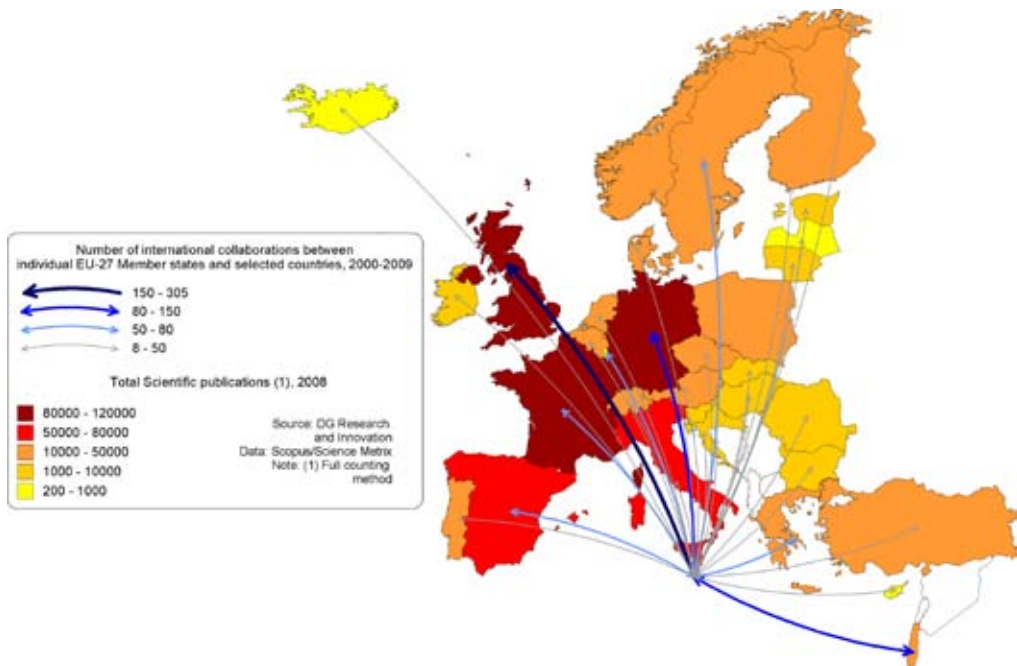
# MALTA

## Average annual growth (%), 2000-2009<sup>(1)</sup>



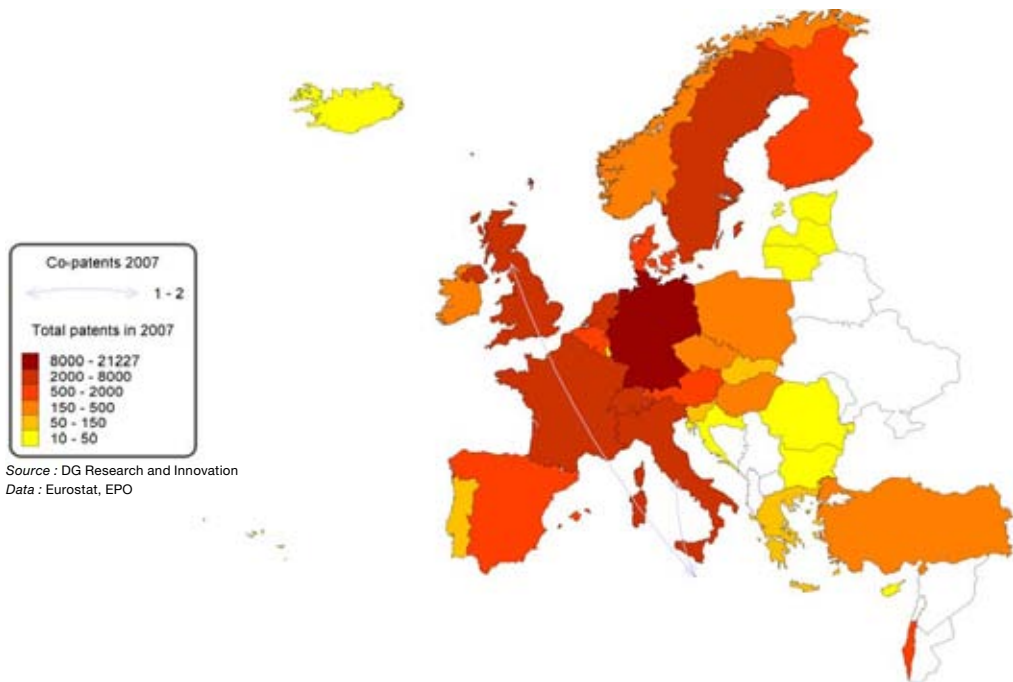
# MALTA

## Co-publications between Malta and European Countries in 2000-2009



## MALTA

## Co-invented patent applications between Malta and European Countries, 2007



strengths and create a competitive position can provide optimal results for the future scientific, technological and economic development of the country.

### Participation in the European Research Area : Scientific and Technological collaborations

Malta is participating in international scientific networks in the European Research Area. Although the total number of co-publications is relatively small, this is proportionate to the total number of scientific publications. As it would be expected, Malta depicts stronger scientific links with the main European scientific countries, and especially with the United Kingdom, the main scientific partner, due to historical, linguistic and cultural ties.

In terms of co-patenting, the relatively weak technological production of Malta is also reflected in the technological collaborations with ERA countries. Malta counts only two co-patents with the United Kingdom.

### FP7 Key facts and figures

#### Applications

As of 2011/03/16, a total of

- 500 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 575 applicants from Malta (0.22% of EU-27\*) and
- requesting EUR 92.93m of EC contribution (0.11% of EU-27\*)

Among the EU-27\* Malta (MT) ranks:

- 26<sup>th</sup> in terms of number of applicants and
- 27<sup>th</sup> in terms of requested EC contribution

#### Success rates

- The MT applicant success rate of 19.1% is lower than the EU-27\* applicant success rate of 21.6%.
- The MT EC financial contribution success rate of 11.1% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 98 proposals were retained for funding (19.6%)

- involving 110 (19.1%) successful applicants from Malta and
- requesting EUR 10.35m (11.1%) of EC financial contribution

Among the EU-27\*, Malta (MT) ranks:

- 20<sup>th</sup> in terms of applicants success rate and
- 25<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Malta (MT) participates in

- 85 signed grant agreements
- involving 1 575 participants of which 95 (6.03%) are from Malta
- benefiting from a total of EUR 351.02m of EC financial contribution of which EUR 8.34m (2.38%) is dedicated to participants from Malta.

Among the EU-27\* in all FP7 signed grant agreements, Malta (MT) ranks:

- 27<sup>th</sup> in number of participations and
- 28<sup>th</sup> in budget share

### SME performance and participation

- The MT SME applicant success rate of 14.43% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The MT SME EC financial contribution success rate of 11.95% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 291 MT SME applicants requesting EUR 48.96m
- 42 (14.43%) successful SMEs requesting EUR 5.85m (11.95%)

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

- 23 MT SME grant holders, i.e., 24.21% of total MT participation
- EUR 3.80m, i.e., 45.56% of total MT budget share

### Top 3 collaborative links with

- UK - United Kingdom (108)
- IT - Italy (104)
- ES - Spain (104)

**Nr. of Researchers as% of population	N/A	0.40%	(0.19%)	51 279
Rank in EU-27*			EC contribution to FP7 grant holders in EUR million	
Innovation scoreboard (2008)	- 20 <sup>th</sup>		(% EU-27*)	8.34
- Below EU-27 average			(0.05%)	16 578.15
- Moderate Innovator			Nr. of FP7 coordinators (% of grant holders)	8
Nr. of FP7 applicants (% EU-27*)	575		(8.42%)	9 383
(0.22%)	266 507		(18.30%)	
Req. EC contribution by FP7 applicants in EUR million			Nr. of FP7 SME grant holders (% of grant holders)	23
(% EU-27*)	92.93		(24.21%)	8 845
(0.11%)	88 295		(17.25%)	
Nr. of successful FP7 applicants (% EU-27*)	110		EC contribution to FP7 SME grant holders in EUR million	
(0.19%)	59 199		(% of grant holders)	3.80
Req. EC contribution by successful FP7 applicants in EUR million			(45.56%)	2 207.73
(% EU-27*)	10.35		(13.32%)	
(0.06%)	18 262.02			
Success rate FP7 applicants	19.1%	21.6%		
Success rate FP7 EC contribution	11.1%	20.7%		
Nr. of FP7 grant holders (% EU-27*)	95			

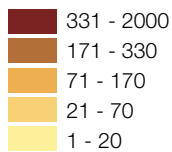




TABLE 1

**MT - Malta - 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)
Research for the benefit of SMEs	116	14.10	25	21.55%	2.98	21.11%
Information and Communication Technologies	69	16.47	6	8.70%	1.16	7.03%
Environment (including Climate Change)	50	9.49	6	12.00%	0.26	2.76%
Socio-economic sciences and Humanities	48	5.37	9	18.75%	0.61	11.43%
Science in Society	46	5.29	11	23.91%	1.01	19.10%
Food, Agriculture and Fisheries, and Biotechnology	38	7.21	4	10.53%	0.24	3.33%

TABLE 2

**MT - Malta - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all MT grant holders	EC contribution (EUR million)	% of total EC contribution to MT
Research for the benefit of SMEs	17	17.89%	1.98	23.67%
Information and Communication Technologies	8	8.42%	1.00	11.94%
Transport (including Aeronautics)	5	5.26%	0.75	8.94%
Socio-economic sciences and Humanities	8	8.42%	0.59	7.12%
Marie-Curie Actions	10	10.53%	0.50	5.99%
Space	4	4.21%	0.44	5.30%

Notes : Report generated on: 2011/03/28.10:46 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**MT - Malta - 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
PRC	203	32.18	29	14.29%	4.39	13.63%	28	3.81	45.70%
HES	142	29.27	19	13.38%	1.88	6.41%	16	1.35	16.22%
PUB	97	11.56	34	35.05%	2.24	19.41%	44	2.39	28.68%
OTH	83	12.53	10	12.05%	0.78	6.23%	3	0.19	2.29%
REC	48	5.10	18	37.50%	1.06	20.88%	4	0.59	7.11%
SME	291	48.96	42	14.43%	5.85	11.95%	23	3.80	45.56%

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

TABLE 4

**MT - Malta - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

MT - Malta region	Number of grant holders	% of all MT - Malta grant holders	EC contribution (M euro)	% of total EC contribution to MT
Malta (MT001)	82	86.32%	6.56	78.65%

TABLE 5

**MT - Malta - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all MT grant holders	EC contribution (M euro)	% of total EC contribution to MT grant holders
Malta Council for Science and Technology (MCST)	30	31.58%	1.46	17.55%
Universita ta Malta (UOM)	16	16.84%	1.35	16.22%
Integrated Resources Management (IRM) Company Limited (IRMCO)	4	4.21%	0.75	8.99%
Electronic Systems Design Ltd (ESDL)	2	2.11%	0.46	5.54%
Chadwick Mushroom Farm Ltd	3	3.16%	0.40	4.82%

# COUNTRY PROFILE



## NL - Netherlands

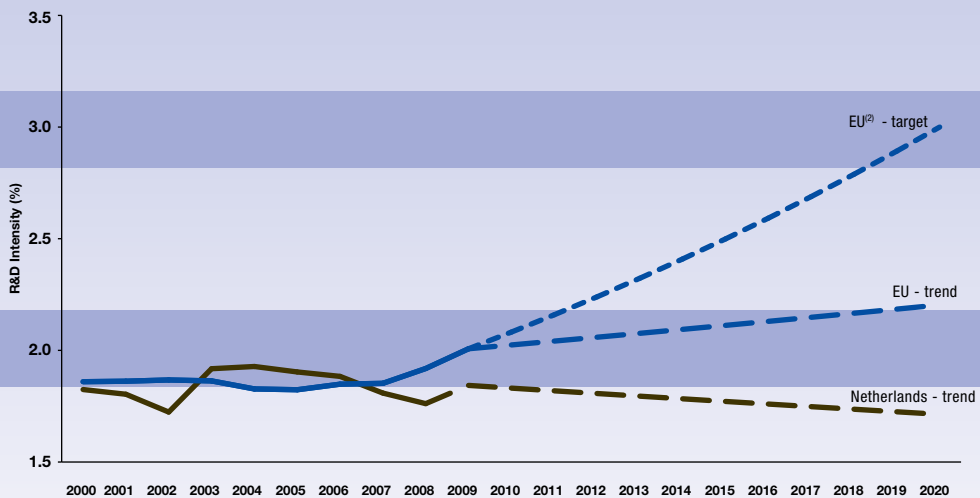
### Progress towards meeting the Europe 2020 R&D intensity target

The national target for the Netherlands in 2010 was set to 3% by the former government. The Dutch R&D intensity in 2009 was at the same level as in 2000, particularly with a sharp decrease between 2006 and 2008 at an average annual rate of 4.31%. The decreasing trend has accentuated since 2006, leading the Netherlands to perform below the EU average. In 2009 the R&D intensity amounted to 1.84%<sup>10</sup>. The drop

in R&D intensity between 2004 and 2008 was due to a decrease in the R&D intensity of the private sector, while public R&D remained stable at around 0.96% in 2009. If the present trend continued, R&D intensity in the Netherlands would fall short of the EU average in 2020. However, the Government Agreement signed in September 2010 set down that the Netherlands aspires to be one of the top five knowledge economies worldwide. As yet no national R&D target for 2020 has been set.

### NETHERLANDS

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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 for 2000-2009 in the case of the EU and for 2003-2009 in the case of the Netherlands.

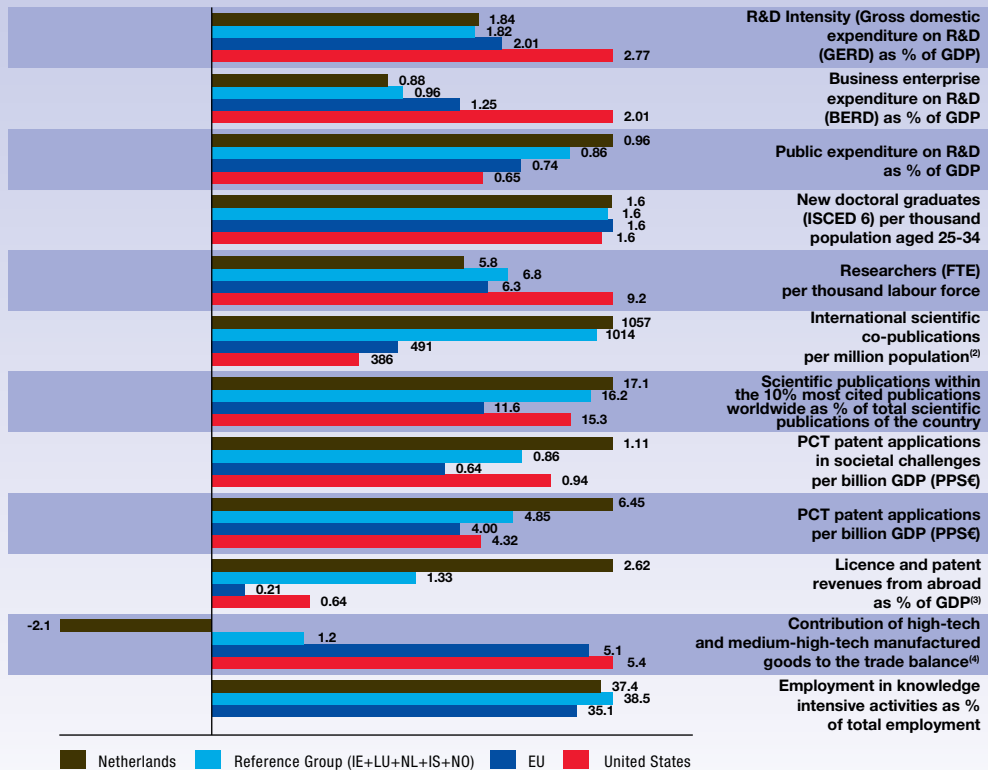
(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.

(3) NL: There is a break in series between 2003 and the previous years.

Innovation Union Competitiveness Report 2011

<sup>10</sup> Provisional data from Eurostat. National sources stipulate 1.82%.

## NETHERLANDS

R&D profile, 2009<sup>(1)</sup>

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) (i) The EU value refers to the median rather than to the average (ii) IS and NO are not included in the Reference Group.

(3) EU refers to extra-EU.

(4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU; (iii) IS and NO are not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

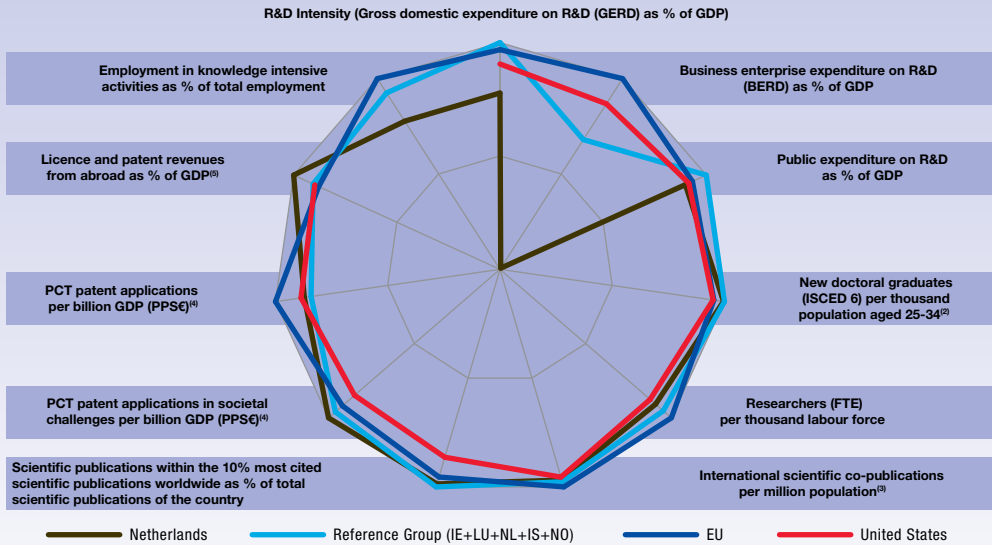
## Research and Innovation Performance

The Dutch research and innovation system presents a mixed picture with some weaknesses, especially in terms of private R&D investment, and strengths, in terms of scientific and technological output. More precisely, as previously indicated the Netherlands has a low and declining R&D intensity, 1.84% in 2009, below the EU average. The performance in human resources shows a mixed picture with researchers in the labour force below the EU average, but a higher employment in knowledge intensive activities. However, Dutch researchers are among the most productive in the world. The Netherlands benefits from a high-quality scientific production, managing to score 17% of its publications among the top 10% most cited publications worldwide. Moreover, the Netherlands has an economy with one of the highest patent intensities in the world and performs well in patents aimed at

addressing societal challenges that can constitute potential sources of future economic growth.

From a dynamic perspective, the Dutch research and innovation system has managed to maintain its scientific and technological inventiveness capacity vis-à-vis the EU average, despite the fall in R&D intensity, especially in the private sector. This relative poor performance in R&D investments, if continued, could however jeopardise the future scientific and technological capacity of the country. The drop in the BERD percentage can be partly explained by the structure of the economy with a small high-technology sector concentrated in a few multinational companies. A policy encouraging investment in R&I by fast growing innovative firms might be particularly adapted to counterbalance this structure and provide future sources for smart growth. As for many other Member States, the most observable effect

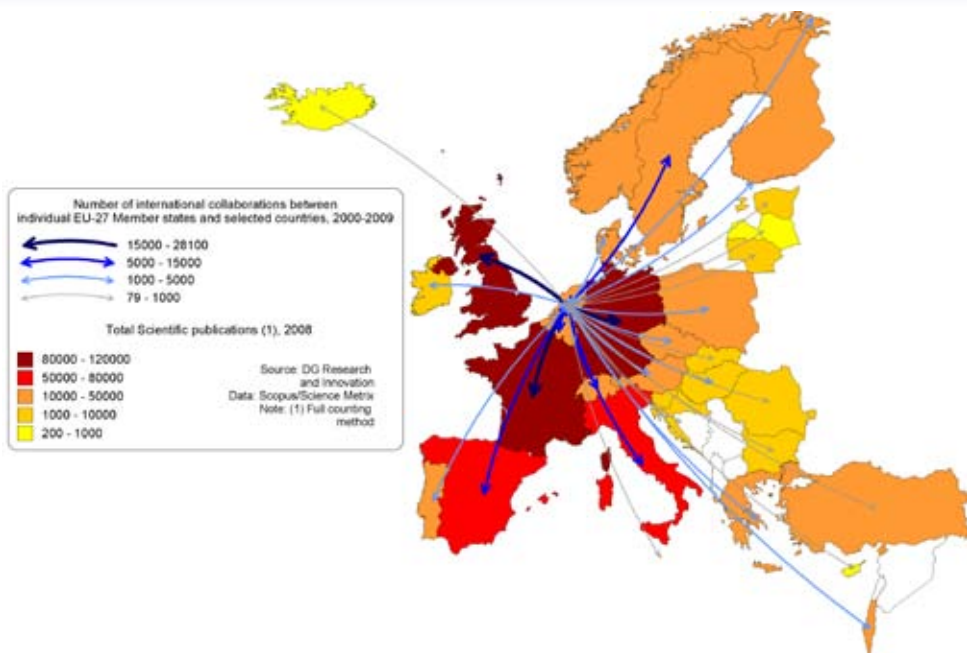
## NETHERLANDS Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation  
 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) LU is not included in the Reference Group.  
 (3) (i) The EU value refers to the median rather than to the average; (ii) IS and NO are not included in the Reference Group.  
 (4) Average annual growth refers to real growth.  
 (5) EU refers to extra-EU.  
 (6) Elements of estimation were involved in the compilation of the data.

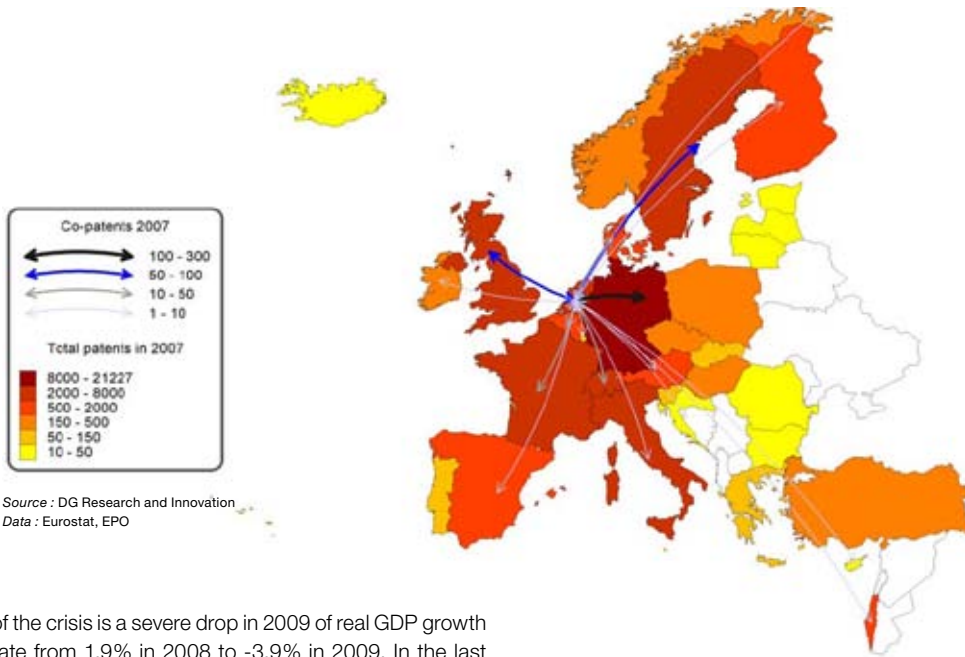
Innovation Union Competitiveness Report 2011

## NETHERLANDS Co-publications between Netherlands and European Countries in 2000-2009



## NETHERLANDS

## Co-invented patent applications between Netherlands and European Countries, 2007



Source : DG Research and Innovation  
Data : Eurostat, EPO

of the crisis is a severe drop in 2009 of real GDP growth rate from 1.9% in 2008 to -3.9% in 2009. In the last years, the crisis package put forward by the Dutch government has included measures with regard to R&D and innovation and particularly for leveraging greater private sector investments.

### Participation in the European Research Area : Scientific and Technological collaborations

The Dutch research and innovation system is very open as reflected by the high number of scientific co-publications and co-patents. This openness of the system allows tapping into international knowledge flows and benefiting from strong knowledge spillovers that reflect on the high capacity of the system to produce high quality scientific publications and patents. The current data available shows that the Netherlands has strongest links in S&T cooperation with France, Germany and the United Kingdom, the three main scientific hubs in Europe, and is well connected to Spain, Denmark and Italy. In terms of co-invented patents, due to the geographical, historical, size and nature of its industry, Germany is the main technological partner, followed by the United Kingdom. An untapped potential probably exists with France, if one compares the co-invented patent applications to the co-publications between the two countries.

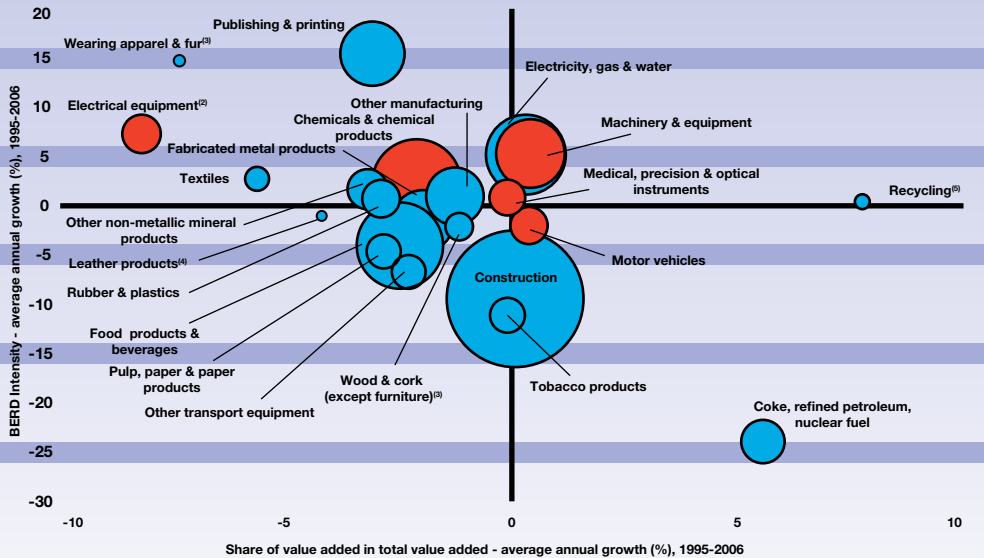
### Structural change towards more knowledge-intensive economy

Creating, exploiting and commercialising new technologies has become essential in the global race for competitiveness. High-technology or 'high-tech' sectors, where they are embedded in an innovative friendly economy, are key drivers of economic growth, productivity and social protection, and contribute to high value added and employment.

In the last decade, private R&D intensity declined in the Netherlands, indicating a shift towards less research-oriented activities. As the graph below shows, since 1995, there have been few changes in the economic structure to move towards more research intensive sectors. In general, research intensity, measured by the research investment over the value added of the sector, has remained largely stable, but some medium-high tech and high-tech sectors, e.g. electrical equipment or chemical and chemical products, have lost importance in the overall economic structure of the country. This is to a large extent the reflection of a larger shift of the Dutch economic structure towards a higher importance of the service sector, which until now has been, in general, less R&D prone, but can be very innovative as well.

## NETHERLANDS

## Share of value added versus BERD Intensity - Average annual growth, 1995-2006



Source: DG Research and Innovation  
Data: OECD

Innovation Union Competitiveness Report 2011

- 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) Electrical equipment includes: 'Office, accounting and computing machinery', 'Electrical machinery and apparatus', and 'Radio, TV and communication equipment'.  
(3) 'Wearing apparel and fur': average annual growth refers to 1996-2006.  
(4) 'Leather products': average annual growth refers to 1996-2006.  
(5) 'Recycling': average annual growth refers to 1996-2006.  
(6) 'Basic metals' is not visible on the graph.

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 10314 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 14800 applicants from Netherlands (5.55% of EU-27\*) and
- requesting EUR 5614.93m of EC contribution (6.36% of EU-27\*)

Among the EU-27\* Netherlands (NL) ranks:

- 6<sup>th</sup> in terms of number of applicants and
- 6<sup>th</sup> in terms of requested EC contribution

### Success rates

- The NL applicant success rate of 26.0% is higher than the EU-27\* applicant success rate of 21.6%.
- The NL EC financial contribution success rate of 24.4% is higher than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 2569 proposals were retained for funding (24.9%)
- involving 3844 (26.0%) successful applicants from Netherlands and
- requesting EUR 1369.60m (24.4%) of EC financial contribution

Among the EU-27\*, Netherlands (NL) ranks:

- 2<sup>nd</sup> in terms of applicants success rate and
- 3<sup>rd</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Netherlands (NL) participates in

- 2208 signed grant agreements
- involving 25289 participants of which 3306 (13.07%) are from Netherlands
- benefiting from a total of EUR 7629.07m of EC financial contribution of which EUR 1243.37m (16.30%) is dedicated to participants from Netherlands.

Among the EU-27\* in all FP7 signed grant agreements, Netherlands (NL) ranks:

- 6<sup>th</sup> in number of participations and
- 5<sup>th</sup> in budget share

**SME performance and participation**

- The NL SME applicant success rate of 23.64% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The NL SME EC financial contribution success rate of 22.87% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 3371 NL SME applicants requesting EUR 928.38m
- 797 (23.64%) successful SMEs requesting EUR 212.28m (22.87%)

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

- 487 NL SME grant holders, i.e., 14.73% of total NL participation
- EUR 128.80m, i.e., 10.36% of total NL budget share

**Top 3 collaborative links with**

- DE - Germany (3444)
- UK - United Kingdom (2831)
- FR - France (2258)

\*\*Nr. of Researchers as% of population N/A 0.40%  
 Rank in EU-27\*  
 Innovation scoreboard (2008) - 11<sup>th</sup>  
 - Above EU-27 average  
 - Innovation Follower

Nr. of FP7 applicants (% EU-27*)	14800	
(5.55%)	266507	
Req. EC contribution by FP7 applicants in EUR million	5614.93	
(% EU-27*)	88295	
(6.36%)		
Nr. of successful FP7 applicants (% EU-27*)	3844	
(6.49%)	59199	
Req. EC contribution by successful FP7 applicants in EUR million	1369.60	
(% EU-27*)	18262.02	
(7.50%)		
Success rate FP7 applicants	26.0%	21.6%
Success rate		
FP7 EC contribution	24.4%	20.7%
Nr. of FP7 grant holders (% EU-27*)	3306	
(6.45%)	51279	
EC contribution to FP7 grant holders in EUR million	1243.37	
(% EU-27*)	16578.15	
(7.50%)		
Nr. of FP7 coordinators (% of grant holders)	635	
(19.21%)	9383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	487	
(14.73%)	8845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million	128.80	
(% of grant holders)	2207.73	
(10.36%)		
(13.32%)		

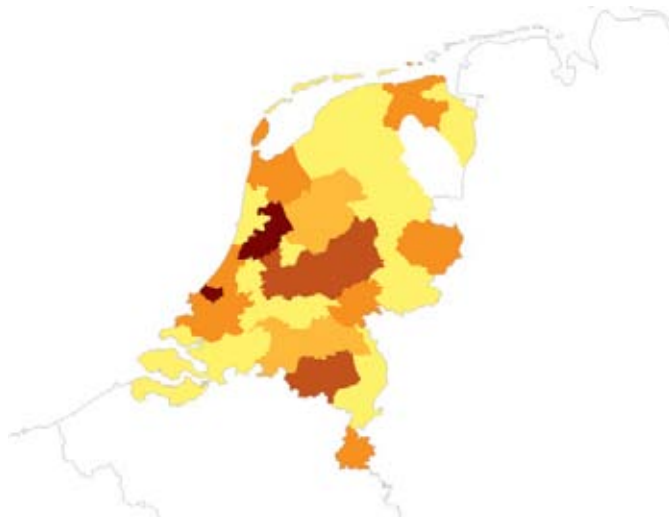
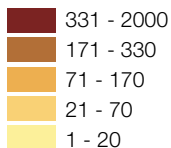




TABLE 1

**NL - Netherlands - 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	2667	1 121.36	559	20.96%	233.69	20.84%
Marie-Curie Actions	2304	n/a	548	23.78%	n/a	n/a
Health	1679	932.77	472	28.11%	250.44	26.85%
Environment (including Climate Change)	1204	378.50	333	27.66%	108.53	28.67%
Transport (including Aeronautics)	1122	353.35	338	30.12%	93.31	26.41%
Food, Agriculture and Fisheries, and Biotechnology	934	319.78	272	29.12%	92.40	28.89%

TABLE 2

**NL - Netherlands - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all NL grant holders	EC contribution (EUR million)	% of total EC contribution to NL
Information and Communication Technologies	565	17.09%	221.08	17.78%
Health	432	13.07%	218.18	17.55%
ERC	127	3.84%	187.92	15.11%
Marie-Curie Actions	420	12.70%	107.04	8.61%
Food, Agriculture and Fisheries, and Biotechnology	241	7.29%	82.38	6.63%
Environment (including Climate Change)	273	8.26%	81.97	6.59%

Notes : Report generated on: 2011/03/28.10:46 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**NL - Netherlands - 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	6 230	2 012.31	1 550	24.88%	498.74	24.78%	1 471	673.00	54.13%
PRC	3 839	1 040.65	946	24.64%	242.06	23.26%	858	213.50	17.17%
REC	2 765	1 063.69	882	31.90%	342.62	32.21%	780	311.22	25.03%
OTH	750	183.85	178	23.73%	42.98	23.38%	68	19.59	1.58%
PUB	520	113.53	180	34.62%	39.60	34.89%	129	26.06	2.10%
SME	3 371	928.38	797	23.64%	212.28	22.87%	487	128.80	10.36%

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

TABLE 4

**NL - Netherlands - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects**

NL - Netherlands region	Number of grant holders	% of all NL - Netherlands grant holders	EC contribution (M euro)	% of total EC contribution to NL
Groot-Amsterdam (NL326)	547	16,55%	235,16	18,91%
Delft en Westland (NL333)	421	12,73%	161,87	13,02%
Veluwe (NL221)	326	9,86%	108,94	8,76%
Utrecht (NL310)	320	9,68%	123,78	9,96%
Zuidoost-Noord-Brabant (NL414)	261	7,89%	109,42	8,80%

TABLE 5

**NL - Netherlands - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all NL grant holders	EC contribution (M euro)	% of total EC contribution to NL grant holders
Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek - TNO	157	4.75%	68.14	5.48%
Stichting Katholieke Universiteit (SKU/ Radboud Universi)	112	3.39%	66.85	5.38%
Technische Universiteit Delft (Tu Delft)	158	4.78%	63.73	5.13%
Vereniging voor Christelijk Hoger Onderwijs Wetenschappelijk Onderzoek en Patientenzorg (VUA)	130	3.93%	61.55	4.95%
Universiteit Utrecht	118	3.57%	55.53	4.47%

# COUNTRY PROFILE



## NO - Norway

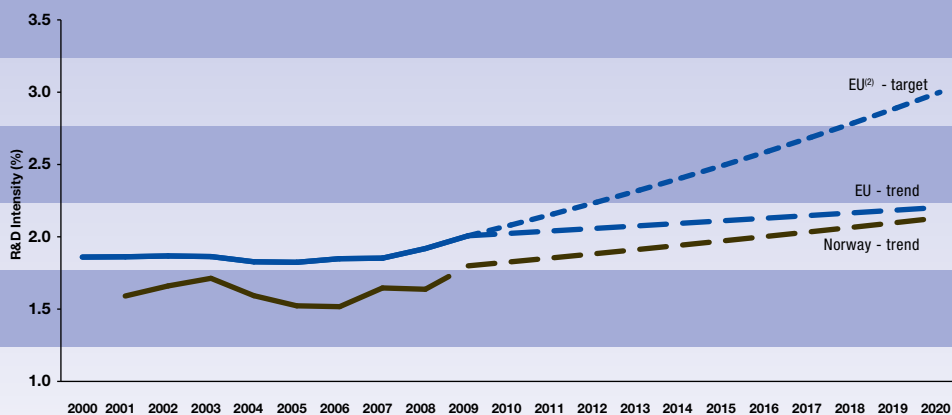
### Progress towards increasing the R&D intensity

The most recent figures for Norway on R&D intensity are 1.80% for 2009 (0.85% public + 0.95% private), which represents a slight increase compared to the values of 2000, in particular visible for the period from 2007-2009. Comparing to other European countries, the most noticeable is Norway's business enterprise expenditure on R&D, which is below the EU average of 1.25% of GDP and far from the 2% level of the most R&D intensive countries in Europe. Norway is an outlier as concerns innovation with a low-tech but very knowledge-intensive industry based on raw material. The high profitability of companies in the petroleum sector means that the ratio of R&D investments as

percentage of turnover is low, despite corporate spending on R&D to a competitive level. Over the period 2000-2009, Norway's gross domestic expenditure on R&D (GERD) had a real growth of 3.2%, which is above the 2.5% growth for the EU. Nevertheless, given the trend scenario presented below Norway would still be below the EU average in 2020, at an R&D intensity level slightly above 2%. Even if the associated countries to the European research cooperation do not form part of the Europe 2020 strategy of the European Union, certain countries do envisage fixing an objective for research investment and initiatives for fast growing innovative enterprises. This strategy could be justified if based on consultation with the stakeholders in the country.

### NORWAY

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

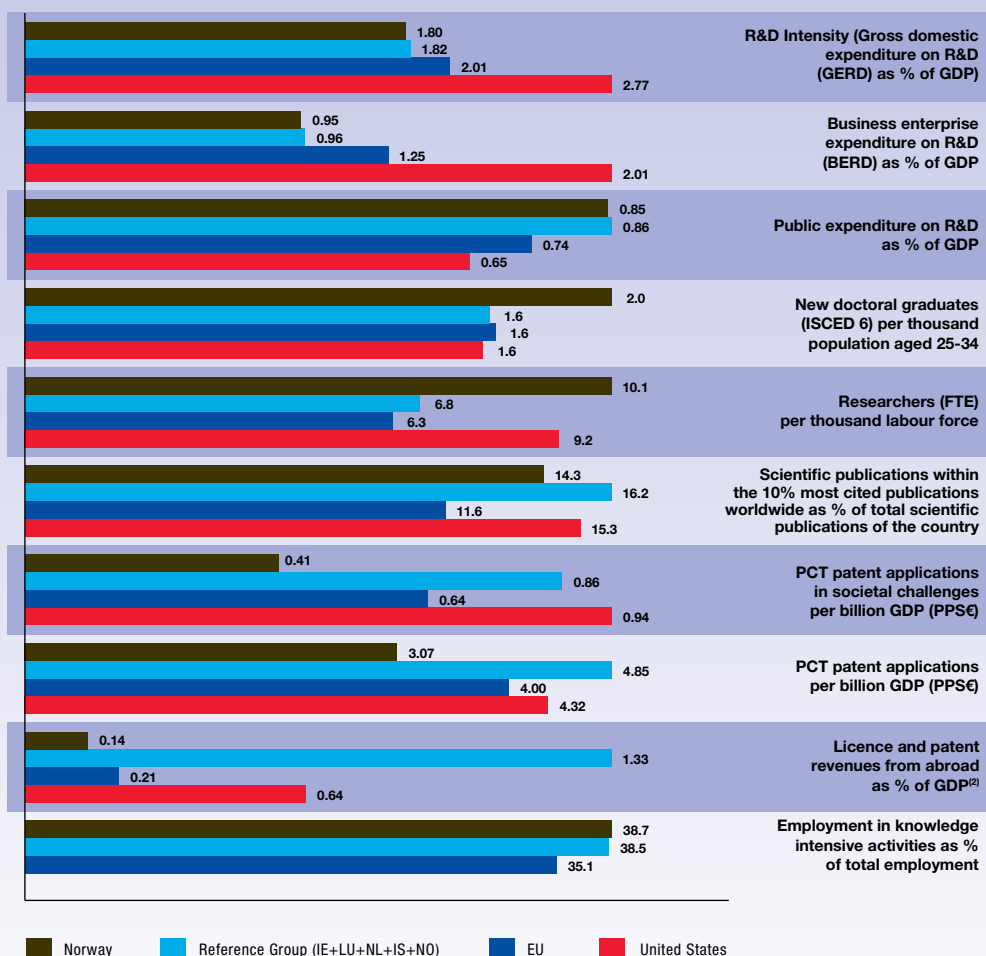
Data: DG Research and Innovation, Eurostat

Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity for 2000-2009 in the case of the EU and for 2001-2009 in the case of Norway.

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

Innovation Union Competitiveness Report 2011

## NORWAY

R&D profile, 2009<sup>(1)</sup>

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) EU refers to extra-EU.

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

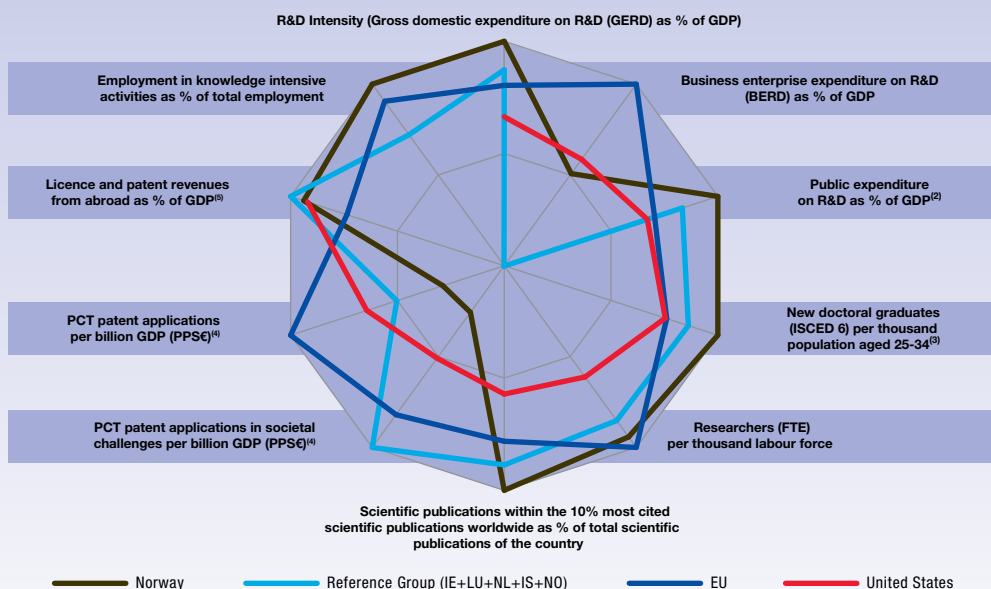
Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

Given its specific industrial structure, Norway is a relatively knowledge-intensive country, with almost 39% of the work force employed in knowledge-intensive activities (which is not only similar to the level of the countries with a comparable industrial and knowledge structure, but also comparable with the 39% of Denmark and slightly below the level of 42% in Sweden). Norway's main strengths are its human resources, with a very high degree of full time researchers in the labour force and a strong dynamic of new doctoral graduates.

The public expenditure in R&D is at a similar level as comparable countries in its reference group, but below the top European countries, reaching above 1% of GDP. The Norwegian research system is also delivering high-quality output, with 14.3% of all scientific publication counting among the top 10% highly cited publications in the world. However, the Norwegian innovation system is less high-tech centred, and rather adapted to a low-tech but highly knowledge-intensive industry based on raw materials (petroleum, fish), supplemented by a strong service sector. In this context, process innovation is

## NORWAY

Average annual growth (%), 2000-2009<sup>(1)</sup>

Source: DG Research and Innovation

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) Average annual growth for Norway refers to 2007-2009 - there is a break in series between 2007 and the previous years.

(3) LU is not included in the Reference Group.

(4) Average annual growth refers to real growth.

(5) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

highly important (not shown in the indicators below). Therefore, the PCT patenting level and the license and patent revenues from abroad are below the EU average. Concerning patent applications to the EPO per billion GDP, in 2007 (most recent year available) Norway was at a level below 2%, compared to the EU average above 4%.

The dynamic picture below reinforces the specific characteristics of the Norwegian science and innovation system with an enhanced public research system and human resources but with a business dynamics showing lower average annual growth in R&D investment and lower patenting intensity compared to the EU on average.

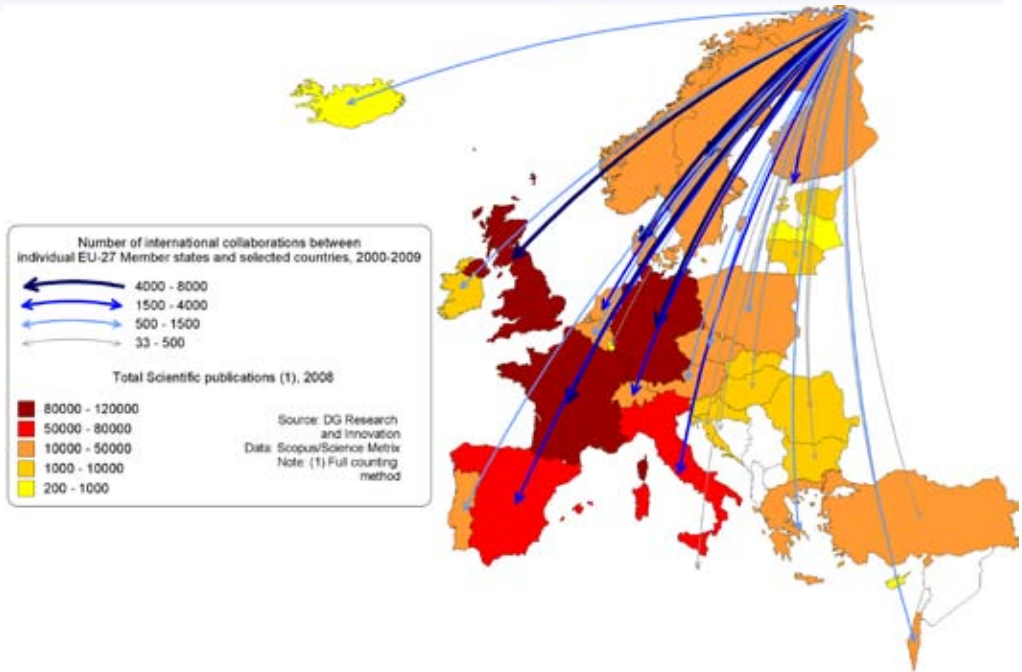
### Connecting to the scientific and technological collaborations in the European Research Area

Norway's scientific cooperation (measured by co-publications) with other European countries is broader and more intense than its technological cooperation (measured by co-patents), providing potential for growing internationalisation of the technology cooperation. The main scientific partner countries are the Nordic neighbours and the larger research countries such as the United Kingdom, Germany and France. As a difference from technological cooperation, co-publications are intensive with almost all EU Member States and with countries associated to the European Research Area. The report shows that while Norway is relatively well integrated in the European scientific co-publication networks, it holds a very marginal position in the main technological cooperation networks (as measured by co-patenting).

Participation in the European Research Area : Scientific and Technological collaborations

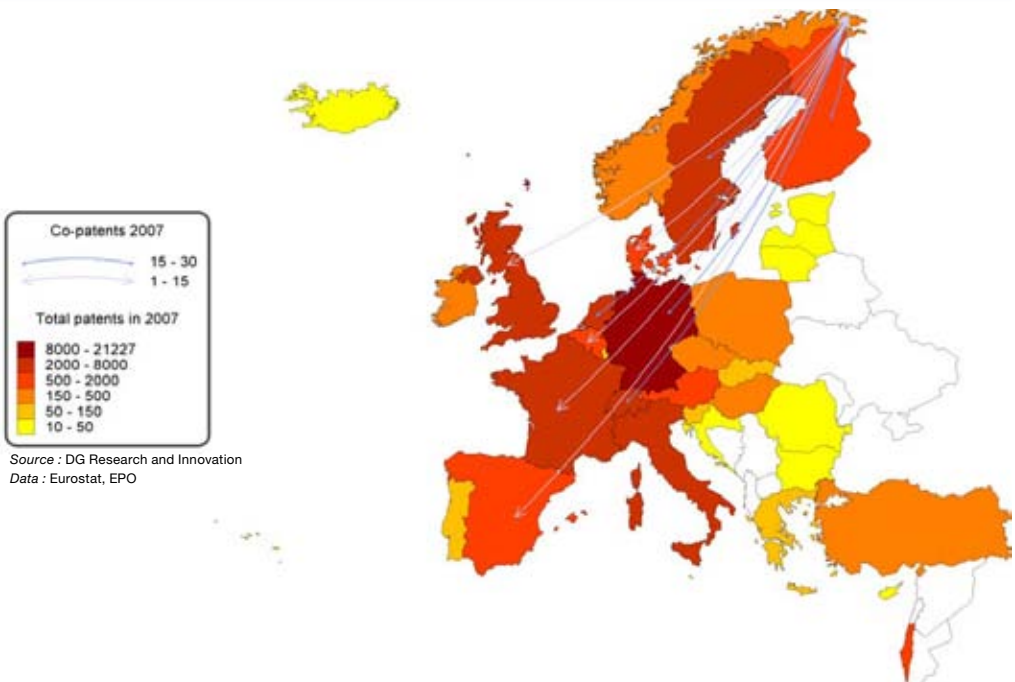
NORWAY

Co-publications between Norway and European Countries in 2000-2009



NORWAY

Co-invented patent applications between Norway and European Countries, 2007



## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 3446 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 4801 applicants from Norway (23.74% of Associated Countries) and
- requesting EUR 1799.61m of EC contribution (22.83% of Associated Countries)

Among the Associated Countries Norway (NO) ranks:

- 2<sup>nd</sup> in terms of number of applicants and
- 3<sup>rd</sup> in terms of requested EC contribution

### Success rates

- The NO applicant success rate of 24.7% is higher than the Associated Countries applicant success rate of 23.5%.
- The NO EC financial contribution success rate of 21.1% is similar to the Associated Countries rate of 21.7%.

Specifically, following evaluation and selection, a total of

- 812 proposals were retained for funding (23.6%)
- involving 1184 (24.7%) successful applicants from Norway and
- requesting EUR 378.98m (21.1%) of EC financial contribution

Among the Associated Countries, Norway (NO) ranks:

- 3<sup>rd</sup> in terms of applicants success rate and
- 3<sup>rd</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Norway (NO) participates in

- 656 signed grant agreements
- involving 8933 participants of which 951 (10.65%) are from Norway
- benefiting from a total of EUR 2451.21m of EC financial contribution of which EUR 303.28m (12.37%) is dedicated to participants from Norway.

Among the Associated Countries in all FP7 signed grant agreements, Norway (NO) ranks:

- 2<sup>nd</sup> in number of participations and
- 3<sup>rd</sup> in budget share

### SME performance and participation

- The NO SME applicant success rate of 23.31% is higher than the Associated Countries SME applicant success rate of 20.42%.
- The NO SME EC financial contribution success rate of 21.48% is higher than the corresponding Associated Countries rate of 18.51%.

Specifically,

- 1437 NO SME applicants requesting EUR 415.20m
- 335 (23.31%) successful SMEs requesting EUR 89.19m (21.48%)

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

- 182 NO SME grant holders, i.e., 19.14% of total NO participation
- EUR 43.19m, i.e., 14.24% of total NO budget share

### Top 3 collaborative links with

- UK - United Kingdom (1012)
- DE - Germany (985)
- FR - France (692)

Nr. of FP7 applicants (% Associated Countries)	4801 20227	(23.24%)	4092
Req. EC contribution by FP7 applicants in EUR million	1799.61 7884	(22.83%)	303.28 1535.13
Nr. of successful FP7 applicants (% Associated Countries)	1184 4802	(24.66%)	Nr. of FP7 coordinators (% of grant holders)
Req. EC contribution by successful FP7 applicants in EUR million	378.98 1711.27	(22.15%)	155 915
Success rate FP7 applicants	24.7%	23.5%	(16.30%)
Success rate			(22.36%)
FP7 EC contribution	21.1%	21.7%	Nr. of FP7 SME grant holders (% of grant holders)
Nr. of FP7 grant holders (% Associated Countries)	951		182 634
			(19.14%) (15.49%)
			EC contribution to FP7 SME grant holders in EUR million
			43.19 175.41
			(% of grant holders)
			(14.24%) (11.43%)

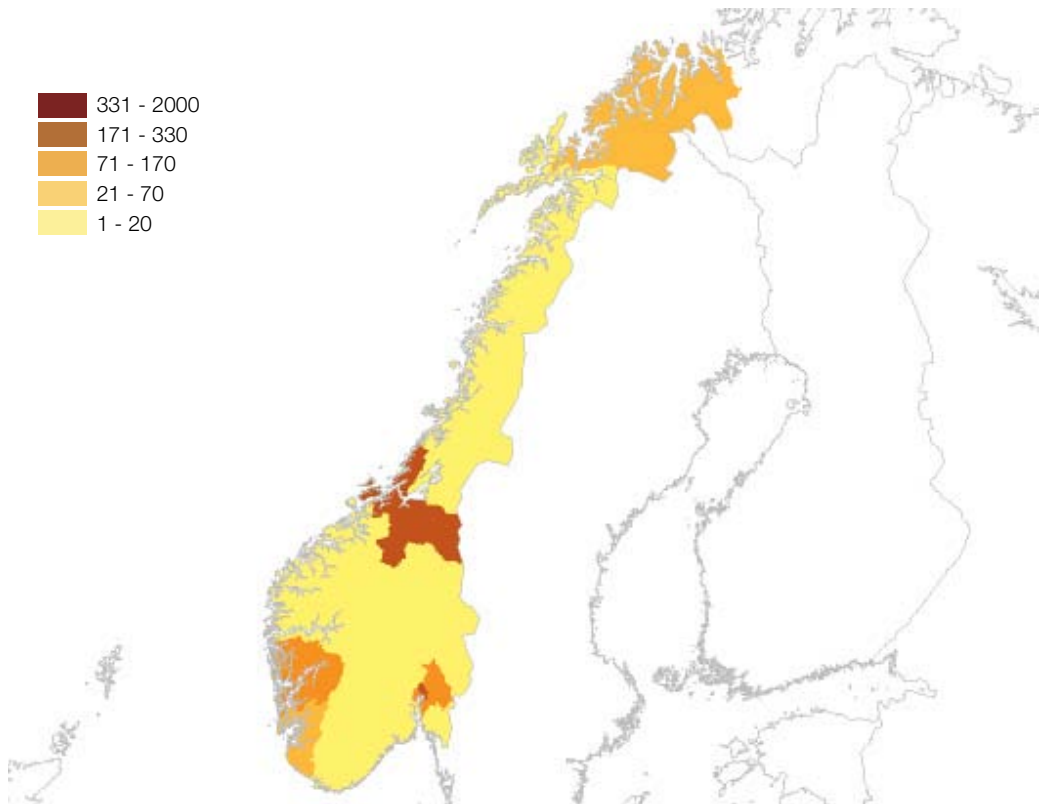




TABLE 1

**NO - Norway - 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	822	417.83	111	13.50%	51.48	12.32%
Research for the benefit of SMEs	793	127.43	216	27.24%	36.03	28.27%
Environment (including Climate Change)	465	160.54	136	29.25%	48.24	30.05%
Marie-Curie Actions	456	n/a	97	21.27%	n/a	n/a
Food, Agriculture and Fisheries, and Biotechnology	335	111.53	60	17.91%	19.04	17.07%
Health	284	136.69	75	26.41%	30.30	22.17%

TABLE 2

**NO - Norway - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all NO grant holders	EC contribution (EUR million)	% of total EC contribution to NO
Information and Communication Technologies	106	11.15%	46.19	15.23%
Environment (including Climate Change)	107	11.25%	35.19	11.60%
Energy	82	8.62%	31.34	10.33%
Health	71	7.47%	28.36	9.35%
ERC	14	1.47%	26.72	8.81%
Research for the benefit of SMEs	157	16.51%	25.60	8.44%

Notes : Report generated on: 2011/03/28.11:37 AM

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

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

\*\*E-STAT Reference year: 2007

\*\*European Innovation Scoreboard is available at the website of DG Enterprise and Industry

TABLE 3

**NO - Norway - 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
REC	1 539	577.98	433	28.14%	154.81	26.78%	371	129.68	42.76%
HES	1 409	443.51	279	19.80%	78.47	17.69%	242	99.27	32.73%
PRC	1 187	350.68	301	25.36%	81.97	23.37%	253	62.92	20.75%
OTH	267	73.34	56	20.97%	14.47	19.73%	14	3.29	1.09%
PUB	227	44.44	99	43.61%	15.03	33.83%	71	8.12	2.68%
SME	1 437	415.20	335	23.31%	89.19	21.48%	182	43.19	14.24%

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

TABLE 4

**NO - Norway - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

NO - Norway region	Number of grant holders	% of all NO - Norway grant holders	EC contribution (M euro)	% of total EC contribution to NO
Oslo (NO011)	324	34.07%	85.12	28.07%
Sør-Trøndelag (NO061)	204	21.45%	94.75	31.24%
Akershus (NO012)	132	13.88%	30.04	9.91%
Hordaland (NO051)	121	12.72%	50.22	16.56%
Troms (NO072)	50	5.26%	15.15	5.00%

TABLE 5

**NO - Norway - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all NO grant holders	EC contribution (M euro)	% of total EC contribution to NO grant holders
Stiftelsen Sintef (Sintef)	81	8.52%	47.84	15.77%
Universitetet i Oslo	64	6.73%	29.06	9.58%
Universitetet i Bergen	55	5.78%	26.15	8.62%
Norges Teknisk-Naturvitenskapelige Universitet Ntnu (NTNU)	50	5.26%	22.86	7.54%
Universitetet i Tromsøe	20	2.10%	7.57	2.49%

# COUNTRY PROFILE



## PL - Poland

### Progress to meet the Europe 2020 R&D intensity target

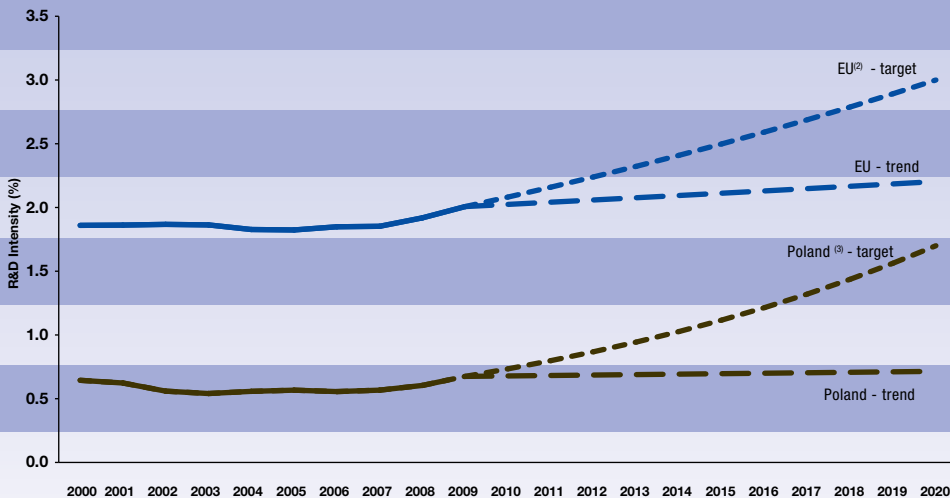
In the last decade, R&D intensity in Poland has stayed below 0.7%, passing from 0.64% in 2000 to 0.68% in 2009. As a result, despite a small increase over the last decade, Poland scores one of the lowest R&D intensities in the European Union. In order to maintain and increase its economic competitiveness and secure high-quality jobs, in addition to keep improving factors such as primary and secondary education, production

facilities or infrastructures, Poland will have to sharply increase its investments in Research and Innovation.

Polish authorities have recognised this challenge and have set an ambitious, albeit realistic<sup>11</sup> national R&D target for 2020: R&D intensity in Poland should account for 1.7% of the national GDP in 2020. This net increase of around 1.1% would be similar to the one needed for the EU to reach the 3% R&D target.

### POLAND

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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.

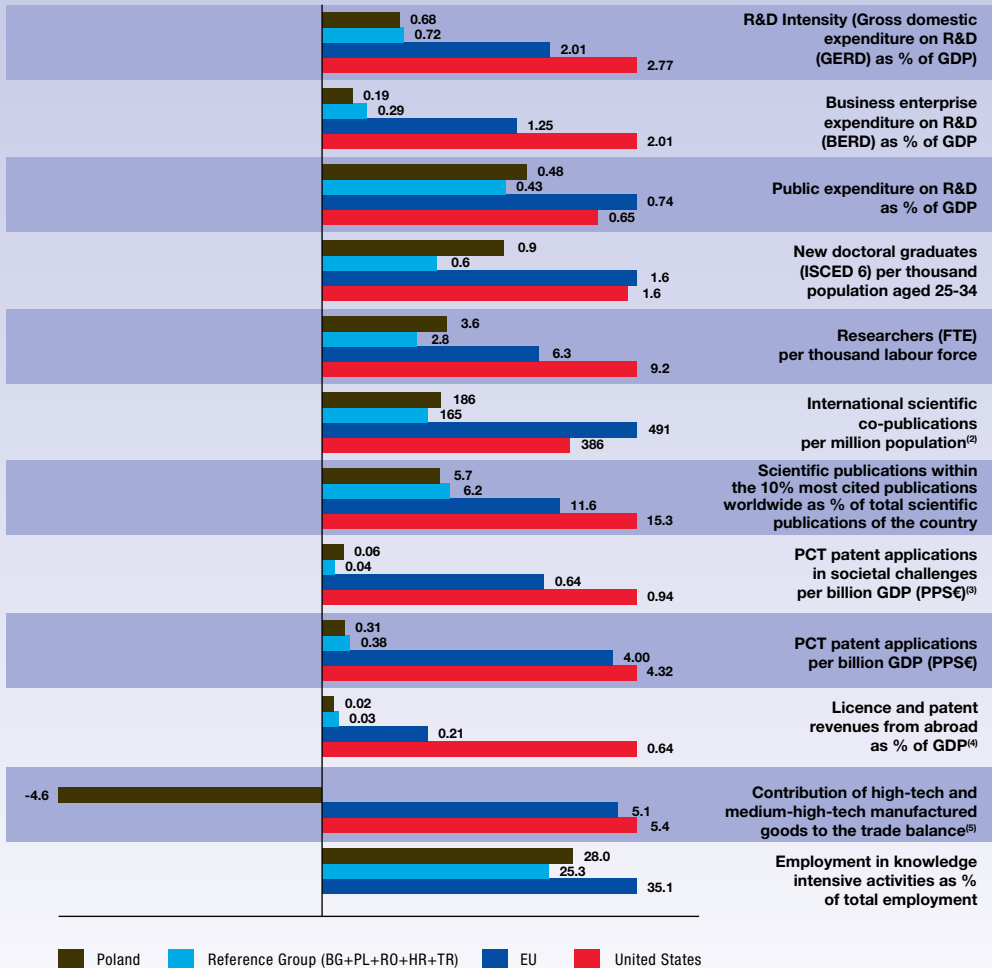
(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.

(3) PL: This projection is based on a tentative R&D Intensity target of 1.7% for 2020.

Innovation Union Competitiveness Report 2011

<sup>11</sup> Based on the current economic structure of Poland and the existing R&D intensity gap in most sectors of the economy vis-à-vis more developed countries, Poland could significantly increase its R&D intensity in order to start a scientific and technological convergence process.

## POLAND

R&D profile, 2009<sup>(1)</sup>

Source: DG Research and Innovation  
Data: Eurostat, OECD, Science Metrix / Scopus (Elsevier)

Innovation Union Competitiveness Report 2011

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

(2) (i) HR and TR are not included in the Reference Group; (ii) The EU value refers to the median rather than to the average.

(3) HR is not included in the Reference Group.

(4) EU refers to extra-EU.

(5) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU; (iii) Data are not available for the Reference Group.

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

## Research and Innovation Performance

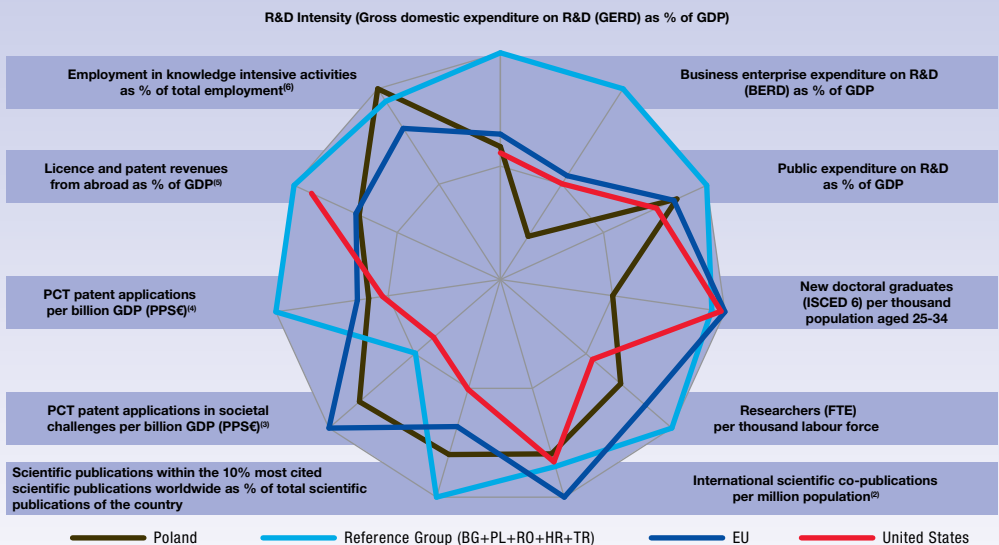
The Polish research and innovation system is characterised by its need to reform in order to enhance both its scientific and technological capacity and facilitate the uptake of new ideas by the business sector. At present, the low level of R&D expenditure, especially by the private sector, coupled with insufficiently favourable framework conditions, reflects in a poor scientific and technological performance. Poland scores low both in terms of high-impact scientific publications and patent applications, where the gap with the EU average is particularly large. Inevitably, the

low levels of scientific and technological investment and performance also have consequences on the transition of Poland towards a knowledge based economy. Employment in knowledge intensive activities is one of the lowest in the EU as so is the international competitiveness of the high-technology and medium-high technology sectors, despite the overall relative importance of the manufacturing sector in the economy.

In dynamic terms, in general Poland has been progressing but at a lower pace than the average for those countries that count on a similar scientific

**POLAND**

**Average annual growth (%), 2000-2009<sup>(1)</sup>**



Source: DG Research and Innovation

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) (i) HR and TR are not included in the Reference Group; (ii) EU refers to the median rather than to the average.

(3) HR is not included in the Reference Group; Average annual growth refers to real growth.

(4) Average annual growth refers to real growth.

(5) EU refers to extra-EU.

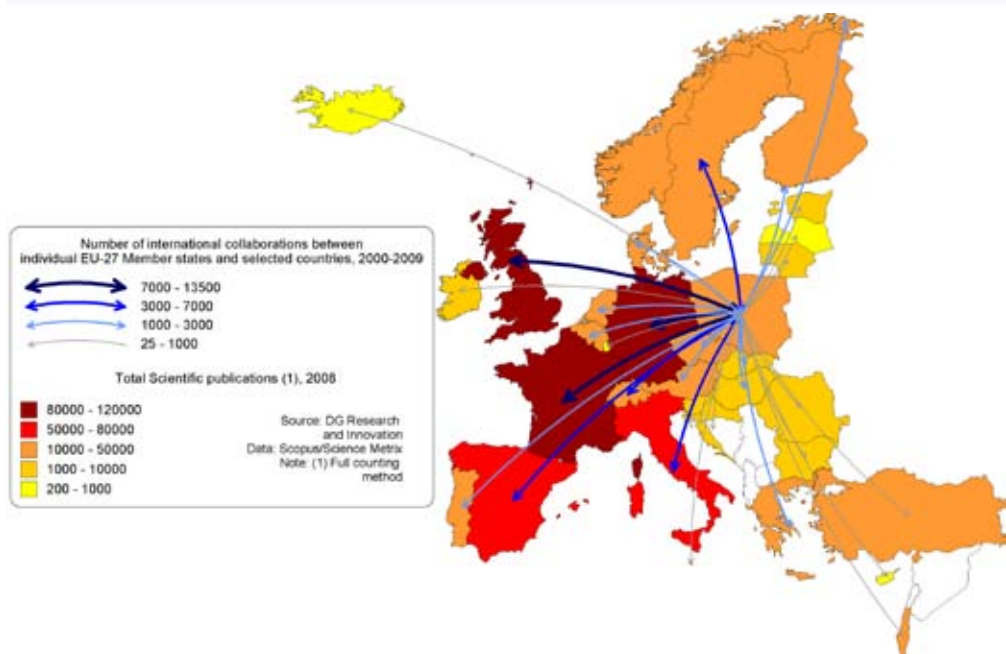
(6) TR is not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

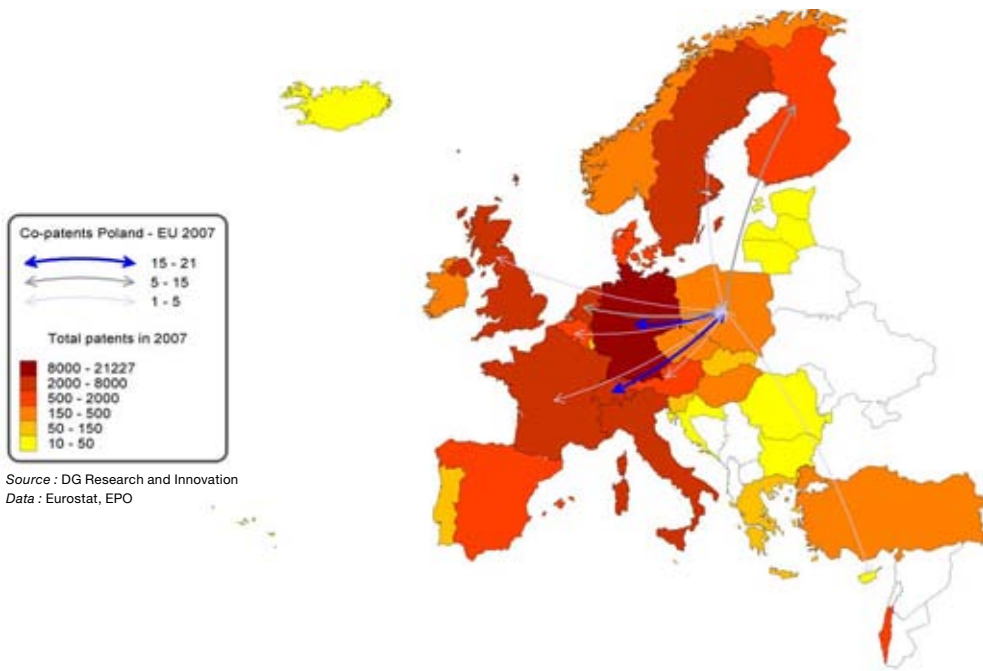
**POLAND**

**Co-publications between Poland and European Countries in 2000-2009**



## POLAND

## Co-invented patent applications between Poland and European Countries, 2007



and technological profile. If this trend continued, it could have important consequences for the future international economic competitiveness of Poland and its scientific and technological convergence with the rest of the EU.

### Participation in the European Research Area : Scientific and Technological collaborations

As indicated in the table above, Poland is one of the European countries with the lowest rates of overall co-publications per million population. This suggests that the country is not actively participating and benefiting from the international scientific knowledge flows favoured by the construction of the European Research Area. In terms of scientific partners, the closest linkages are created with Germany, mainly due to its overall scientific and technological leadership in Europe and the geographical proximity between the two countries.

In terms of co-patenting, Poland scores overall very low levels of co-patenting activity. As for co-publications, Germany is the biggest partner of Polish technological actors. Switzerland is the second largest technological

partner while the connections with all the other countries are relatively low.

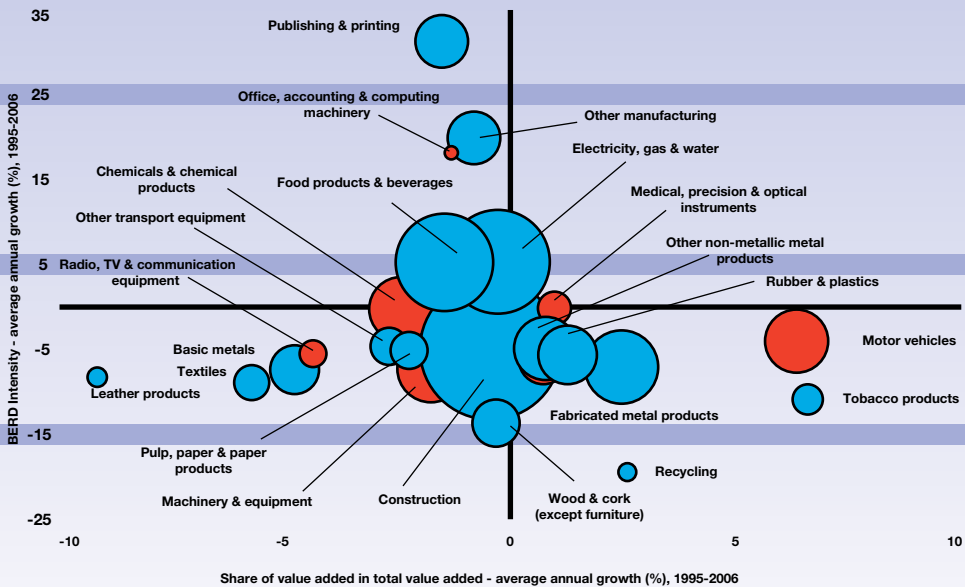
### Structural change towards more research-intensive economy

The fall of private R&D intensity in Poland in the last decade is mainly due to a stagnation of the relative research intensity in high technology sectors and the shift of the economic structure towards less research intensive activities, with the exception of the motor vehicle sector, which has gained relative importance in the total Polish production in the last decade.

Three of the most research intensive sectors, i.e. the machinery and equipment sector, the radio, TV and communication equipment sector, and the motor vehicle sector, have suffered from a drop in their relative R&D investments over the value of their production. This finding suggests that there has not been a move towards more research intensive, higher value added products in these industries. The relative stable sectoral composition of Polish industry around low research intensive sectors reflects the comparative weaknesses in terms of research and innovation performance.

## POLAND

## Share of value added versus BERD intensity - Average annual growth, 1995-2006



Source: DG Research and Innovation

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' is not included on the graph.

(3) 'Coke, refined petroleum, nuclear fuel' and 'Electrical machinery and apparatus' are not visible on the graph.

Innovation Union Competitiveness Report 2011

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 5248 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 6741 applicants from Poland (2.53% of EU-27\*) and
- requesting EUR 1643.72m of EC contribution (1.86% of EU-27\*)

Among the EU-27\* Poland (PL) ranks:

- 11<sup>th</sup> in terms of number of applicants and
- 13<sup>th</sup> in terms of requested EC contribution

### Success rates

- The PL applicant success rate of 19.2% is lower than the EU-27\* applicant success rate of 21.6%.
- The PL EC financial contribution success rate of 13.7% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 1010 proposals were retained for funding (19.2%)
- involving 1297 (19.2%) successful applicants from Poland and
- requesting EUR 225.15m (13.7%) of EC financial contribution

Among the EU-27\*, Poland (PL) ranks:

- 19<sup>th</sup> in terms of applicants success rate and
- 18<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Poland (PL) participates in

- 867 signed grant agreements
- involving 11 615 participants of which 1078 (9.28%) are from Poland
- benefiting from a total of EUR 3056.88m of EC financial contribution of which EUR 201.18m (6.58%) is dedicated to participants from Poland.

Among the EU-27\* in all FP7 signed grant agreements, Poland (PL) ranks:

- 13<sup>th</sup> in number of participations and
- 15<sup>th</sup> in budget share

### SME performance and participation

- The PL SME applicant success rate of 17.98% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The PL SME EC financial contribution success rate of 15.30% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 819 PL SME applicants requesting EUR 350.12m
- 327 (17.98%) successful SMEs requesting EUR 53.57m (15.30%)

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

- 168 PL SME grant holders, i.e., 15.58% of total PL participation
- EUR 29.02m, i.e., 14.42% of total PL budget share

### Top 3 collaborative links with

- DE - Germany (1 462)
- UK - United Kingdom (1 141)
- IT - Italy (1 012)

\*\*Nr. of Researchers  
as% of population N/A 0.40%  
Rank in EU-27\*  
Innovation scoreboard  
(2008) - 23<sup>th</sup>  
- Below EU-27 average  
- Moderate Innovator

Nr. of FP7 applicants (% EU-27*)	6 741	
(2.53%)	266 507	
Req. EC contribution by FP7 applicants in EUR million	1 643.72	
(% EU-27*)	88 295	
(1.86%)		
Nr. of successful FP7 applicants (% EU-27*)	1 297	
(2.19%)	59 199	
Req. EC contribution by successful FP7 applicants in EUR million	225.15	
(% EU-27*)	18 262.02	
(1.23%)		
Success rate FP7 applicants	19.2%	21.6%
Success rate FP7 EC contribution	13.7%	20.7%
Nr. of FP7 grant holders (% EU-27*)	1 078	
(2.10%)	51 279	
EC contribution to FP7 grant holders in EUR million	201.18	
(% EU-27*)	16 578.15	
(1.21%)		
Nr. of FP7 coordinators (% of grant holders)	114	
(10.58%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	168	
(15.58%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million	29.02	
(% of grant holders)	2 207.73	
(14.42%)		
(13.32%)		

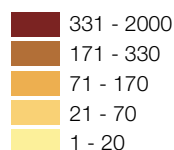




TABLE 1

**PL - Poland - 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	1 145	306.99	151	13.19%	34.80	11.33%
Marie-Curie Actions	776	n/a	210	27.06%	n/a	n/a
Research for the benefit of SMEs	766	91.58	125	16.32%	14.30	15.61%
Transport (including Aeronautics)	609	122.32	144	23.65%	24.13	19.73%
Socio-economic sciences and Humanities	518	84.58	41	7.92%	4.76	5.62%
Health	473	128.07	76	16.07%	16.32	12.74%

TABLE 2

**PL - Poland - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all PL grant holders	EC contribution (EUR million)	% of total EC contribution to PL
Information and Communication Technologies	148	13.73%	29.97	14.90%
Marie-Curie Actions	155	14.38%	19.26	9.57%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	85	7.88%	17.64	8.77%
Research Infrastructures	89	8.26%	17.58	8.74%
Research Potential	11	1.02%	15.78	7.84%
Health	81	7.51%	15.30	7.61%

Notes : Report generated on: 2011/03/28.10:47 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**PL - Poland - 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	2.736	589,72	478	17,47%	73,61	12,48%	410	78,25	38,89%
PRC	1.615	308,48	308	19,07%	53,99	17,50%	270	45,43	22,58%
REC	1.295	305,45	316	24,40%	55,24	18,08%	314	65,05	32,34%
OTH	518	107,96	101	19,50%	14,03	13,00%	6	1,04	0,52%
PUB	349	67,23	86	24,64%	16,93	25,18%	78	11,41	5,67%
SME	1.819	350,12	327	17,98%	53,57	15,30%	168	29,02	14,42%

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

TABLE 4

**PL - Poland - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

PL - Poland region	Number of grant holders	% of all PL - Poland grant holders	EC contribution (M euro)	% of total EC contribution to PL
Miasto Warszawa (PL127)	445	41.28%	79.57	39.55%
Miasto Krakow (PL213)	125	11.60%	25.05	12.45%
Miasto Poznan (PL415)	109	10.11%	22.85	11.36%
Miasto Wroclaw (PL514)	69	6.40%	11.31	5.62%
Trojmiejski (PL633)	63	5.84%	11.29	5.61%

TABLE 5

**PL - Poland - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all PL grant holders	EC contribution (M euro)	% of total EC contribution to PL grant holders
Uniwersytet Warszawski (Uniwersaw)	52	4.82%	13.72	6.82%
Akademia Gorniczo-Hutnicza Im. Stanislawy Staszica W Krakowie (AGH / AGH-UST)	28	2.60%	10.56	5.25%
Instytut Chemii Bioorganicznej Pan	24	2.23%	10.01	4.98%
Politechnika Warszawska (WUT)	40	3.71%	9.17	4.56%
Instytut Biologii Doswiadczalnej Im. M. Nenckiego Polskiej Akademii Nauk (IBD PAN)	12	1.11%	4.75	2.36%

# COUNTRY PROFILE



## PT - Portugal

### Progress towards meeting the Europe 2020 R&D intensity target

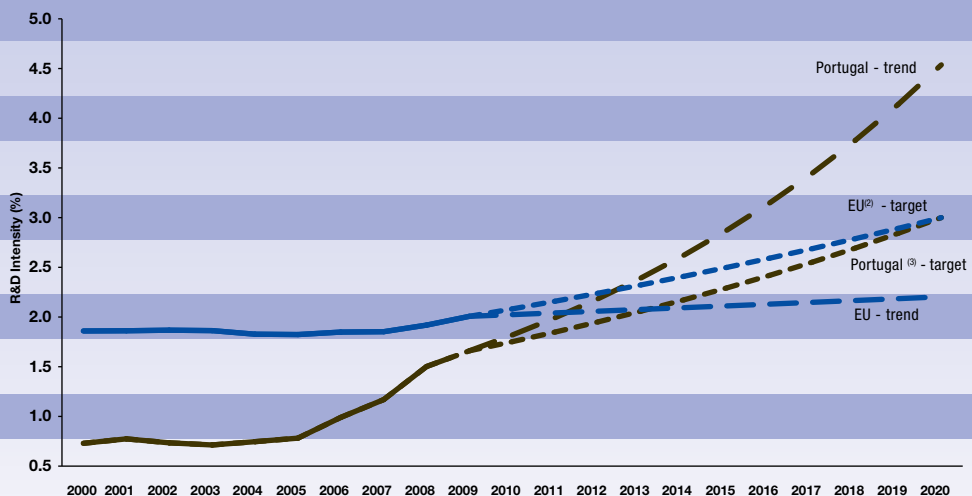
The figure for Portugal on R&D intensity (GERD/GDP) is 1.66% in 2009 (0.71% public + 0.96% private). This compares to 0.73% in 2000, having had a very high average growth rate of 10.2% for the period 2000-2009. The main feature for this period is the strong growth of private expenditure (0.28% of GDP in 2000) becoming higher than public expenditure from 2006 onwards. Despite the crisis, 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<sup>(1)</sup>



Source: DG Research and Innovation  
Data: DG Research and Innovation, Eurostat

Innovation Union Competitiveness Report 2011

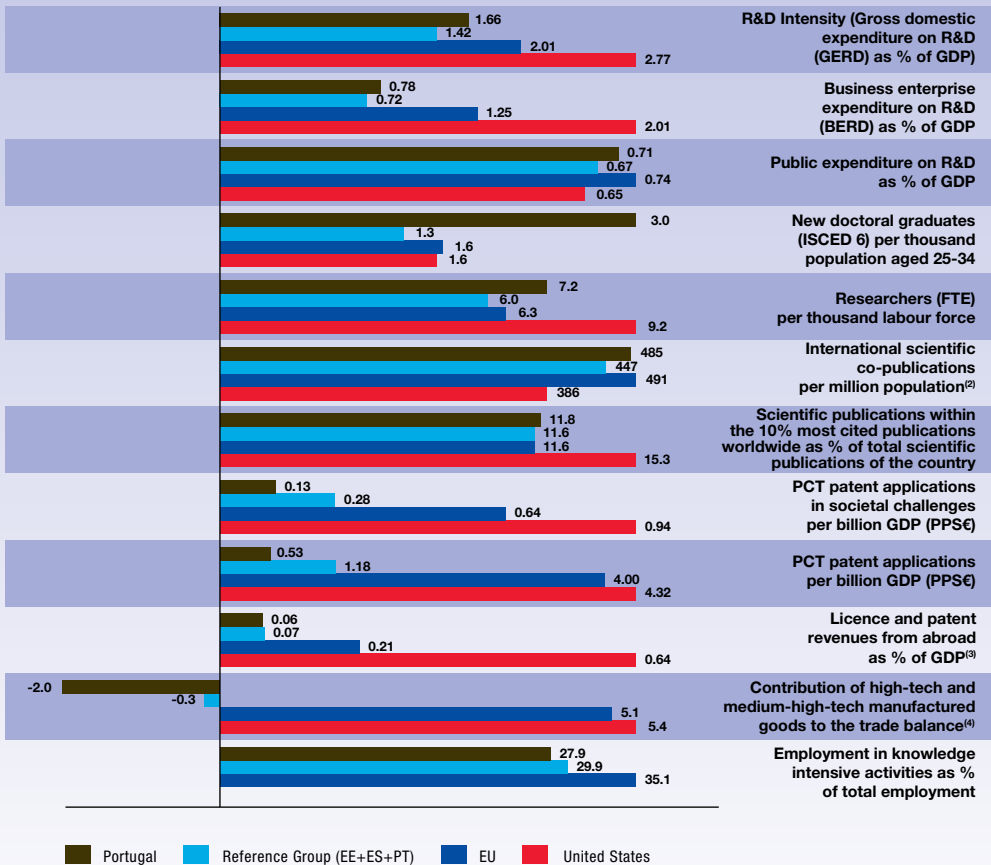
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity 2000-2009.  
(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.  
(3) PT: This projection is based on a tentative R&D Intensity target of 3.0% for 2020.

### 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,

## PORTUGAL

R&D profile, 2009<sup>(1)</sup>

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.

Innovation Union Competitiveness Report 2011

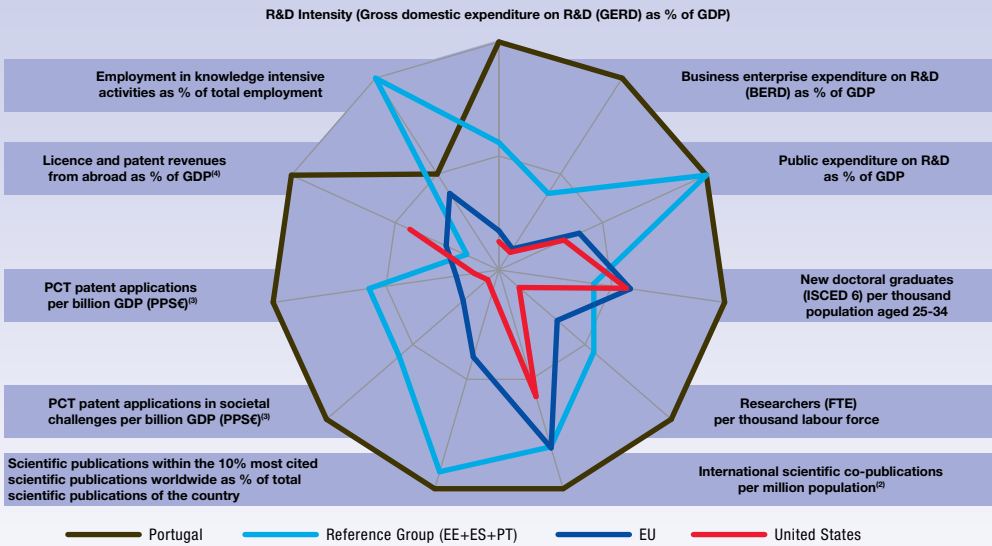
although improving. On the international scientific co-publications and their citation worldwide, Portugal has also progressed well and reached about the EU average – although remaining at less than 1/8 of the EU level in patent applications. Employment in knowledge-intensive activities remains weak 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.

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 ranks 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.

# PORTUGAL

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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.

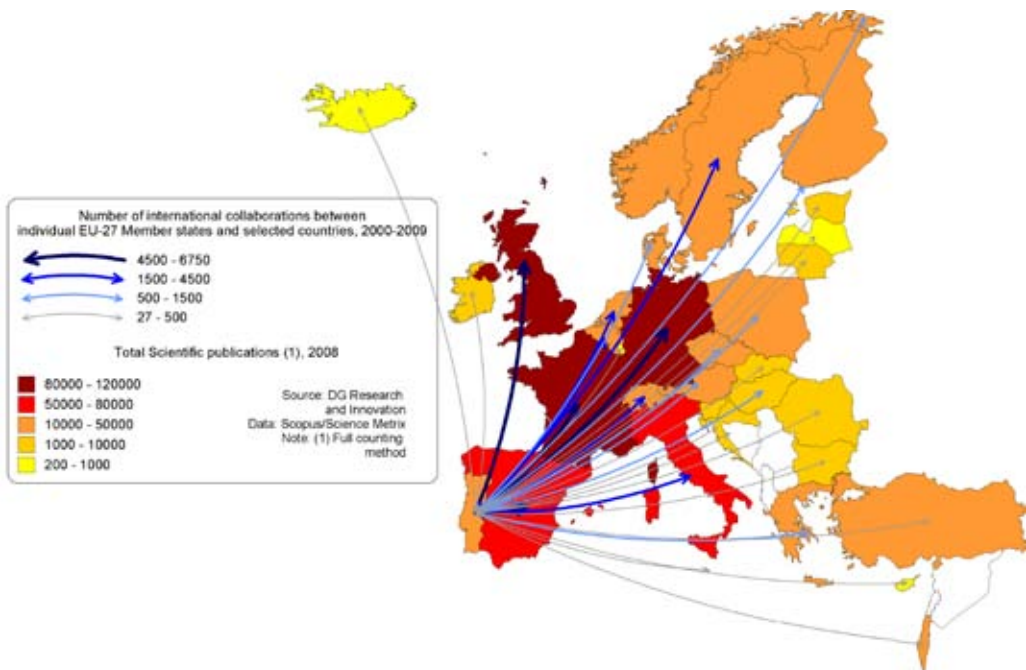
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

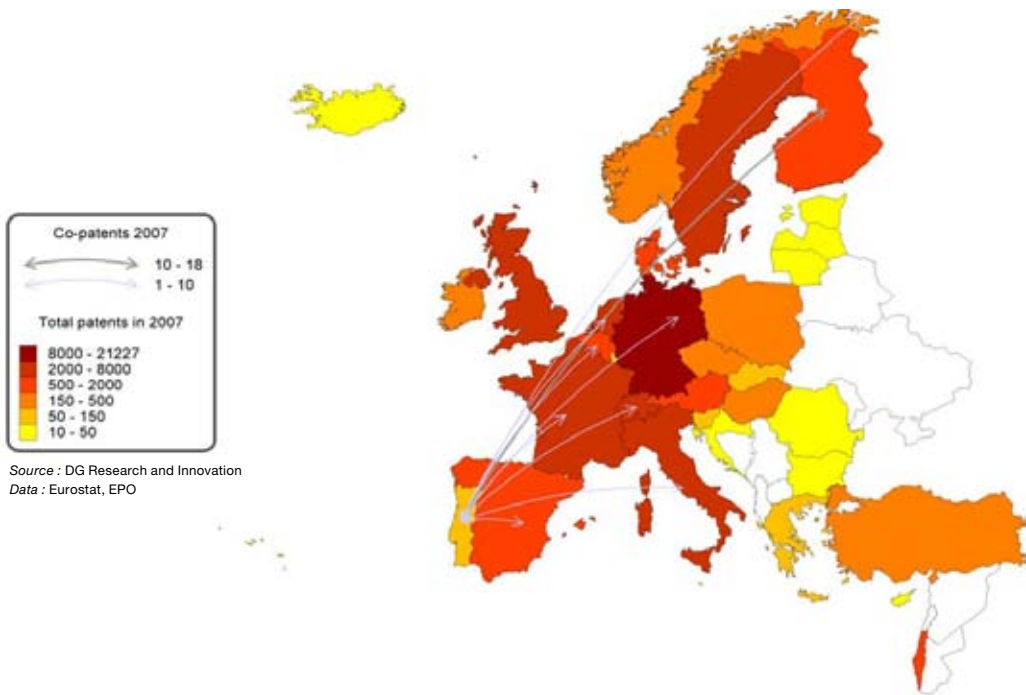
# PORTUGAL

## Co-publications between Portugal and European Countries in 2000-2009



## PORTUGAL

## Co-invented patent applications between Portugal and European Countries, 2007



### Participation in the European Research Area : Scientific and Technological collaborations

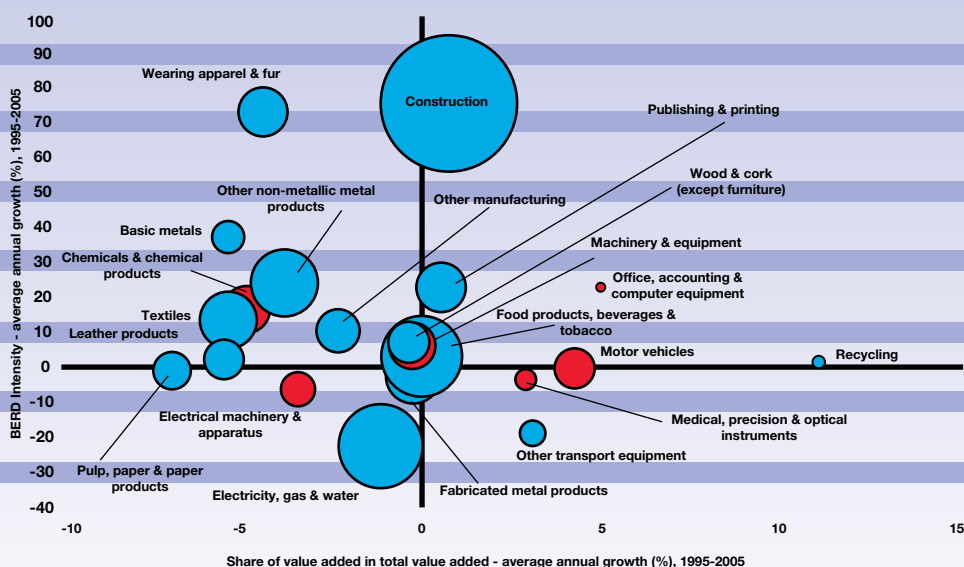
Portugal is a small and open country. The research system has a tradition of hosting researchers of other countries and promoting the participation of young researchers in other countries through bi- and multilateral agreements with other European countries. The International Iberian Nanotechnology Laboratory, 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 further encourage its development.

### 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.

## PORTUGAL

## Share of value added versus BERD intensity - Average annual growth, 1995-2005



Source: DG Research and Innovation  
Data: OECD

Innovation Union Competitiveness Report 2011

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.  
(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

- 4280 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 5764 applicants from Portugal (2.16% of EU-27\*) and
- requesting EUR 1426.35m of EC contribution (1.62% of EU-27\*)

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

- 13<sup>th</sup> in terms of number of applicants and
- 14<sup>th</sup> 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 1138 (19.7%) successful applicants from Portugal and
- requesting EUR 226.77m (15.9%) of EC financial contribution

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

- 18<sup>th</sup> in terms of applicants success rate and
- 15<sup>th</sup> 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 9309 participants of which 960 (10.31%) are from Portugal
- benefiting from a total of EUR 2502.09m 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:

- 14<sup>th</sup> in number of participations and
- 14<sup>th</sup> 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
- 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)

\*\*Nr. of Researchers as% of population N/A 0.40%

Rank in EU-27\* Innovation scoreboard (2008) - 16<sup>th</sup>

- Below EU-27 average  
- Moderate Innovator

Nr. of FP7 applicants (% EU-27\*) 5 764 (2.16%)  
Req. EC contribution by FP7 applicants in EUR million 266 507  
(% EU-27\*) 1 426.35 (1.62%) 88 295

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%)	19.7%	21.6%
Success rate FP7 applicants	15.9%	20.7%
Success rate		
FP7 EC contribution	960	
Nr. of FP7 grant holders (% EU-27*)	51 279	
(1.87%)		
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 (% of 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%)		

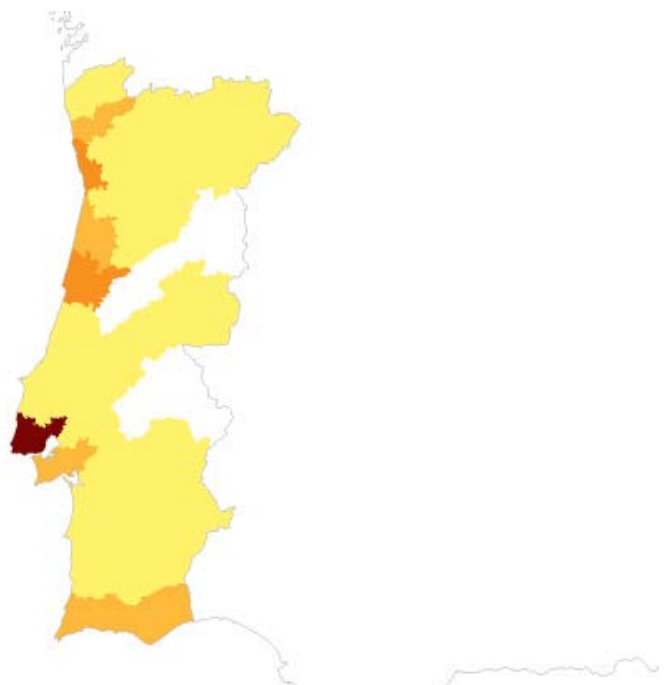
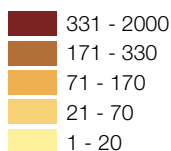




TABLE 1

**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%

TABLE 2

**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%

Notes : Report generated on: 2011/03/28.10:48 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**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	1961	458.33	343	17.49%	64.69	14.12%	276	57.71	28.06%
PRC	1639	385.03	304	18.55%	60.99	15.84%	265	49.18	23.91%
REC	1397	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	1764	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)

TABLE 4

**PT - Portugal - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

FI - Finland 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%

TABLE 5

**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%

# COUNTRY PROFILE



## RO - Romania

### Progress towards meeting the Europe 2020 R&D intensity target

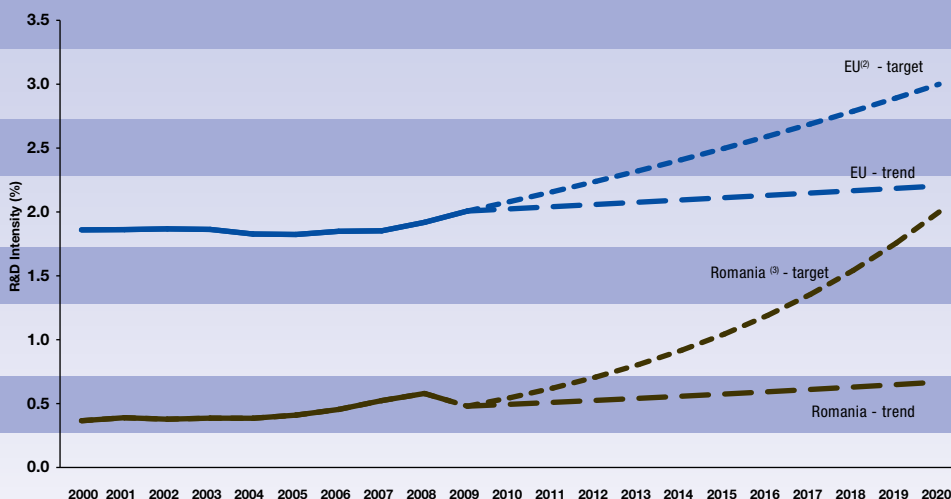
In the last decade, the R&D intensity in Romania increased from 0.37% in 2000 to 0.48% in 2009. Despite this moderate positive trend, Romania still scores one of the lowest R&D intensities in the European Union. Using a multiannual perspective, the Romanian 2007-2013 Strategy for Research, Development and Innovation has foreseen a gradual increase of the R&D public budget. However, the further planned increase of the

R&D public budget in 2009 did not take place, mainly due to the economic crisis. A substantial increase of the R&D spending, both in absolute and relative terms, will be instrumental for Romania in order to raise the economic competitiveness and secure high-quality jobs.

Romanian authorities have recognised this and have set an ambitious but achievable target for 2020: R&D intensity is expected to account for 2.0% of the national GDP in 2020.

### ROMANIA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

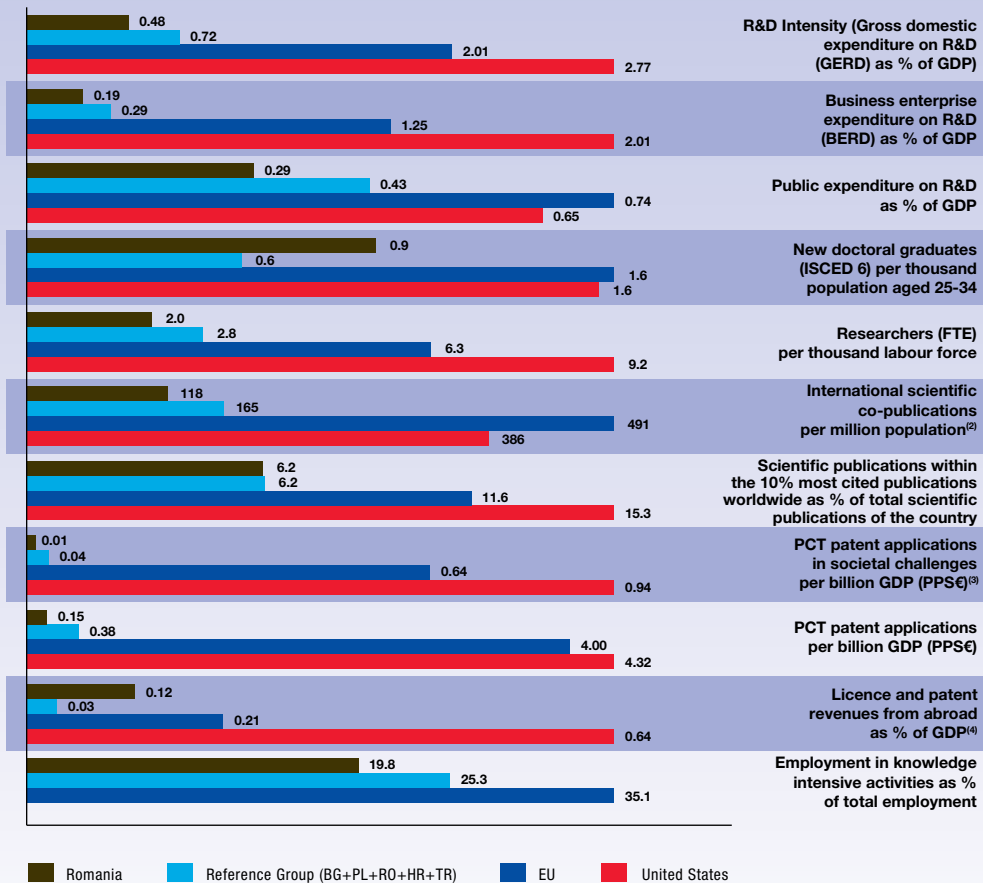
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity 2000-2009.

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

(3) RO: This projection is based on a tentative R&D Intensity target of 2.0% for 2020.

Innovation Union Competitiveness Report 2011

## ROMANIA

R&D profile, 2009<sup>(1)</sup>

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) (i) HR and TR are not included in the Reference Group; (ii) The EU value refers to the median rather than to the average.

(3) HR is not included in the Reference Group.

(4) EU refers to extra-EU.

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

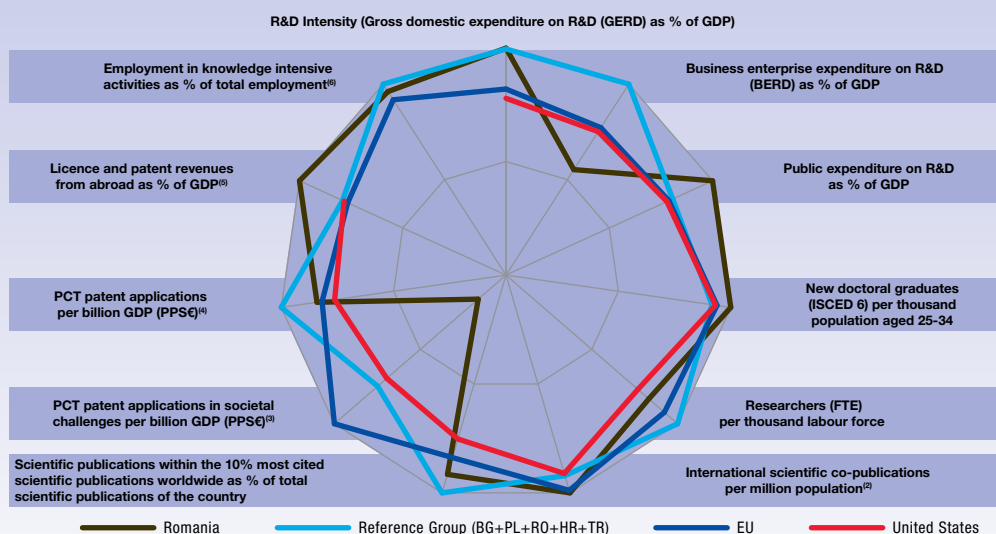
Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

An important challenge is the overall fragmentation of the Romanian Research and Innovation system, as reflected by the large number of research performers (universities, research institutes and institutes of the Romanian Academy) combined with a lack of critical mass of the quality of research results. Romania scores low both in terms of high-impact scientific publications

and patent applications. The weak scientific and technological performance is combined with rather unfavourable framework conditions for business R&D, as reflected by the low figures of business enterprise expenditure on R&D. As expected in this context, the employment in knowledge intensive activities appears to be one of the lowest in the EU.

## ROMANIA

Average annual growth (%), 2000-2009<sup>(1)</sup>

Source: DG Research and Innovation

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) (i) HR and TR are not included in the Reference Group; (ii) EU refers to the median rather than to the average.

(3) HR is not included in the Reference Group; Average annual growth refers to real growth.

(4) Average annual growth refers to real growth.

(5) EU refers to extra-EU.

(6) TR is not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

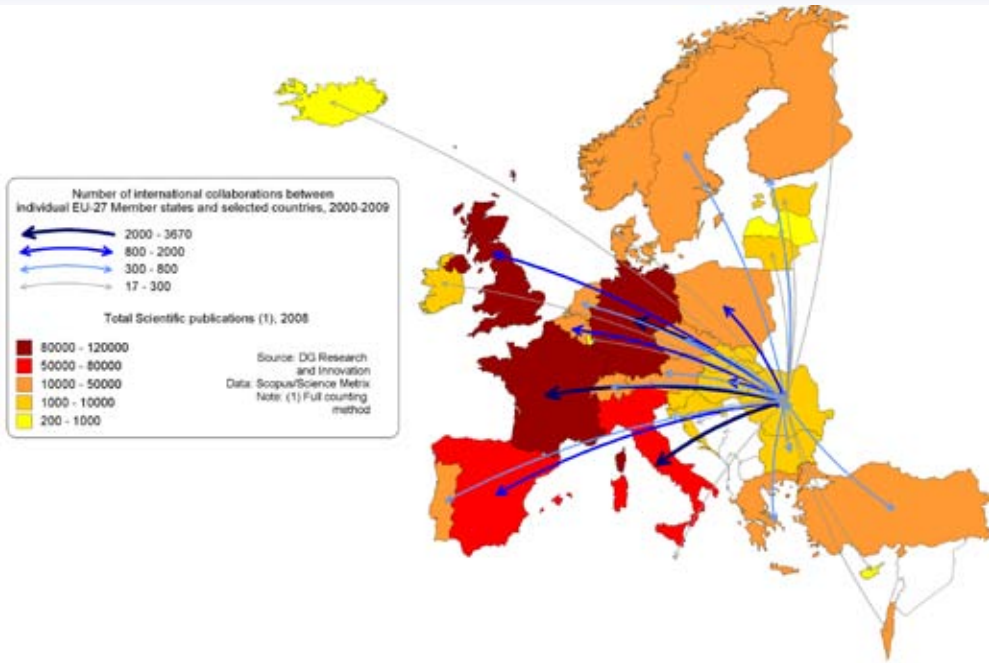
In comparison with similar countries both in terms of industrial structure and R&D performance, as well as with the EU as a whole, Romania appears particularly weak as regards the dynamics of private sector R&D and implicitly the framework conditions for business R&D put in place by the national authorities. This is reflected both by the yet again overall decrease of business enterprise expenditure on R&D between 2000 and 2009 and the number of patent applications in societal challenges. At the contrary, Romania is improving beyond the EU average and the reference group of countries in public R&D expenditure and new doctoral graduates.

### Participation in the European Research Area : Scientific and Technological collaborations

As indicated above, the rate of overall number of co-publications between Romanian researchers and colleagues from other European countries is one of the lowest in Europe. This suggests that the country does not sufficiently benefit from the international knowledge flows favoured by the European Research Area architecture. However, the scientific and technological cooperation is well distributed across Europe. Main partners in terms of co-publications are France, Germany, Italy, the United Kingdom, and Spain. As regards co-patenting, Germany and Ireland appear to be among the main partners of Romanian technological actors.

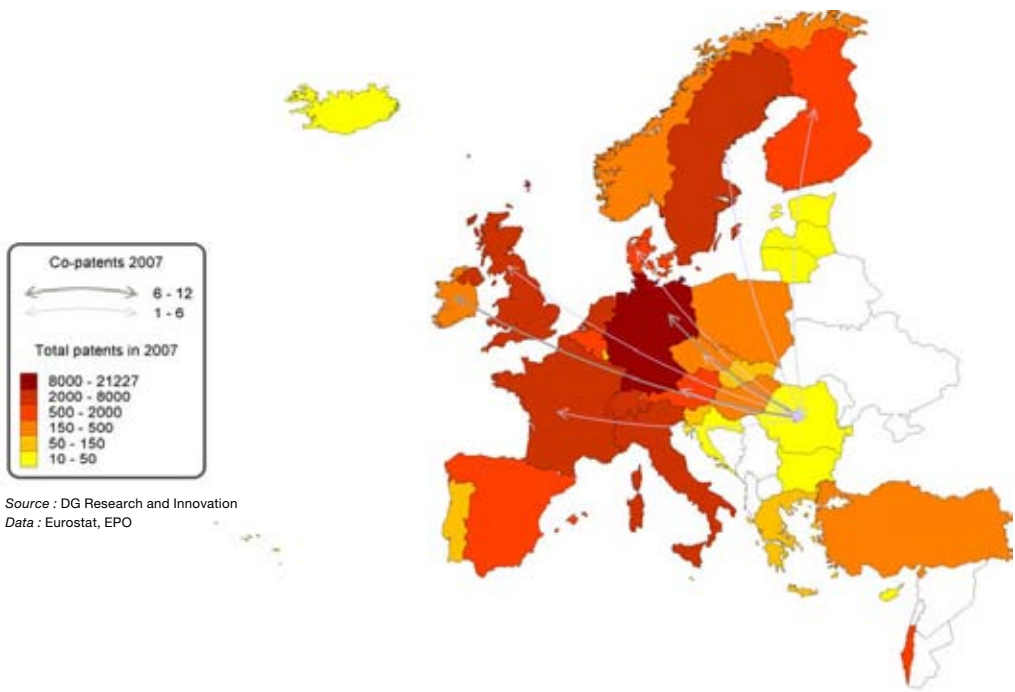
ROMANIA

Co-publications between Romania and European Countries in 2000-2009



ROMANIA

Co-invented patent applications between Romania and European Countries, 2007



## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 3 163 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 4 172 applicants from Romania (1.57% of EU-27\*) and
- requesting EUR 916.01m of EC contribution (1.04% of EU-27\*)

Among the EU-27\* Romania (RO) ranks:

- 16<sup>th</sup> in terms of number of applicants and
- 17<sup>th</sup> in terms of requested EC contribution

### Success rates

- The RO applicant success rate of 14.5% is lower than the EU-27\* applicant success rate of 21.6%.
- The RO EC financial contribution success rate of 9.1% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 494 proposals were retained for funding (15.6%)
- involving 606 (14.5%) successful applicants from Romania and
- requesting EUR 83.28m (9.1%) of EC financial contribution

Among the EU-27\*, Romania (RO) ranks:

- 27<sup>th</sup> in terms of applicants success rate and
- 27<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Romania (RO) participates in

- 429 signed grant agreements
- involving 6 753 participants of which 538 (7.97%) are from Romania
- benefiting from a total of EUR 1 635.88m of EC financial contribution of which EUR 72.35m (4.42%) is dedicated to participants from Romania.

Among the EU-27\* in all FP7 signed grant agreements, Romania (RO) ranks:

- 18<sup>th</sup> in number of participations and
- 19<sup>th</sup> in budget share

### SME performance and participation

- The RO SME applicant success rate of 13.79% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The RO SME EC financial contribution success rate of 8.35% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 487 RO SME applicants requesting EUR 299.16m
- 205 (13.79%) successful SMEs requesting EUR 24.99m (8.35%)

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

- 115 RO SME grant holders, i.e., 21.38% of total RO participation
- EUR 15.65m, i.e., 21.63% of total RO budget share

### Top 3 collaborative links with

- DE - Germany (702)
- IT - Italy (574)
- FR - France (557)

**Nr. of Researchers as% of population	N/A	0.40%	Success rate		
Rank in EU-27*			FP7 EC contribution	9.1%	20.7%
Innovation scoreboard (2008)	- 25 <sup>th</sup>		Nr. of FP7 grant holders (% EU-27*)	538	
- Below EU-27 average			(1.05%)	51 279	
- Catching-up Country			EC contribution to FP7 grant holders in EUR million (% EU-27*)	72.35	
Nr. of FP7 applicants (1.57%)	4 172		(0.44%)	16 578.15	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	266 507				
(1.04%)	916.01		Nr. of FP7 coordinators (% of grant holders)	32	
	88 295		(5.95%)	9 383	
Nr. of successful FP7 applicants (% EU-27*)	606		(18.30%)		
(1.02%)	59 199		Nr. of FP7 SME grant holders (% of grant holders)	115	
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*)	83.28		(21.38%)	8 845	
(0.46%)	18 262.02		(17.25%)		
Success rate FP7 applicants	14.5%	21.6%	EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	15.65	
			(21.63%)	2 207.73	
			(13.32%)		

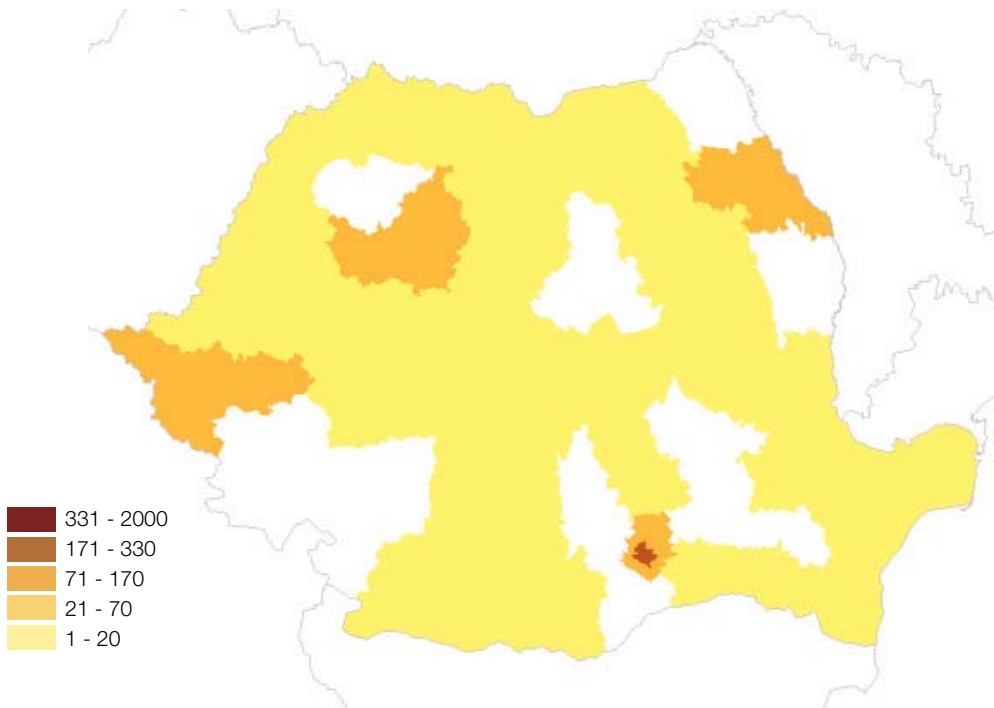




TABLE 1

**RO - Romania - 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	820	176.93	67	8.17%	14.37	8.12%
Research for the benefit of SMEs	419	49.25	59	14.08%	8.46	17.19%
Environment (including Climate Change)	352	62.26	56	15.91%	6.78	10.89%
Transport (including Aeronautics)	322	72.78	58	18.01%	10.21	14.03%
Socio-economic sciences and Humanities	280	35.39	16	5.71%	1.20	3.40%
Marie-Curie Actions	274	n/a	53	19.34%	n/a	n/a

TABLE 2

**RO - Romania - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all RO grant holders	EC contribution (EUR million)	% of total EC contribution to RO
Information and Communication Technologies	67	12.45%	12.97	17.92%
Transport (including Aeronautics)	49	9.11%	8.72	12.06%
Research Potential	9	1.67%	8.69	12.01%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	45	8.36%	7.54	10.43%
Environment (including Climate Change)	47	8.74%	5.79	8.01%
Research for the benefit of SMEs	45	8.36%	5.13	7.09%

Notes : Report generated on: 2011/03/28.10:49 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**RO - Romania - 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	1 487	283.97	185	12.44%	26.04	9.17%	155	23.14	31.99%
PRC	991	174.97	138	13.93%	18.50	10.58%	139	19.14	26.46%
REC	710	150.19	132	18.59%	18.42	12.27%	149	21.98	30.38%
OTH	527	110.23	76	14.42%	10.03	9.10%	15	0.86	1.19%
PUB	295	42.03	73	24.75%	9.35	22.23%	80	7.22	9.98%
SME	1 487	299.16	205	13.79%	24.99	8.35%	115	15.65	21.63%

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

TABLE 4

**RO - Romania - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

RO - Romania region	Number of grant holders	% of all RO - Romania grant holders	EC contribution (M euro)	% of total EC contribution to RO
Bucuresti (RO321)	262	48.70%	32.79	45.32%
Cluj (RO113)	51	9.48%	6.80	9.40%
Ifov (RO322)	39	7.25%	5.24	7.25%
Iasi (RO213)	36	6.69%	6.96	9.62%
Timis (RO424)	26	4.83%	3.56	4.93%

TABLE 5

**RO - Romania - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all RO grant holders	EC contribution (M euro)	% of total EC contribution to RO grant holders
Universitatea Politehnica Din Bucuresti (UPB)	30	5.58%	6.93	9.58%
Institutul de Chimie Macromoleculara Petru Poni (ICMPP)	7	1.30%	3.54	4.89%
Universitatea Tehnica Cluj-Napoca (UTC)	16	2.97%	2.77	3.82%
Primaria Municipiului Iasi (IASI)	1	0.19%	2.38	3.29%
Institutul National de Cercetaredezvoltare Pentru Microtehnologie (IMT)	6	1.12%	1.98	2.73%

# COUNTRY PROFILE



## SK - Slovakia

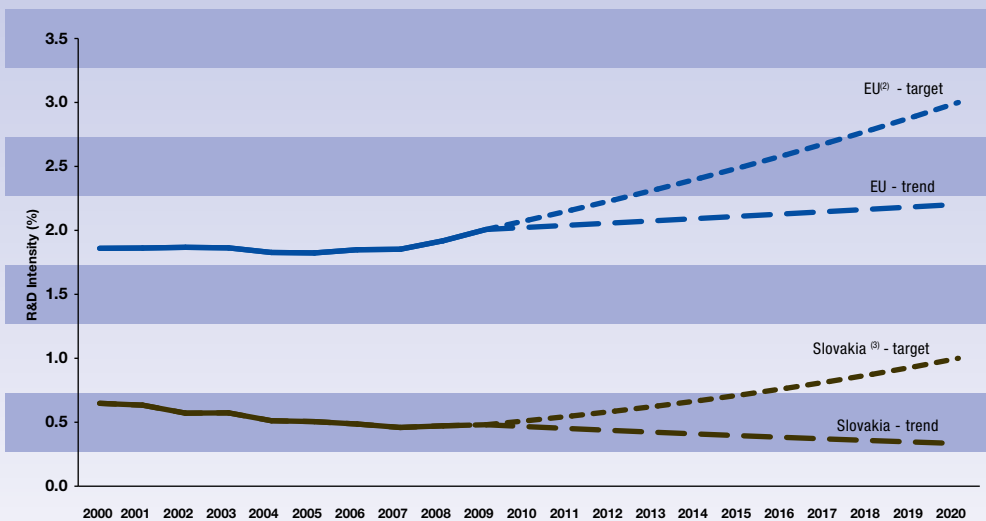
### Progress towards meeting the Europe 2020 R&D intensity target

Since the early 1990s, the Slovak Republic has undertaken a radical transformation of its economic and social structures that also affected its research and innovation system. The rise of a dual economy comprising branches of multinational companies with high productivity level and some 60 000 SMEs and few large domestic companies has favoured a system dominated by technology imports and a sharp fall in

traditional in-house R&D. As a result, R&D intensity has steadily declined from a peak of 3.88% in 1989 to 0.48% in 2009. This sharp fall shows a scientific and technological dependency which may jeopardise the long-term growth perspectives of the Slovak economy, particularly once efficiency gains through capital investment are exhausted. In order to correct this situation, the Slovak Republic has set an R&D intensity target of 1% for 2020 which would reverse the last 20-year negative trend.

### SLOVAKIA

#### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

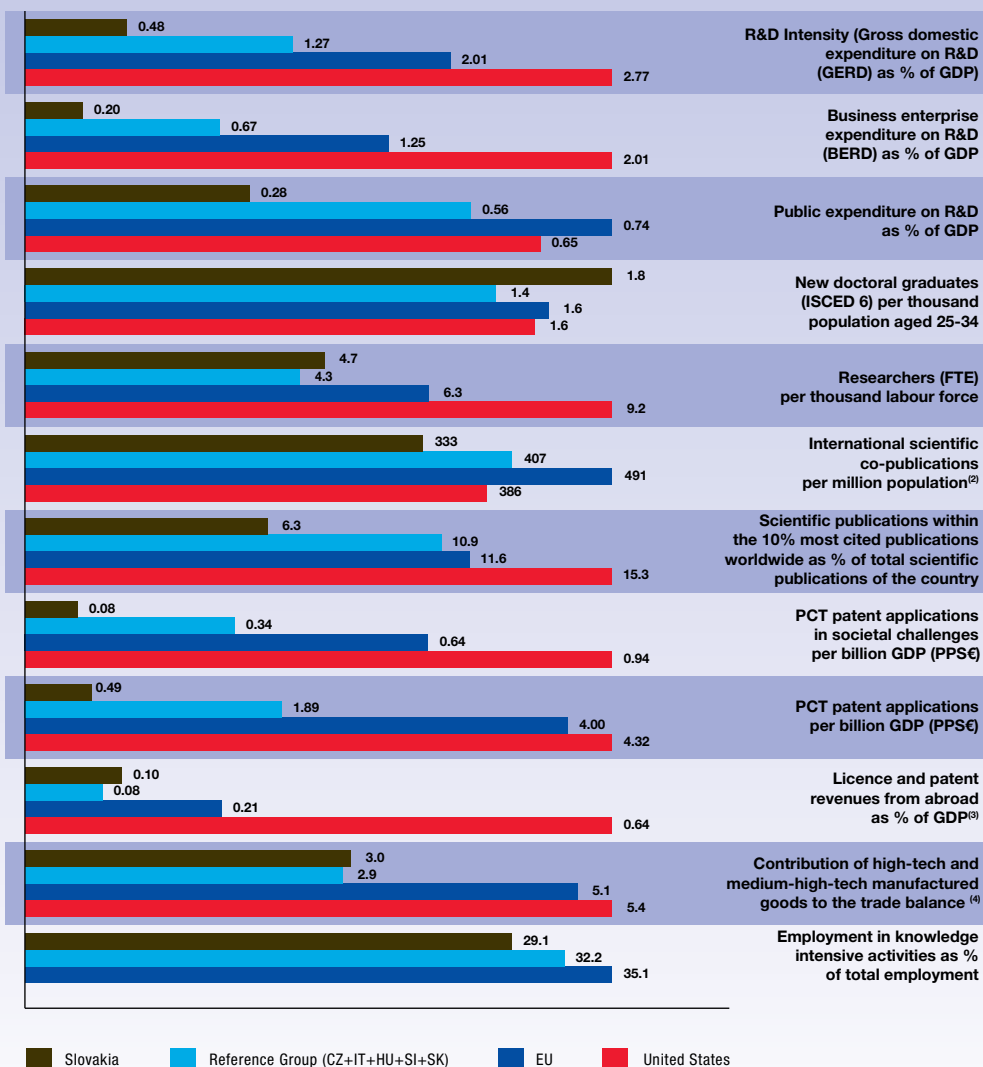
Innovation Union Competitiveness Report 2011

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) SK: This projection is based on a tentative R&D Intensity target of 1.0% for 2020.

## SLOVAKIA

R&D profile, 2009<sup>(1)</sup>

Slovakia

Reference Group (CZ+IT+HU+SI+SK)

EU

United States

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.

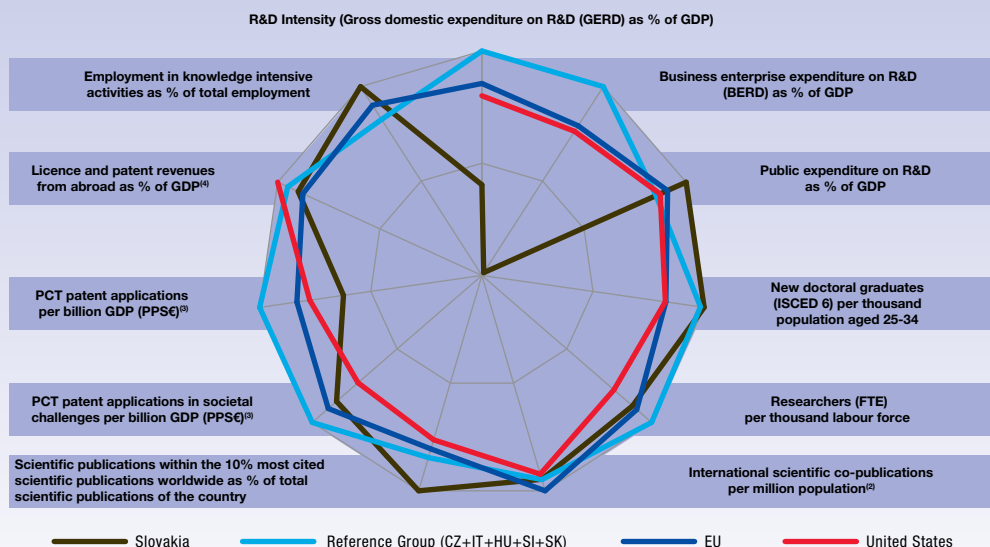
(3) EU refers to extra-EU.

(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.

Innovation Union Competitiveness Report 2011

## SLOVAKIA

Average annual growth (%), 2000-2009<sup>(1)</sup>

Source: DG Research and Innovation

Data: Eurostat, OECD, Science Matrix / 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.

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

The Slovak research and innovation system is characterised by the sharp effects of the economic and social transformations that took place in the 1990s and early 2000s and that radically downsized the system due to falling public and private R&D investments and the associated brain drain of scientists from the public sector. At present, the very low R&D investment, both in the public and private sectors, results in poor scientific and technological production that reinforces the international dependency of the system and hinders its ability to create, use and diffuse knowledge. As a consequence, the transition to a knowledge-based economy may be at stake, as evidenced by the relatively low percentage of people employed in knowledge-intensive activities.

In dynamic terms, the most striking feature is the sharp fall in private R&D investments, in comparison with other countries that may be closer technological and economic competitors, such as the Czech Republic or, to a lesser extent, Slovenia and Hungary. In the longer run, a sustained underinvestment in R&D may endanger

not only the scientific and technological convergence with the EU average, but also Slovakia's long-term competitiveness. There are positive signs, such as dynamic improvement of public expenditure on R&D, scientific quality and new doctoral graduates.

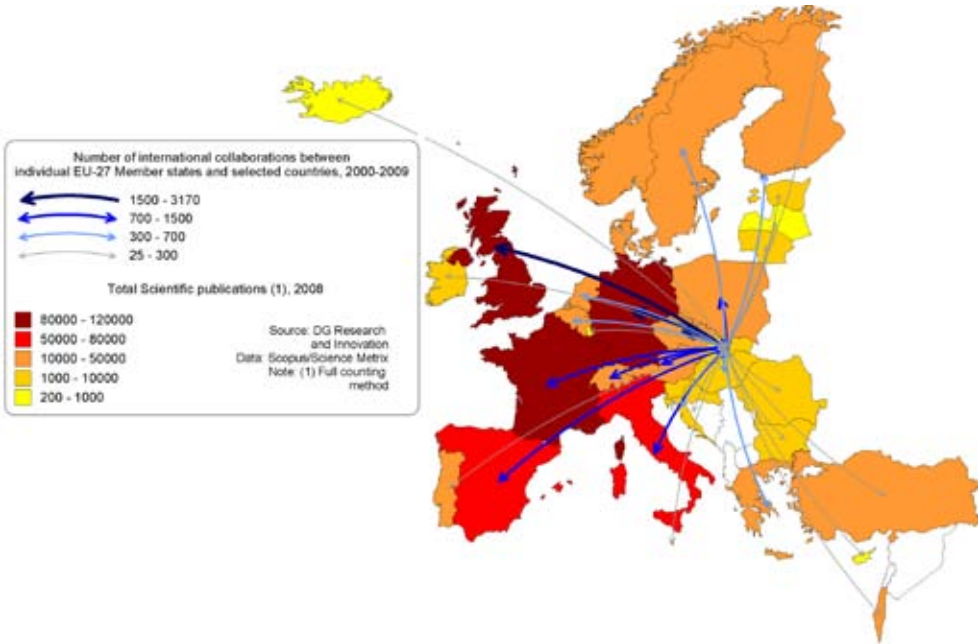
## Participation in the European Research Area : Scientific and Technological collaborations

As indicated in the table above, Slovakia is one of the countries with the lowest rates of overall scientific co-publications per million population. This suggests that the country is not actively participating in and benefiting from the international scientific knowledge flows favoured by the construction of the European Research Area. As it could be expected due to the geographical and historical ties, the Czech Republic is one of its main scientific partners.

In terms of co-patenting, the Slovak Republic has a low activity level, but with cooperation also with Germany, France, Switzerland and Finland.

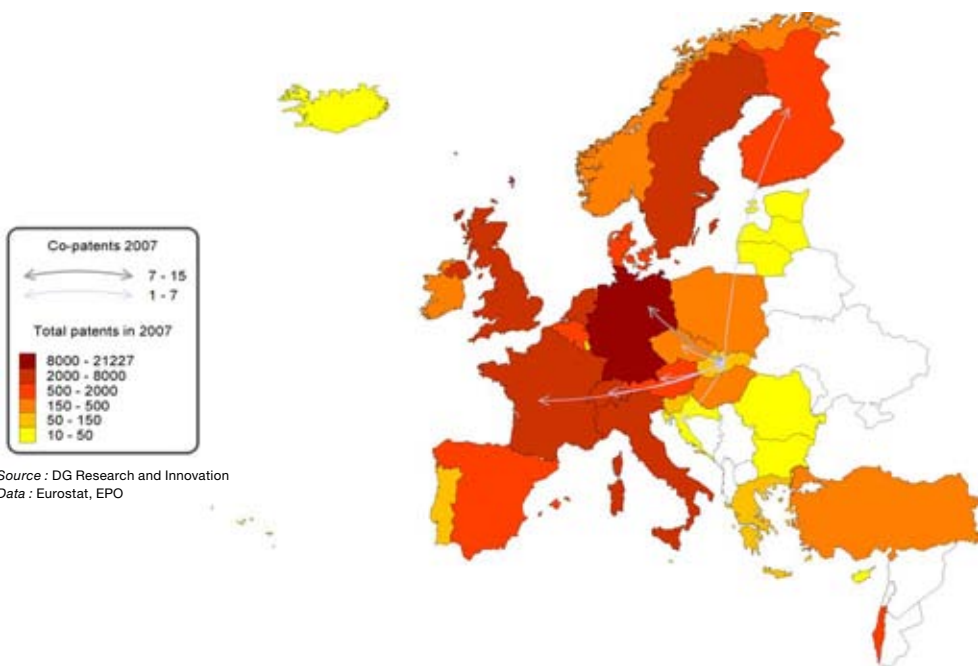
SLOVAKIA

Co-publications between Slovakia and European Countries in 2000-2009



SLOVAKIA

Co-invented patent applications between Slovakia and European Countries, 2007



## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 1 177 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 1 479 applicants from Slovakia (0.55% of EU-27\*) and
- requesting EUR 301.74m of EC contribution (0.34% of EU-27\*)

Among the EU-27\* Slovakia (SK) ranks:

- 21<sup>st</sup> in terms of number of applicants and
- 22<sup>nd</sup> in terms of requested EC contribution

### Success rates

- The SK applicant success rate of 19.9% is lower than the EU-27\* applicant success rate of 21.6%.
- The SK EC financial contribution success rate of 12.8% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 230 proposals were retained for funding (19.5%)
- involving 295 (19.9%) successful applicants from Slovakia and
- requesting EUR 38.77m (12.8%) of EC financial contribution

Among the EU-27\*, Slovakia (SK) ranks:

- 17<sup>th</sup> in terms of applicants success rate and
- 20<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Slovakia (SK) participates in

- 205 signed grant agreements
- involving 3 155 participants of which 260

(8.24%) are from Slovakia

- benefiting from a total of EUR 797.01m of EC financial contribution of which EUR 33.24m (4.17%) is dedicated to participants from Slovakia.

Among the EU-27\* in all FP7 signed grant agreements, Slovakia (SK) ranks:

- 22<sup>nd</sup> in number of participations and
- 24<sup>th</sup> in budget share

### SME performance and participation

- The SK SME applicant success rate of 18.26% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The SK SME EC financial contribution success rate of 13.46% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 493 SK SME applicants requesting EUR 116.68m
- 90 (18.26%) successful SMEs requesting EUR 15.71m (13.46%)

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

- 49 SK SME grant holders, i.e., 18.85% of total SK participation
- EUR 9.68m, i.e., 29.12% of total SK budget share

### Top 3 collaborative links with

- DE - Germany (336)
- UK - United Kingdom (273)
- IT - Italy (228)

**Nr. of Researchers as% of population	0.36%	0.40%	Success rate FP7 EC contribution	12.8%	20.7%
Rank in EU-27*			Nr. of FP7 grant holders (% EU-27*)	260	
Innovation scoreboard (2008)	- 21 <sup>st</sup>		(0.51%)	51 279	
- Below EU-27 average			EC contribution to FP7 grant holders in EUR million (% EU-27*)	33.24	
- Moderate Innovator			(0.20%)	16 578.15	
Nr. of FP7 applicants (% EU-27*)	1 479		Nr. of FP7 coordinators (% of grant holders)	20	
(0.55%)	266 507		(7.69%)	9 383	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	301.74		(18.30%)		
(0.34%)	88 295		Nr. of FP7 SME grant holders (% of grant holders)	49	
Nr. of successful FP7 applicants (% EU-27*)	295		(18.85%)	8 845	
(0.50%)	59 199		(17.25%)		
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*)	38.77		EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	9.68	
(0.21%)	18 262.02		(29.12%)	2 207.73	
Success rate FP7 applicants	19.9%	21.6%	(13.32%)		

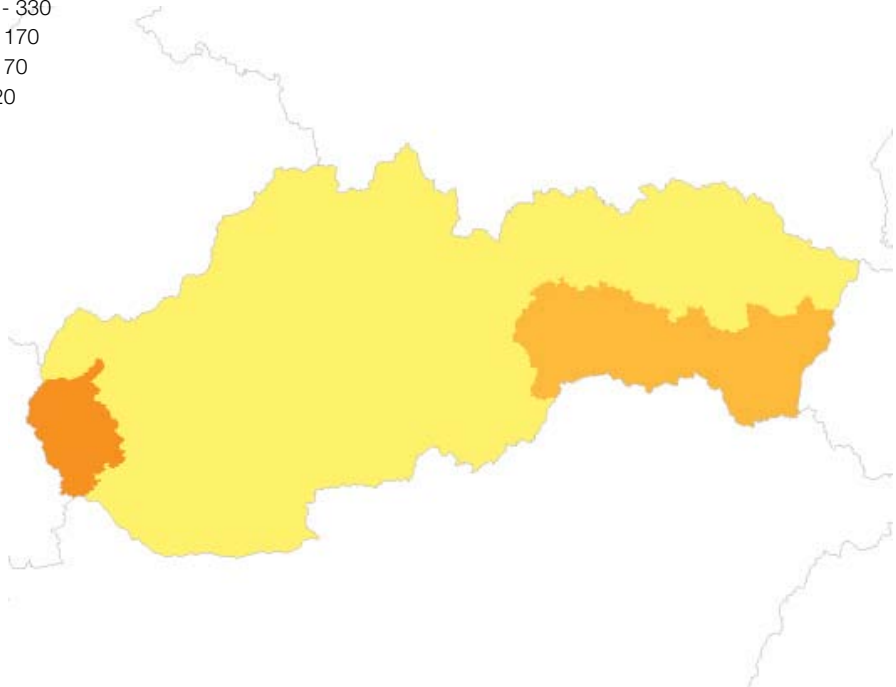
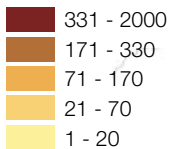




TABLE 1

**SK - Slovakia - 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	219	71.42	36	16.44%	8.15	11.41%
Research for the benefit of SMEs	141	17.62	22	15.60%	2.82	16.02%
Marie-Curie Actions	140	n/a	36	25.71%	n/a	n/a
Socio-economic sciences and Humanities	128	17.87	11	8.59%	1.64	9.19%
Environment (including Climate Change)	120	23.82	15	12.50%	1.97	8.25%
Health	101	23.79	14	13.86%	2.70	11.35%

TABLE 2

**SK - Slovakia - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all SK grant holders	EC contribution (EUR million)	% of total EC contribution to SK
Information and Communication Technologies	33	12.69%	5.96	17.92%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	19	7.31%	3.51	10.57%
Security	8	3.08%	3.41	10.27%
Marie-Curie Actions	32	12.31%	3.30	9.92%
Health	13	5.00%	2.23	6.71%
Research for the benefit of SMEs	18	6.92%	2.20	6.61%

Notes : Report generated on: 2011/03/28.10:50 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**SK - Slovakia - 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	574	96.22	102	17.77%	11.04	11.47%	82	9.49	28.57%
PRC	352	86.97	73	20.74%	14.14	16.26%	76	11.76	35.38%
REC	277	50.53	59	21.30%	8.50	16.83%	63	9.43	28.38%
OTH	144	30.34	28	19.44%	2.18	7.19%	10	0.29	0.88%
PUB	102	13.39	32	31.37%	2.82	21.04%	29	2.26	6.80%
SME	493	116.68	90	18.26%	15.71	13.46%	49	9.68	29.12%

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

TABLE 4

**SK - Slovakia - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

SK - Slovakia region	Number of grant holders	% of all SK - Slovakia grant holders	EC contribution (M euro)	% of total EC contribution to SK
Bratislavsky kraj (SK010)	137	52.69%	18.43	55.44%
Kosicky kraj (SK042)	39	15.00%	6.00	18.05%
Zilinsky kraj (SK031)	21	8.08%	1.79	5.39%
Trnavsky kraj (SK021)	17	6.54%	1.69	5.08%
Banskobystricky kraj (SK032)	10	3.85%	0.75	2.24%

TABLE 5

**SK - Slovakia - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all SK grant holders	EC contribution (M euro)	% of total EC contribution to SK grant holders
Technical University Kosice (TUK)	11	4.23%	2.29	6.90%
Ardaco, A.S. (ADO)	5	1.92%	2.23	6.70%
Univerzita Komenskeho v Bratislave (Univerzita Komenskeho)	15	5.77%	1.99	5.99%
Ustav Informatiky, Slovenska Akademia Vied (UI SAV)	5	1.92%	1.76	5.29%
Virologicky Ustav Slovenskej Akademie Vied	5	1.92%	1.54	4.64%

# COUNTRY PROFILE



## SL - Slovenia

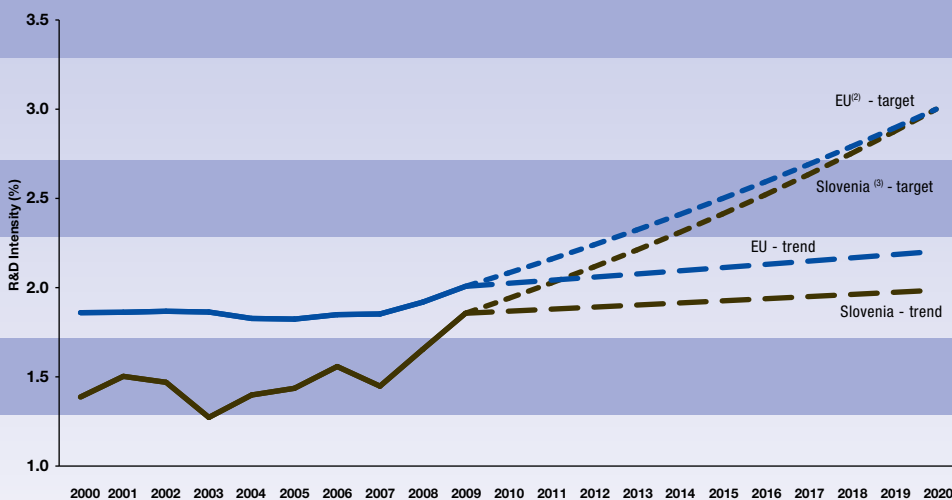
### Progress towards meeting the Europe 2020 R&D intensity target

R&D intensity in Slovenia has fluctuated over the last decade. More precisely, it decreased from 1.50% in 2001 to 1.27% in 2003, increased to 1.56% in 2006 and slightly decreased to 1.45% in 2007, before increasing to 1.86% in 2009. These fluctuations are mirrored by fluctuations in the R&D intensity of both private and public sectors over the same period, with the exception of the decrease in 2007, which is attributed mainly to the large increase in GDP. In 2009 business enterprise expenditure on R&D as a % of GDP was 1.2% and public

sector expenditure was 0.66%, these values being above those in countries with a similar industrial structure and knowledge capacity. In nominal terms in 2009, Business expenditure and government funding on R&D increased in Slovenia, which proves that Slovenia regards R&D as a priority for ensuring better and more economic growth in the longer term. Given the trend scenario presented below, Slovenia would still be slightly below the EU average in 2020, at an R&D intensity level of 1.99%. In this context Slovenia has set an ambitious, albeit realistic R&D intensity target of 3% of GDP for 2020.

### SLOVENIA

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

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 for 2000-2009 in the case of the EU and for 2000-2007 in the case of Slovenia.

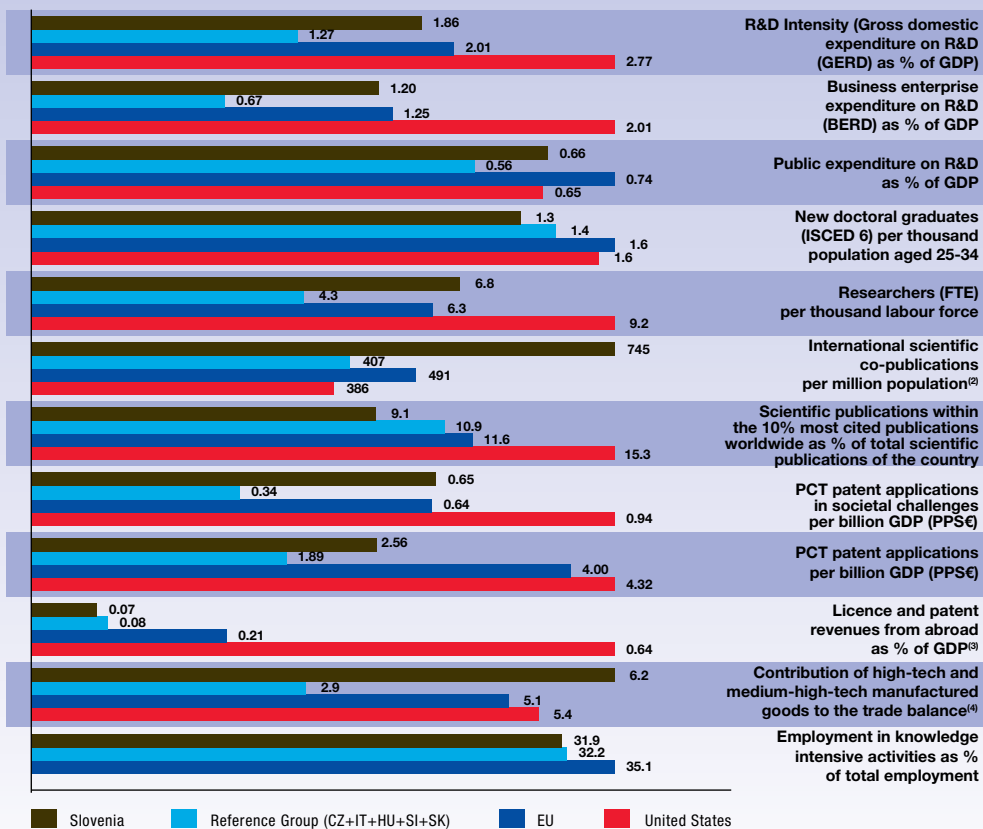
(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.

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

(4) SI: There is a break in series between 2008 and the previous years.

Innovation Union Competitiveness Report 2011

## SLOVENIA

R&D profile, 2009<sup>(1)</sup>

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.

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

Slovenia is making continuous progress in its innovation performance. Based on its average innovation performance, it is one of the moderate innovators with several indicators close or above to the EU average<sup>12</sup>. The country's research and innovation performance shows strengths and weaknesses. In terms of strengths, Slovenia scores higher than the EU average in the share of international scientific co-publications, the contribution of high-tech and medium-high-tech

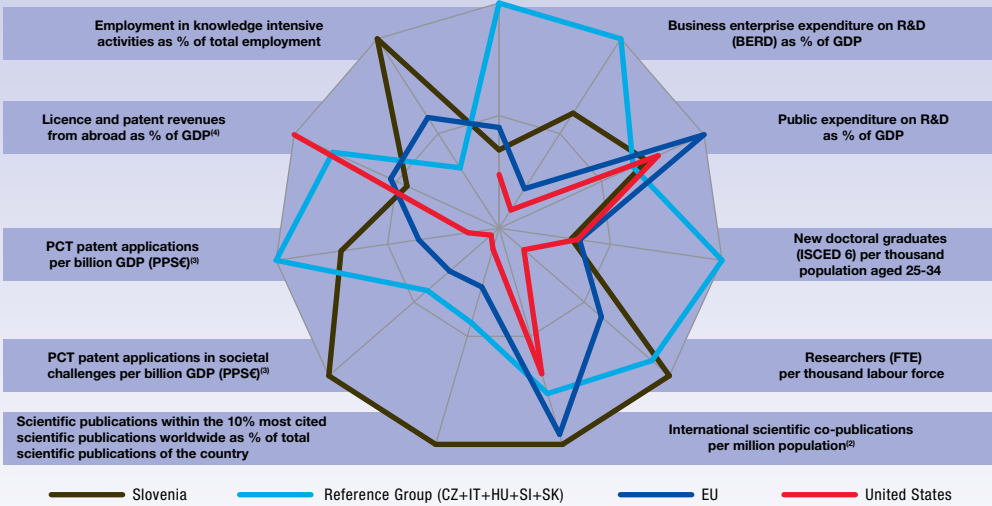
manufactured goods to the trade balance and PCT patent applications in societal challenges. Slovenia is above EU average in the number of researchers in the labour force. Besides, Slovenia is making progress in certain indicators, particularly in the area of employment in knowledge intensive activities. However, there are also some weaknesses in the research and innovation system. Slovenia scores lower than the EU average in scientific quality, new doctoral graduates and in the field of licence and patent revenues from abroad as percentage of GDP. In spite of a good dynamics towards a higher scientific excellence, there is still progress to be made.

<sup>12</sup> Innovation Union Scoreboard 2010, The Innovation Union's performance scoreboard for Research and Innovation, <http://www.proinno-europe.eu/inno-metrics/page/innovation-union-scoreboard-2010>

# SLOVENIA

## Average annual growth (%), 2000-2009<sup>(1)</sup>

R&D Intensity (Gross domestic expenditure on R&D (GERD) as % of GDP)



Source: DG Research and Innovation

Data: Eurostat, OECD, Science Matrix / 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.

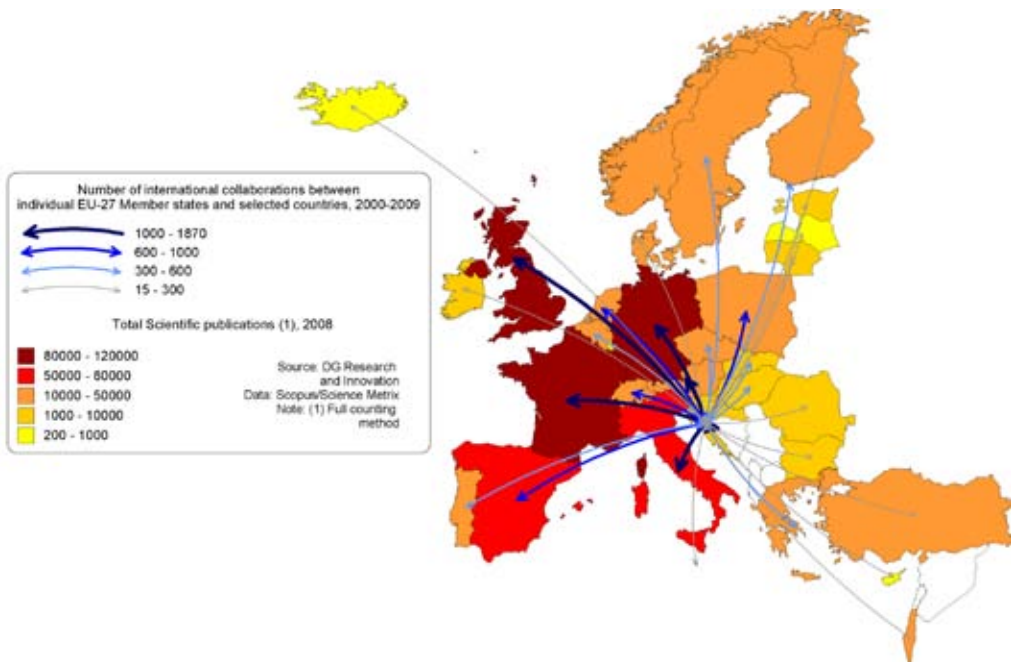
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

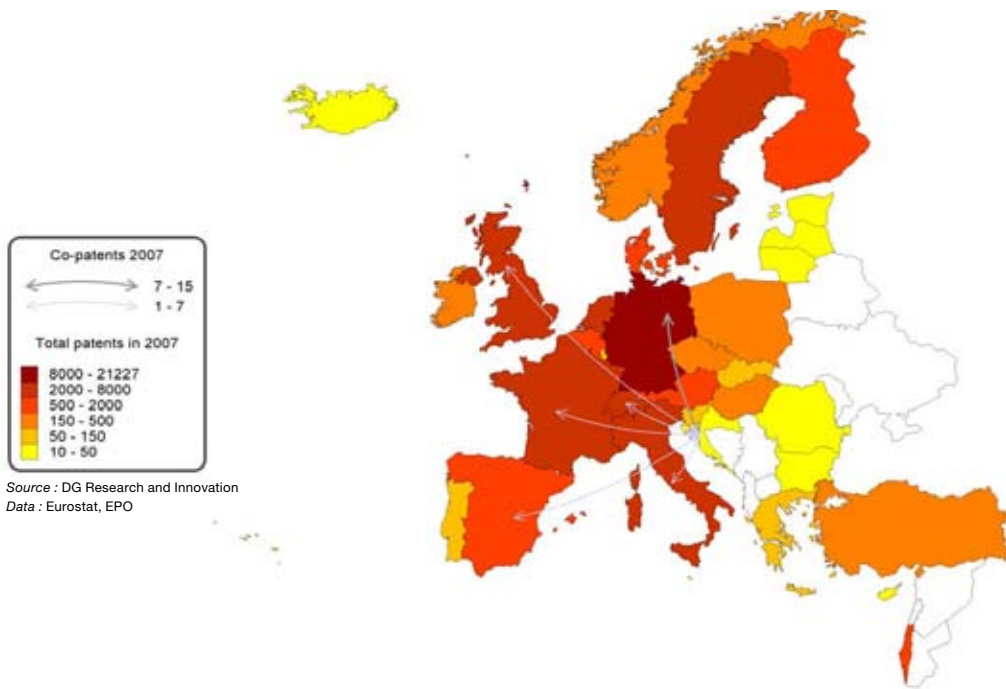
# SLOVENIA

## Co-publications between Slovenia and European Countries in 2000-2009



## SLOVENIA

## Co-invented patent applications between Slovenia and European Countries, 2007



In dynamic terms, relative strengths and increases in the Slovenian science and innovation system, comparative to EU and reference group country average, are in employment in knowledge intensive activities, most cited scientific publications, patenting intensity for societal challenges in which Slovenia consolidates its strong position. Relative lower dynamics are in licence and patents revenues from abroad and new doctoral graduates. It is noticeable the dynamics for improving scientific quality, where Slovenia is behind the EU average in absolute terms.

### Participation in the European Research Area : Scientific and Technological collaborations

The partner countries reflect particular geographical, cultural and/or linguistic ties between certain countries (e.g. Slovenia-Italy).

Slovenia's scientific cooperation (measured by co-publications) with other European countries is particularly intense. It is also broader and more intense than its technological cooperation (measured by co-patents), providing potential for growing internationalisation of the technology development. The main scientific partner countries are Germany, France, Italy, Spain, Austria and the United Kingdom, followed by countries such as Spain, Belgium, Switzerland and Poland.

Co-patenting collaboration of inventors in Slovenia with inventors in other European countries is intensive with France, Italy, the United Kingdom, Spain, Germany and Switzerland.

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 2317 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 3042 applicants from Slovenia (1.14% of EU-27\*) and
- requesting EUR 694.27m of EC contribution (0.79% of EU-27\*)

Among the EU-27\* Slovenia (SI) ranks:

- 19<sup>th</sup> in terms of number of applicants and
- 19<sup>th</sup> in terms of requested EC contribution

### Success rates

- The SI applicant success rate of 16.1% is lower than the EU-27\* applicant success rate of 21.6%.
- The SI EC financial contribution success rate of 11.2% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 406 proposals were retained for funding (17.5%)
- involving 491 (16.1%) successful applicants from Slovenia and
- requesting EUR 77.93m (11.2%) of EC financial contribution

Among the EU-27\*, Slovenia (SI) ranks:

- 26<sup>th</sup> in terms of applicants success rate and
- 23<sup>rd</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Slovenia (SI) participates in

- 366 signed grant agreements
- involving 5201 participants of which 443 (8.52%) are from Slovenia
- benefiting from a total of EUR 1 328.06m of EC financial contribution of which EUR 73.30m (5.52%) is dedicated to participants from Slovenia.

Among the EU-27\* in all FP7 signed grant agreements, Slovenia (SI) ranks:

- 19<sup>th</sup> in number of participations and
- 18<sup>th</sup> in budget share

### SME performance and participation

- The SI SME applicant success rate of 13.51% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The SI SME EC financial contribution success rate of 11.70% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 140 SI SME applicants requesting EUR 213.39m
- 154 (13.51%) successful SMEs requesting EUR 24.98m (11.70%)

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

- 92 SI SME grant holders, i.e., 20.77% of total SI participation
- EUR 16.71m, i.e., 22.80% of total SI budget share

### Top 3 collaborative links with

- DE - Germany (570)
- IT - Italy (443)
- UK - United Kingdom (426)

**Nr. of Researchers as% of population	N/A	0.40%	Success rate FP7 EC contribution	11.2%	20.7%
Rank in EU-27*			Nr. of FP7 grant holders (% EU-27*)	443	
Innovation scoreboard (2008)	- 14 <sup>th</sup>		(0.86%)	51 279	
- Below EU-27 average			EC contribution to FP7 grant holders in EUR million (% EU-27*)	73.30	
- Innovation Follower			(0.44%)	16 578.15	
Nr. of FP7 applicants (% EU-27*)	3 042		Nr. of FP7 coordinators (% of grant holders)	23	
(1.14%)	266 507		(5.19%)	9 383	
Req. EC contribution by FP7 applicants in EUR million (% EU-27*)	694.27		(18.30%)		
(0.79%)	88 295		Nr. of FP7 SME grant holders (% of grant holders)	92	
Nr. of successful FP7 applicants (% EU-27*)	491		(20.77%)	8 845	
(0.83%)	59 199		(17.25%)		
Req. EC contribution by successful FP7 applicants in EUR million (% EU-27*)	77.93		EC contribution to FP7 SME grant holders in EUR million (% of grant holders)	16.71	
(0.43%)	18 262.02		(22.80%)	2 207.73	
Success rate FP7 applicants	16.1%	21.6%	(13.32%)		

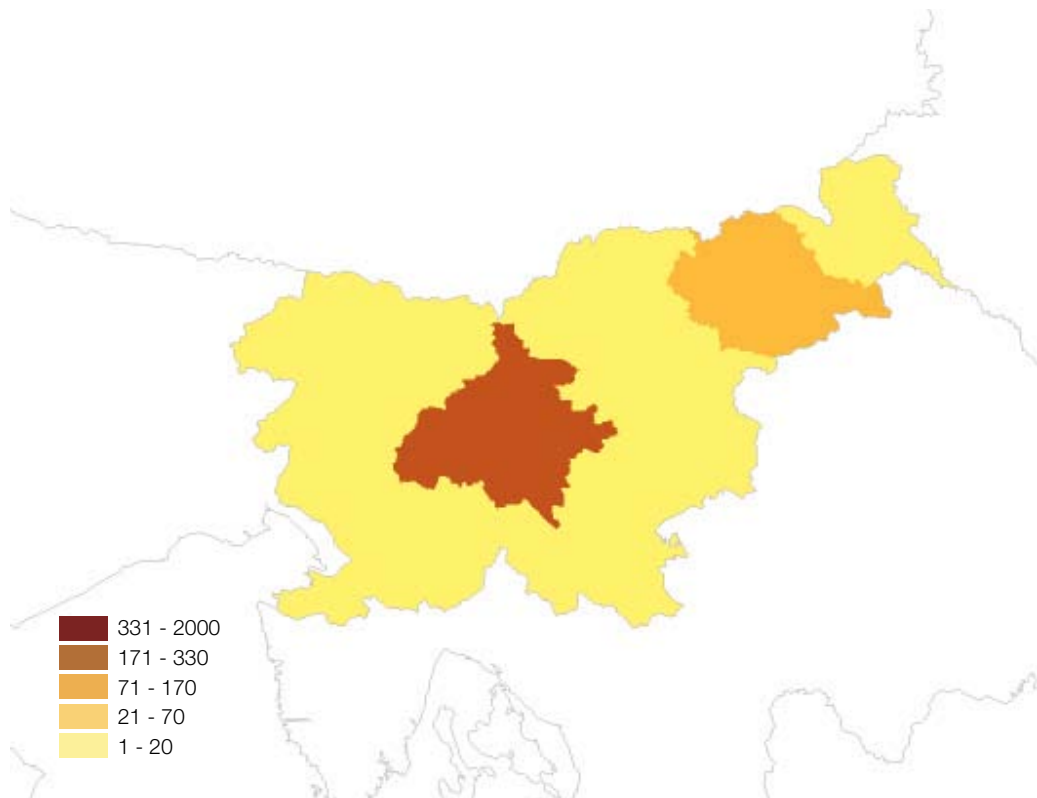




TABLE 1

**SI - Slovenia - 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	561	159.67	60	10.70%	17.13	10.73%
Research for the benefit of SMEs	366	51.06	44	12.02%	5.94	11.63%
Socio-economic sciences and Humanities	292	50.89	18	6.16%	1.70	3.35%
Marie-Curie Actions	247	n/a	55	22.27%	n/a	n/a
Environment (including Climate Change)	241	43.47	55	22.82%	9.99	22.99%
Health	210	57.19	34	16.19%	5.64	9.86%

TABLE 2

**SI - Slovenia - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all SI grant holders	EC contribution (EUR million)	% of total EC contribution to SI
Information and Communication Technologies	63	14.22%	16.93	23.10%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	38	8.58%	8.56	11.68%
Transport (including Aeronautics)	33	7.45%	7.49	10.22%
Marie-Curie Actions	47	10.61%	7.34	10.01%
Environment (including Climate Change)	45	10.16%	7.26	9.91%
Research for the benefit of SMEs	42	9.48%	5.42	7.40%

Notes : Report generated on: 2011/03/28.10:50 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**SI - Slovenia - 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	994	204.27	146	14.69%	19.45	9.52%	127	19.59	26.72%
PRC	788	155.07	94	11.93%	18.45	11.90%	103	19.32	26.36%
REC	689	152.71	147	21.34%	26.33	17.24%	133	26.60	36.29%
OTH	258	42.52	39	15.12%	6.57	15.45%	13	0.99	1.34%
PUB	212	29.33	65	30.66%	7.13	24.32%	67	6.81	9.28%
SME	1140	213.39	154	13.51%	24.98	11.70%	92	16.71	22.80%

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

TABLE 4

**SI - Slovenia - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

SI - Slovenia region	Number of grant holders	% of all SI - Slovenia grant holders	EC contribution (M euro)	% of total EC contribution to SI
Osrednjeslovenska (SI021)	357	80.59%	61.37	83.72%
Podravska (SI012)	33	7.45%	4.71	6.42%
Savinjska (SI014)	13	2.93%	2.16	2.94%
Obalno-kraska (SI024)	10	2.26%	0.79	1.07%
Goriska (SI023)	8	1.81%	1.53	2.08%

TABLE 5

**SI - Slovenia - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all SI grant holders	EC contribution (M euro)	% of total EC contribution to SI grant holders
Institut Jozef Stefan (JSI)	72	16.25%	17.76	24.23%
Univerza v Ljubljani (UL)	89	20.09%	15.08	20.57%
Univerza v Mariboru (UM)	17	3.84%	2.33	3.18%
Xlab Razvoj Programske Opreme in Svetovanje D.O.O.	6	1.35%	2.18	2.97%
Kemijski Institut (KI)	10	2.26%	2.00	2.73%

# COUNTRY PROFILE



## ES - Spain

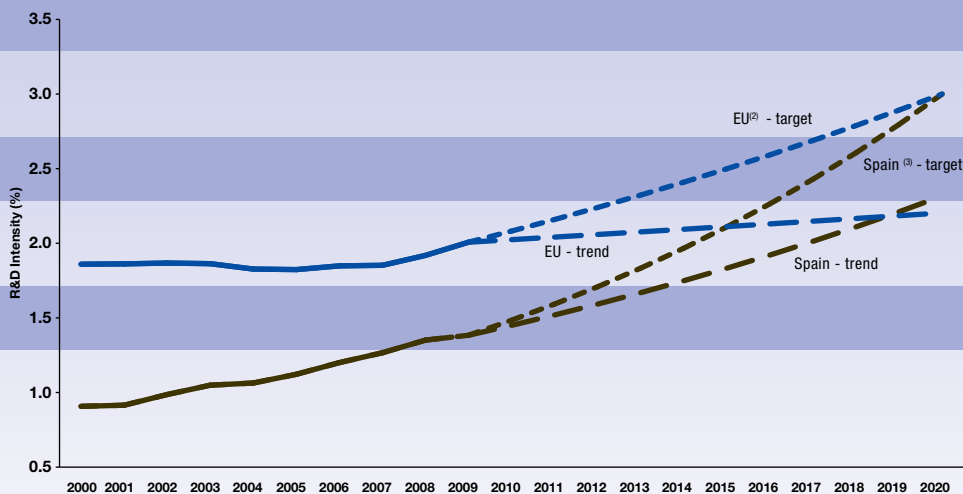
### Progress towards meeting the Europe 2020 R&D intensity target

Spain's R&D intensity has grown from 0.91% in 2000 to 1.38% in 2009, which is one of the highest increases of all EU Member States. This positive trend is due to an increase of both government and business enterprise funding to R&D. Spanish GBAORD (Government Budget Appropriations or Outlays on R&D) has increased steadily with an average annual growth rate of 14.1% between 2004 and 2009. Public funding to research and innovation decreased slightly in the 2010 national budget, but in 2011 the country protected R&I investment as compared to the rest of the budgetary expenses. For 2020, Spain has set a national R&D intensity target of

3%, which is achievable but would require an increase of the average annual growth rate, mainly of business R&D investment. Given the structure of the Spanish economy, reforms for a structural change would be needed towards a more knowledge-intensive economy. Compared to other countries, Spain has scope to increase both the R&D intensity in existing high-tech and medium-high-tech sectors (moving closer to the technology frontier) and to increase knowledge intensity in more traditional sectors of the economy. Efforts already made in this direction are reflected in some figures, such as the number of employees in the high and medium-high technology manufacturing sector, where Spain is the sixth country in the EU.

### SPAIN

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

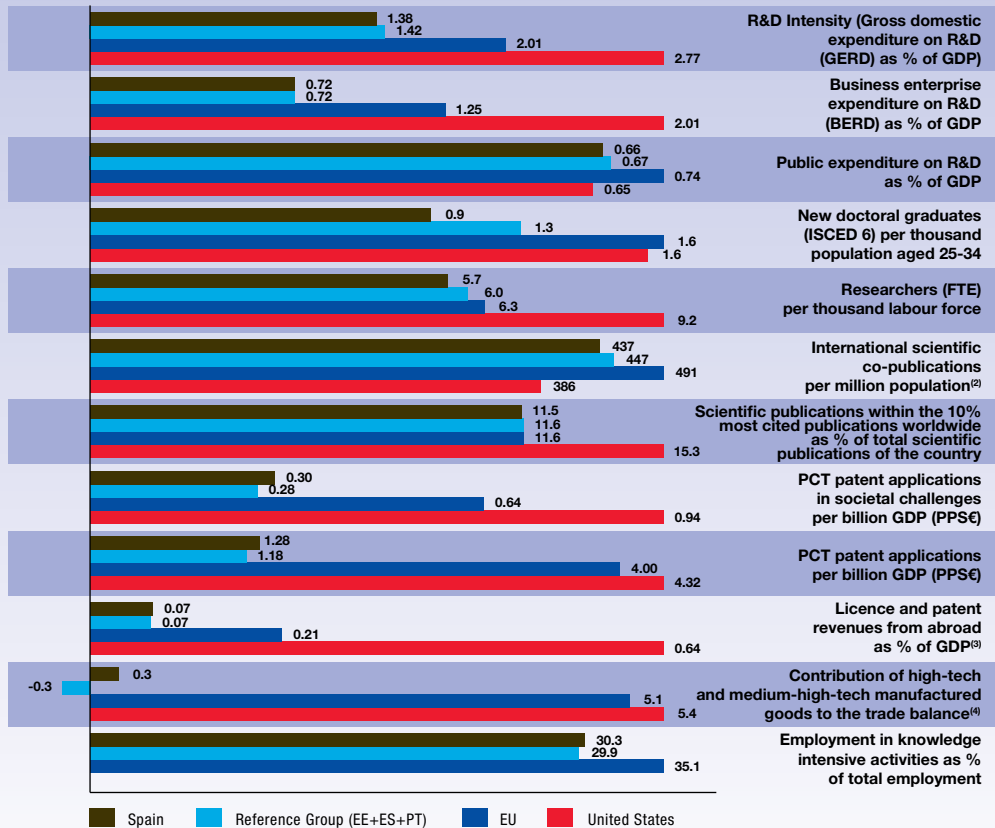
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity 2000-2009.

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

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

Innovation Union Competitiveness Report 2011

## SPAIN

R&D profile, 2009<sup>(1)</sup>

Source: DG Research and Innovation

Data: Eurostat, OECD, Science Matrix / 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.

Innovation Union Competitiveness Report 2011

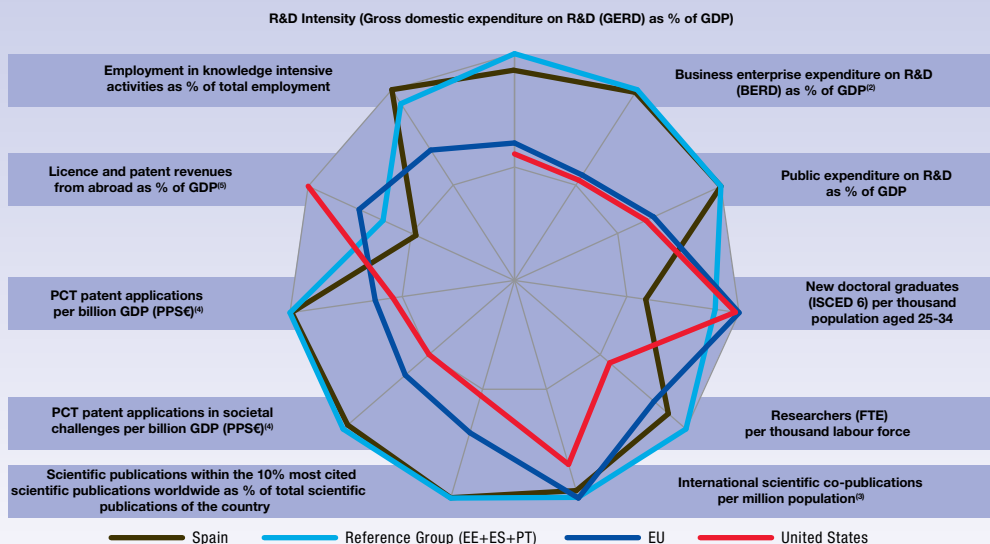
## Research and Innovation Performance

The main challenge in the Spanish R&I system is to increase business expenditure on R&D, which in 2009 only amounted to 0.72% of GDP, under the EU average of 1.25%, and represented 52% of GERD, well below the figure of 65-70% of the top performing countries in Europe and the world (Germany, the Nordic countries, Switzerland, Japan and the United States). However, since 2000, business enterprises have increased their expenditure on R&D, which has grown as a share of GDP by almost 45% over the period 2000-2009. Also venture capital intensity has risen substantially to 0.13% of GDP in 2008. The still low level of business expenditure on R&D has a negative impact on Spain's technology and innovation performance, and its capacity to produce world competitive technologies and new knowledge-intensive products.

Spain is a dynamic country with a growing research and innovation system. Over the period 2000-2008, Spain increased not only its domestic expenditure on R&D but also its international scientific cooperation, the quality of the scientific production, its technological development and the knowledge-intensity of its economy. Although the growth in new doctoral graduates is lower than in the EU, Spain has one of the world's highest rates in science and engineering degrees as a percentage of all new degrees. Moreover, the number of researchers as % of total employment has been constantly growing since 2000, at an average annual growth rate of 3.60%, more than the EU average. Regarding licence and patent revenues from abroad, Spain has grown more than the EU. However, the share of doctoral degrees in the active population is still far below the EU average, and the unemployment rate of researchers is one of the highest in the EU.

**SPAIN**

**Average annual growth (%), 2000-2009<sup>(1)</sup>**



Source: DG Research and Innovation

Data: Eurostat, OECD, Science Matrix / 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) Average annual growth for Spain refers to 2002-2007 - there are breaks in series between 2002 and the previous years and 2008 and the previous years.

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

(4) Average annual growth refers to real growth.

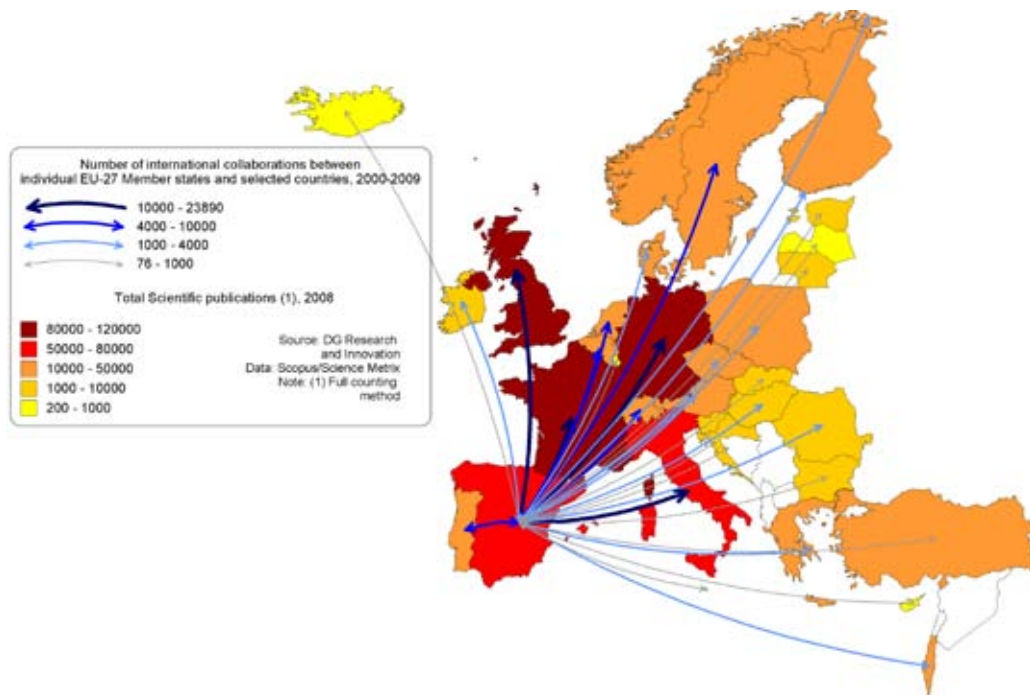
(5) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

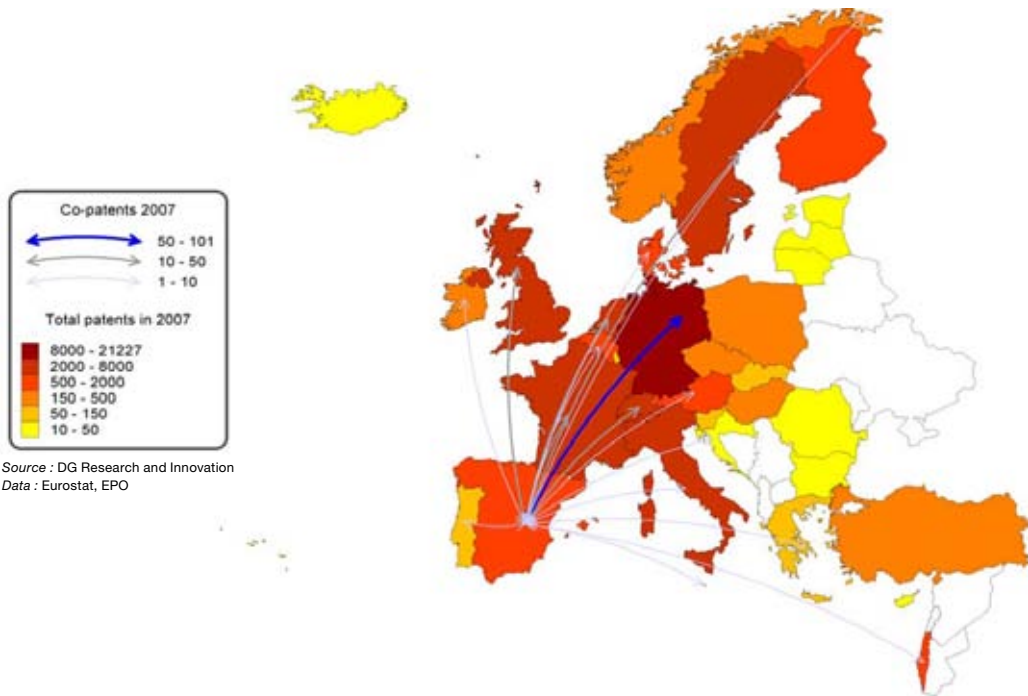
**SPAIN**

**Co-publications between Spain and European Countries in 2000-2009**



## SPAIN

## Co-invented patent applications between Spain and European Countries, 2007



### Participation in the European Research Area : Scientific and Technological collaborations

Internationalisation and connection to the major European research and innovation networks remain a major challenge for the Spanish R&I system. Spain has increased its international cooperation (as measured by co-publications and co-patents) and is building up cooperation with the major research-intensive countries in Europe - although more in scientific than in technological cooperation. However, despite progress, Spanish researchers and firms still hold a marginal position in the major S&T cooperation networks in Europe, as illustrated in the overall cooperation maps presented in part II of this report. Moreover, in the EU Research and Development Framework Programme, Spanish researchers have relatively less collaborative links with colleagues from other countries per thousand researchers. Signs of change are the better international connectivity of upcoming generations, as visible in networking maps of students for Erasmus and Marie Curie grant holders. In 2009, Spain was the 4<sup>th</sup> country concerning the number of Marie Curie Grant Agreements. Spain also has an important success rate in the grants of the European Research Council, with 13 Advanced Grants and 23 Starting Grants in 2010. The

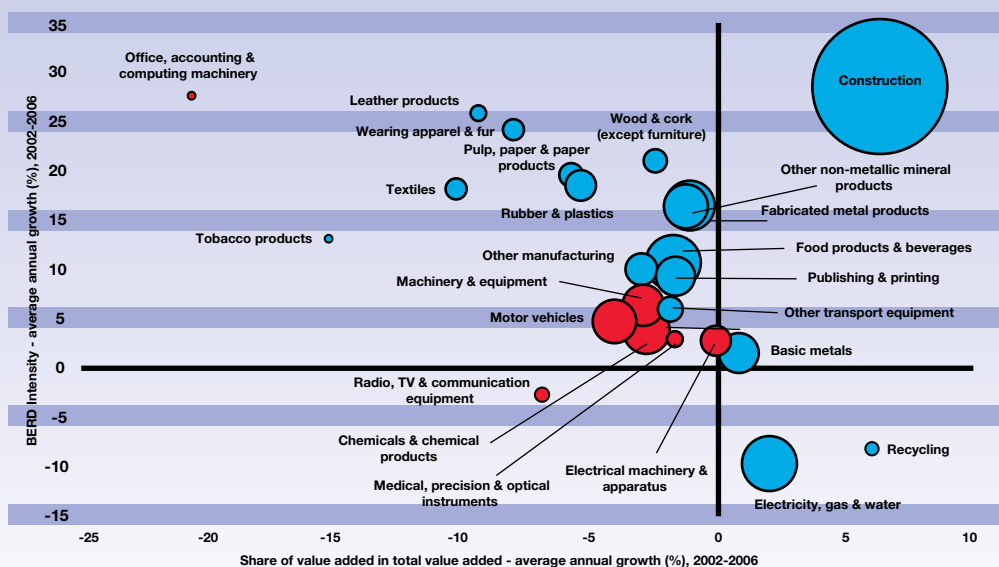
report shows a potential for Spain to attract more top researchers, if research institutions would further improve their international excellence.

### Structural change towards more knowledge-intensive economy

The figure below illustrates two trends in the Spanish economy: a) the economic expansion over the period 2002-2006 was mainly related to low-tech sectors or large consumer goods and services; b) there has been a general increase of research and innovation expenditure in most sectors of the Spanish economy, and in particular in the low-tech and traditional sectors. However, this knowledge injection has not been directly translated into an increasing share of the value added in the overall economy. Despite the harsh effects of the financial and economic crisis on the Spanish economy (a severe rise of unemployment from 8.3% in 2007 to 20.7% at the end of 2010), there is an upgrading of knowledge in traditional sectors, which still dominate the Spanish economy, matching Spain's increasingly skilled human resources. The increase of R&D expenditures is also visible in the high- and medium-high-tech sectors (red in the graph), and if this trend continues (the overall Spanish R&D investments increased on average by 8.4% over

## SPAIN

## Share of value added versus BERD Intensity - Average annual growth, 2002-2006



Source: DG Research and Innovation

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) 'Coke, refined petroleum, nuclear fuel' is not visible on the graph.

Innovation Union Competitiveness Report 2011

the period 2000-2008) positive economic effects may be expected in the medium-term. To this aim, the new Law for Science, Technology and Innovation establishes a general framework to strengthen and coordinate research contributing to sustainable development and social welfare. Also, the State Innovation Strategy, approved in 2010, is developing several measures to increase private R&D investment, the number of innovative enterprises, and employment in the high- and medium-tech sectors.

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 15512 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 25257 applicants from Spain (9.48% of EU-27\*) and
- requesting EUR 7463.68m of EC contribution (8.45% of EU-27\*)

Among the EU-27\* Spain (ES) ranks:

- 4<sup>th</sup> in terms of number of applicants and
- 5<sup>th</sup> in terms of requested EC contribution

### Success rates

- The ES applicant success rate of 20.3% is lower than the EU-27\* applicant success rate of 21.6%.
- The ES EC financial contribution success rate of 18.0% is lower than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 3 152 proposals were retained for funding (20.3%)
- involving 5 118 (20.3%) successful applicants from Spain and
- requesting EUR 1 342.32m (18.0%) of EC financial contribution

Among the EU-27\*, Spain (ES) ranks:

- 15<sup>th</sup> in terms of applicants success rate and
- 11<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Spain (ES) participates in

- 2 646 signed grant agreements
- involving 28 295 participants of which 4 282 (15.13%) are from Spain
- benefiting from a total of EUR 7 908.95m of EC financial contribution of which EUR 1 198.25m

(15.15%) is dedicated to participants from Spain.

Among the EU-27\* in all FP7 signed grant agreements, Spain (ES) ranks:

- 5<sup>th</sup> in number of participations and
- 6<sup>th</sup> in budget share

**SME performance and participation**

- The ES SME applicant success rate of 17.65% is lower than the EU-27\* SME applicant success rate of 19.33%.
- The ES SME EC financial contribution success rate of 16.47% is lower than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 7 987 ES SME applicants requesting EUR 1 965.05m
- 1 410 (17.65%) successful SMEs requesting EUR 323.66m (16.47%)

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

- 854 ES SME grant holders, i.e., 19.94% of total ES participation
- EUR 184.07m, i.e., 15.36% of total ES budget share

**Top 3 collaborative links with**

- DE - Germany (3 487)
- UK - United Kingdom (2 923)
- FR - France (2 654)

\*\*Nr. of Researchers as% of population N/A 0.40%  
 Rank in EU-27\*  
 Innovation scoreboard (2008) - 17<sup>th</sup>  
 - Below EU-27 average  
 - Moderate Innovator

Nr. of FP7 applicants (% EU-27*)	25 257	
(9.48%)	266 507	
Req. EC contribution by FP7 applicants in EUR million	7 463.68	
(% EU-27*)	88 295	
(8.45%)		
Nr. of successful FP7 applicants (% EU-27*)	5 118	
(8.65%)	59 199	
Req. EC contribution by successful FP7 applicants in EUR million	1 342.32	
(% EU-27*)	18 262.02	
(7.35%)		
Success rate FP7 applicants	20.3%	21.6%
Success rate		
FP7 EC contribution	18.0%	20.7%
Nr. of FP7 grant holders (% EU-27*)	4 282	
(8.35%)	51 279	
EC contribution to FP7 grant holders in EUR million	1 198.25	
(% EU-27*)	16 578.15	
(7.23%)		
Nr. of FP7 coordinators (% of grant holders)	901	
(21.04%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	854	
(19.94%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million	184.07	
(% of grant holders)	2 207.73	
(15.36%)		
(13.32%)		

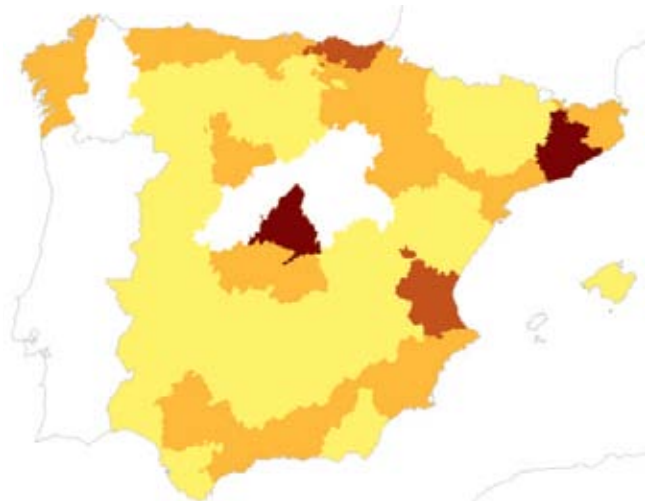
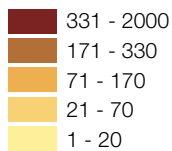




TABLE 1

**ES - Spain - 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	5838	2115.60	831	14.23%	309.58	14.63%
Research for the benefit of SMEs	3731	490.78	706	18.92%	91.29	18.60%
Marie-Curie Actions	3263	n/a	811	24.85%	n/a	n/a
Transport (including Aeronautics)	1696	447.85	389	22.94%	93.01	20.77%
Health	1566	662.87	332	21.20%	130.45	19.68%
Environment (including Climate Change)	1534	397.77	262	17.08%	59.50	14.96%

TABLE 2

**ES - Spain - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all ES grant holders	EC contribution (EUR million)	% of total EC contribution to ES
Information and Communication Technologies	816	19.06%	263.17	21.96%
ERC	108	2.52%	145.71	12.16%
Marie-Curie Actions	604	14.11%	122.24	10.20%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	372	8.69%	120.30	10.04%
Health	308	7.19%	106.92	8.92%
Energy	163	3.81%	80.45	6.71%

Notes : Report generated on: 2011/03/25.04:38 PM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**ES - Spain - 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
PRC	7 651	2 104.87	1 512	19.76%	445.80	21.18%	1 286	340.63	28.43%
HES	7 340	1 798.97	1 293	17.62%	254.36	14.14%	1 122	317.98	26.54%
REC	6 479	1 604.00	1 564	24.14%	367.79	22.93%	1 498	466.37	38.92%
OTH	1 631	350.79	320	19.62%	58.64	16.72%	123	20.07	1.67%
PUB	1 146	266.25	320	27.92%	65.80	24.71%	253	53.21	4.44%
SME	7 987	1 965.05	1 410	17.65%	323.66	16.47%	854	184.07	15.36%

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

TABLE 4

**ES - Spain - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

ES - Spain region	Number of grant holders	% of all ES - Spain grant holders	EC contribution (M euro)	% of total EC contribution to ES
Madrid (ES300)	1 464	34.19%	427.00	35.64%
Barcelona (ES511)	974	22.75%	311.35	25.98%
Vizcaya (ES213)	306	7.15%	89.07	7.43%
Valencia / Val ncia (ES523)	246	5.74%	60.07	5.01%
Guip zcoa (ES212)	162	3.78%	44.99	3.75%

TABLE 5

**ES - Spain - Most active organisations in terms of EC contribution  
granted to the FP7 research projects**

Legal Name	Number of Participations	% of all ES grant holders	EC contribution (M euro)	% of total EC contribution to ES grant holders
Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC)	331	7.73%	95.05	7.93%
Fundacion Tecnalía Research & Innovation (Tecnalía)	134	3.13%	39.29	3.28%
Universidad Politecnica De Madrid (UPM)	119	2.78%	33.45	2.79%
Telefonica Investigacion y Desarrollo sa (TID)	74	1.73%	31.52	2.63%
Universitat Pompeu Fabra (UPF)	60	1.40%	29.04	2.42%

# COUNTRY PROFILE



## SE - Sweden

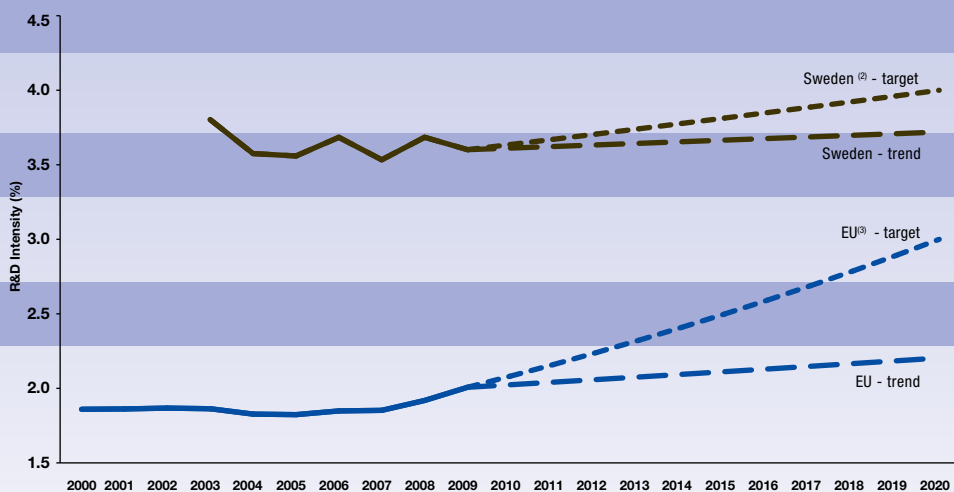
### Progress towards meeting the Europe 2020 R&D intensity target

The most recent figures for Sweden on R&D intensity are 3.6% (1.06% public + 2.54% private). This is still below its probable<sup>13</sup> peak level of 2001 (4.18% of GDP). The downward variation is mainly due to changes in private sector R&D investments. In view of 2020, Sweden is considering a preliminary national R&D target of 4% of GDP. Given the trend scenario presented below, a 4%

R&D intensity target is realistic given that both public and private R&D investments are increasing. In its most recent research bill, for the period 2009–2012, the government substantially increased its R&D expenditures, despite the financial crisis at the time. In this research bill, public R&D expenditures identified 'strategic areas' for research and innovation in Sweden in the coming years, in particular medicine, technology and climate.

### SWEDEN

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

Innovation Union Competitiveness Report 2011

Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity for 2000-2009 in the case of the EU and for 2005-2009 in the case of Sweden.

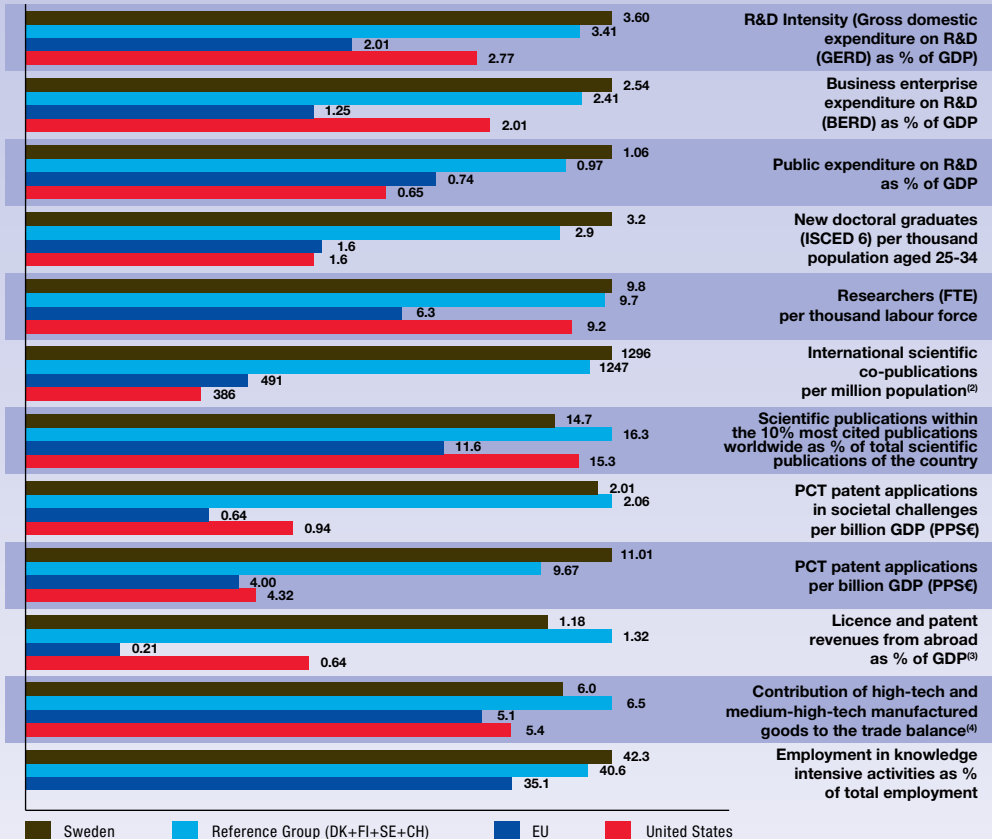
(2) SE: This projection is based on a tentative R&D Intensity target of 4.0% for 2020.

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

(4) SE: There is a break in series between 2005 and the previous years.

<sup>13</sup> There is a break in series of data over the period 2000–2009.

## SWEDEN

R&D profile, 2009<sup>(1)</sup>

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) (i) The EU value refers to the median rather than to the average; (ii) CH is not included in the Reference Group.

(3) EU refers to extra-EU.

(4) (i) EU does not include BG, CY, LV, LT, MT, RO; (ii) EU refers to extra-EU; (iii) CH is not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

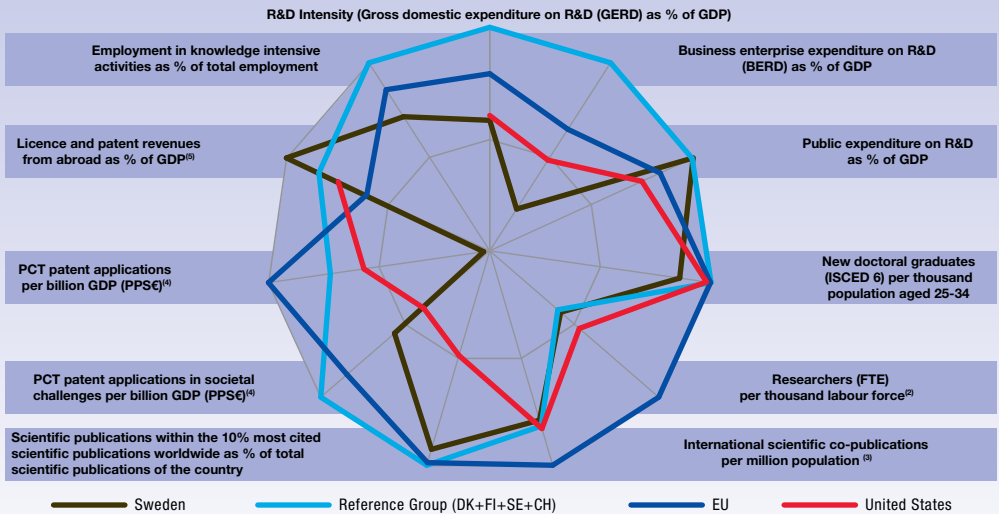
The Swedish research and innovation system is characterised by a dominating private sector combined with a public sector with a very high and expanding research and education investment rate. The leading performer of research in Sweden is the business enterprise sector (that accounted for around 74% of the R&D expenditure in the last five years). The second main performer is the higher education sector, with the universities as the main actors (around 20% of the total R&D expenditure). Sweden is among the most knowledge-intensive countries in the world, with over 42% of the work force employed in knowledge-intensive activities. It has among the highest R&D intensities, high shares of researchers and skilled human resources in the economy, low unemployment rates for researchers and high levels of new academic-oriented tertiary

education degrees. These efforts have resulted in very high and increasing quality of its scientific production (a ratio of 14% of the Swedish scientific publications are among the 10% most cited in the world) - although here Sweden is below the scientific quality of its Nordic neighbours, Switzerland and the United States. Sweden has also achieved a high number of patent applications - as well as high-tech patent applications - to the European Patent Office per billion GDP.

As shown in the report, the Swedish national innovation framework conditions show clear strengths in several areas: a stable macroeconomic environment, a highly trained workforce, a handful of R&D-intensive multinational corporations, one of the highest levels of venture capital availability in the world (both for early stage and expansion capital), and a high rate

# SWEDEN

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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) Average annual growth for Sweden refers to 2007-2008 - there is a break in series between 2007 and the previous years.

(3) (i) The EU value refers to the median rather than to the average; (ii) CH is not included in the Reference Group.

(4) Average annual growth refers to real growth.

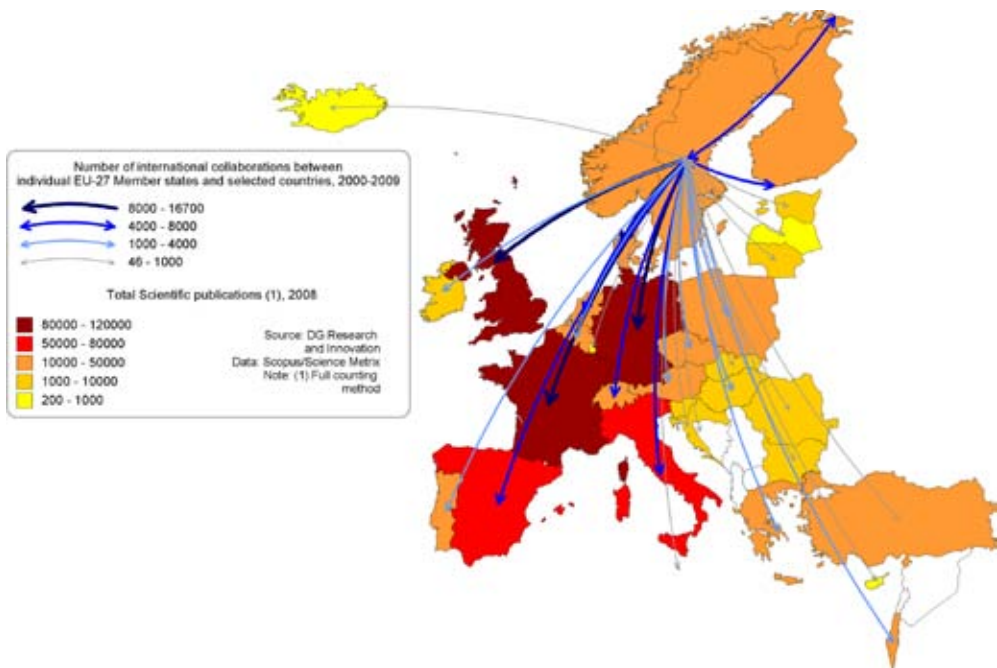
(5) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

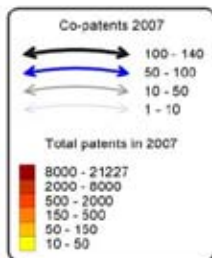
# SWEDEN

## Co-publications between Sweden and European Countries in 2000-2009

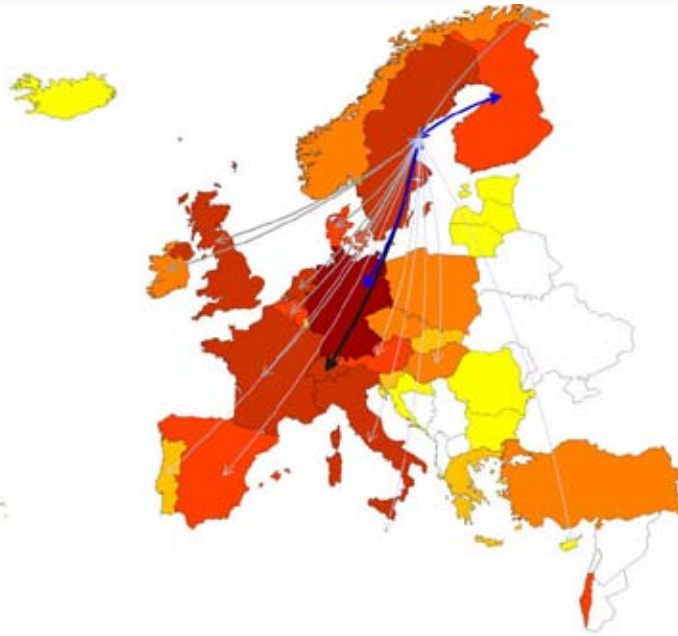


## SWEDEN

## Co-invented patent applications between Sweden and European Countries, 2007



Source : DG Research and Innovation  
Data : Eurostat, EPO



of broadband access by firms. These strengths are reinforced by Sweden's integration into global markets.

The main vulnerability is business-sector knowledge intensity and dynamics, given its overall importance in the Swedish R&I system. Sweden benefits from expanding knowledge-based firm dynamics, with a high R&D investment rate and new-to-the-market products by SMEs. However, the firm-knowledge dynamics are less intensive than could be expected from the high level of S&T production and favourable framework conditions. Similar countries have higher private R&D investment growth and more dynamic patenting activity than in Sweden, both for PCT patents and for SME patenting. The overall birth rate of new firms in Sweden is also low compared to other European countries. More generally, since 2000 the patent application rate has grown faster in Denmark, Finland, and the United States than in Sweden.

### Participation in the European Research Area : Scientific and Technological collaborations

Sweden is a small and open country. The efficiency of the research system is being strengthened by an opening up to and integration into the European research system. In Sweden, openness towards other European organisations has increased, and its integration in

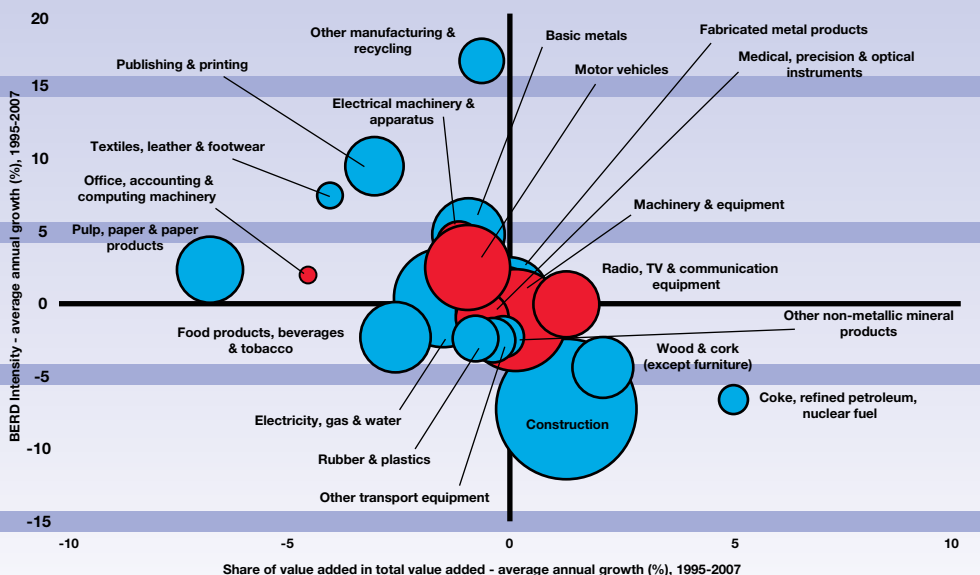
European scientific networks is improving. The report illustrates several aspects of scientific and technological cooperation. Europe-wide maps in part II illustrate the manner in which Sweden is connected to the main nodes of the networks, which are located in the dominant research countries of Western and Central Europe. As also seen below, the strongest links of Swedish science and technology cooperation are with neighbouring countries, as well as Germany, France and the United Kingdom, but intensive cooperation is also visible with researchers from Southern and Central European countries. More generally, Swedish researchers have a high integration of international scientific knowledge flows, visible in international co-publications including cooperation with the United States and Asia. Given that Sweden is among Europe's scientific and technological leaders, it can be expected that the country is well-connected to international knowledge flows. In this sense, it is noticeable that Sweden is still not in the centre node of the intra-European science and technology networks, although factors of critical mass do play a role.

### Structural change towards more knowledge-intensive economy

The slightly lower dynamics of knowledge-intensive firms has contributed to a lack of major structural change in the Swedish knowledge economy over the period 1995-2007. Many of the large research-intensive

## SWEDEN

## Share of value added versus BERD Intensity - Average annual growth, 1995-2007



Source: DG Research and Innovation

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) 'Chemicals and chemical products' is not visible on the graph.

Innovation Union Competitiveness Report 2011

firms are close to the world technology frontier in their domains and, therefore, have small margins to increase their R&D intensity relative to international competitors. However, as shown in the figure below, the Swedish manufacturing sector is showing signs of diversification, with knowledge and R&D being injected into and invested in medium- and low-tech sectors, both more traditional (such as textiles or basic metals) and newer sectors (in particular recycling and publishing–printing).

The Swedish economy has not shifted towards a larger weight of knowledge-intensive manufacturing sectors in the economy. This stable sectoral composition of Sweden shows that the increases in R&D intensity inside sectors have not been enough to compensate some decreases. Sweden needs the emergence of new sectors.

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 7 027 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 9 551 applicants from Sweden (3.58% of EU-27\*) and
- requesting EUR 3 688.27m of EC contribution (4.18% of EU-27\*)

Among the EU-27\* Sweden (SE) ranks:

- 9<sup>th</sup> in terms of number of applicants and
- 8<sup>th</sup> in terms of requested EC contribution

### Success rates

- The SE applicant success rate of 24.9% is higher than the EU-27\* applicant success rate of 21.6%.
- The SE EC financial contribution success rate of 21.9% is higher than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 1 678 proposals were retained for funding (23.9%)
- involving 2 380 (24.9%) successful applicants from Sweden and
- requesting EUR 806.37m (21.9%) of EC financial contribution

Among the EU-27\*, Sweden (SE) ranks:

- 4<sup>th</sup> in terms of applicants success rate and
- 7<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Sweden (SE) participates in

- 1 458 signed grant agreements
- involving 18 247 participants of which 2 063

- (11.31%) are from Sweden
- benefiting from a total of EUR 5453.14m of EC financial contribution of which EUR 746.01m (13.68%) is dedicated to participants from Sweden.

Among the EU-27\* in all FP7 signed grant agreements, Sweden (SE) ranks:

- 8<sup>th</sup> in number of participations and
- 7<sup>th</sup> in budget share

**SME performance and participation**

- The SE SME applicant success rate of 22.20% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The SE SME EC financial contribution success rate of 19.91% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 1 851 SE SME applicants requesting EUR 522.75m
- 411 (22.20%) successful SMEs requesting EUR 104.07m (19.91%)

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

- 268 SE SME grant holders, i.e., 12.99% of total SE participation
- EUR 75.90m, i.e., 10.17% of total SE budget share

**Top 3 collaborative links with**

- DE - Germany (2564)
- UK - United Kingdom (1954)
- FR - France (1 694)

\*\*Nr. of Researchers as% of population N/A 0.40%  
 Rank in EU-27\*  
 Innovation scoreboard (2008) - 1<sup>st</sup>  
 - Above EU-27 average  
 - Innovation Leader  
 Nr. of FP7 applicants

(% EU-27*)	9551	
(3.58%)	266507	
Req. EC contribution by FP7 applicants in EUR million		
(% EU-27*)	3688.27	
(4.18%)	88295	
Nr. of successful FP7 applicants		
(% EU-27*)	2380	
(4.02%)	59199	
Req. EC contribution by successful FP7 applicants in EUR million		
(% EU-27*)	806.37	
(4.42%)	18262.02	
Success rate FP7 applicants	24.9%	21.6%
Success rate		
FP7 EC contribution	21.9%	20.7%
Nr. of FP7 grant holders		
(% EU-27*)	2063	
(4.02%)	51279	
EC contribution to FP7 grant holders in EUR million		
(% EU-27*)	746.01	
(4.50%)	16578.15	
Nr. of FP7 coordinators		
(% of grant holders)	340	
(16.48%)	9383	
(18.30%)		
Nr. of FP7 SME grant holders		
(% of grant holders)	268	
(12.99%)	8845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	75.90	
(10.17%)	2207.73	
(13.32%)		

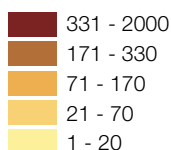




TABLE 1

## SE - Sweden - 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	1992	848.89	384	19.28%	153.71	18.11%
Marie-Curie Actions	1324	n/a	305	23.04%	n/a	n/a
Health	1077	575.44	295	27.39%	140.06	24.34%
Transport (including Aeronautics)	804	250.86	273	33.96%	80.08	31.92%
Environment (including Climate Change)	637	196.11	135	21.19%	34.65	17.67%
Research for the benefit of SMEs	590	82.92	137	23.22%	17.81	21.47%

TABLE 2

## SE - Sweden - Most active FP7 research priority areas by EC contribution granted to the research projects

FP7 priority area	Number of grant holders	% of all SE grant holders	EC contribution (EUR million)	% of total EC contribution to SE
Information and Communication Technologies	380	18.42%	144.95	19.43%
Health	275	13.33%	134.25	18.00%
ERC	69	3.34%	116.31	15.59%
Marie-Curie Actions	235	11.39%	64.87	8.70%
Transport (including Aeronautics)	218	10.57%	59.55	7.98%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	163	7.90%	54.81	7.35%

Notes : Report generated on: 2011/03/28.10:49 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**SE - Sweden - 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	4951	1 635.88	1 167	23.57%	360.22	22.02%	1 122	483.59	64.82%
PRC	2 174	641.77	555	25.53%	163.97	25.55%	513	145.47	19.50%
REC	1 138	413.87	319	28.03%	106.30	25.68%	270	89.64	12.02%
PUB	461	112.65	181	39.26%	26.29	23.34%	134	24.38	3.27%
OTH	357	88.33	86	24.09%	17.69	20.03%	24	2.94	0.39%
SME	1 851	522.75	411	22.20%	104.07	19.91%	268	75.90	10.17%

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

TABLE 4

**SE - Sweden - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

SE - Sweden region	Number of grant holders	% of all SE - Sweden grant holders	EC contribution (M euro)	% of total EC contribution to SE
Stockholms län (SE110)	802	38.88%	320.99	43.03%
Västra Götalands län (SE232)	443	21.47%	161.25	21.61%
Skåne län (SE224)	231	11.20%	83.44	11.18%
Uppsala län (SE121)	210	10.18%	72.47	9.71%
Östergötlands län (SE123)	114	5.53%	43.82	5.87%

TABLE 5

**SE - Sweden - Most active organisations in terms of EC contribution  
granted to the FP7 research projects**

Legal Name	Number of Participations	% of all SE grant holders	EC contribution (M euro)	% of total EC contribution to SE grant holders
KAROLINSKA INSTITUTET (KI)	179	8.68%	102.66	13.76%
KUNGLIGA TEKNISKA HOEGSKOLAN	150	7.27%	67.93	9.11%
LUNDS UNIVERSITET	163	7.90%	66.72	8.94%
CHALMERS TEKNISKA HOEGSKOLA AB	129	6.25%	52.37	7.02%
UPPSALA UNIVERSITET	113	5.48%	46.52	6.24%

# COUNTRY PROFILE



## CH - Switzerland

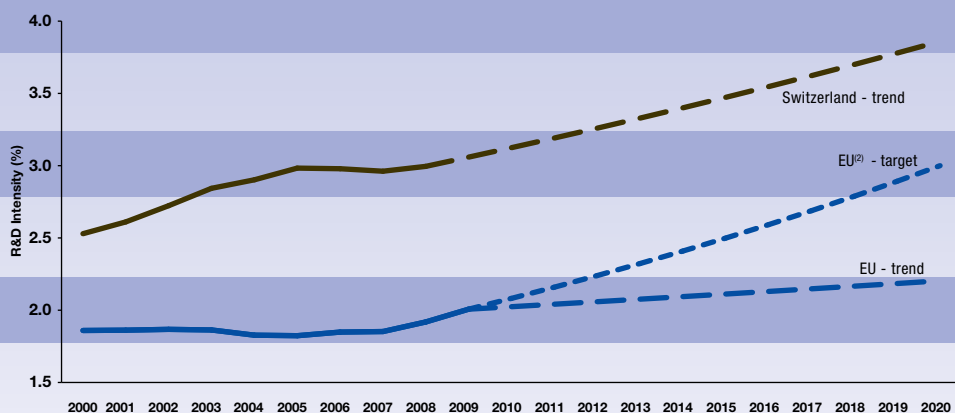
### Progress towards increasing the R&D intensity

R&D intensity in Switzerland in 2009 was 3% of GDP, one of the highest in Europe and in the world. The private sector performed 74% of the total R&D and the higher education sector, 24%. In the last decade, R&D intensity grew at an average annual growth rate of 2.1%, well above the 0.9% of the EU, passing from 2.53% in the year 2000 to 3% in 2009. If this trend continued,

Switzerland would reach a R&D intensity of 3.86% in 2020. Even if the associated countries to the European research cooperation do not form part of the Europe 2020 strategy of the European Union, certain countries do envisage fixing an objective for research investment and initiatives for fast growing innovative enterprises. This strategy could be justified if based on a consultation with the stakeholders in the country.

### SWITZERLAND

#### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

Data: DG Research and Innovation, Eurostat

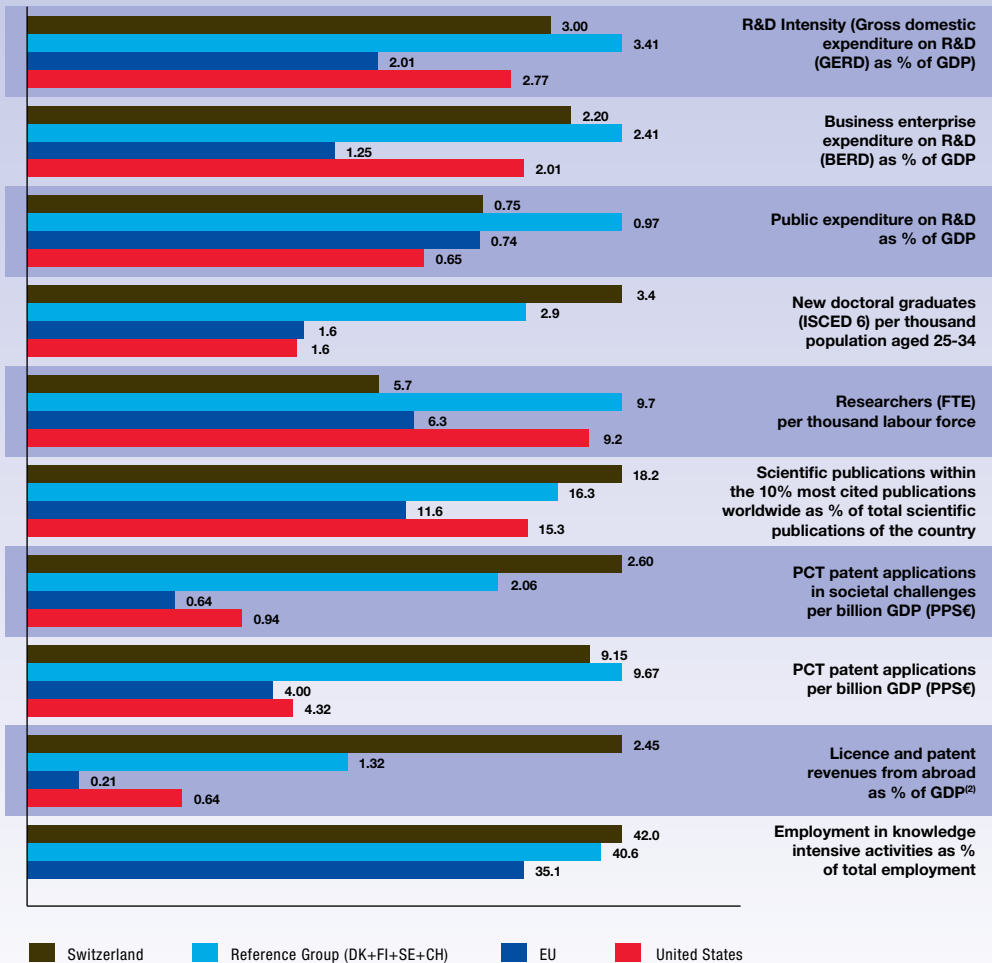
Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity for 2000-2009 in the case of the EU and for 2000-2008 in the case of Switzerland.

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

(3) CH: The values for 2001, 2002, 2003, 2005, 2006 and 2007 were interpolated by DG Research and Innovation.

Innovation Union Competitiveness Report 2011

## SWITZERLAND

R&D profile, 2009<sup>(1)</sup>

Source: DG Research and Innovation

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

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

(2) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

## Research and Innovation Performance

The Swiss research and innovation system is characterised by its very strong scientific and technological production that outperforms most countries in the world. A high level of R&D, alongside an overall excellent education system, investment coupled with an efficient allocation of both private and public R&D resources result in scientific and technological outcomes of ultimate quality. In this respect, Switzerland invests proportionally more resources than the EU and

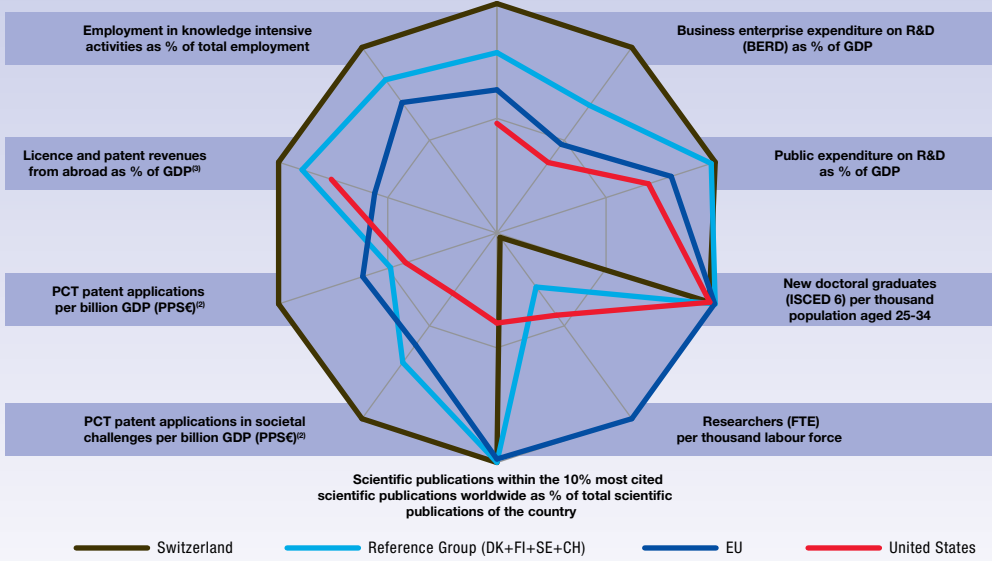
the United States. However, Switzerland outperforms not only the EU and the United States, but also this reference group in terms of high-quality scientific production and patents aimed at addressing societal challenges, and that can constitute important sources of new economic growth.

The development of strong competences in environmental and bio sciences is favoured by the strong linkages between a well performing scientific

# SWITZERLAND

## Average annual growth (%), 2000-2009<sup>(1)</sup>

R&D Intensity (Gross domestic expenditure on R&D (GERD) as % of GDP)



Source: DG Research and Innovation

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) Average annual growth refers to real growth.

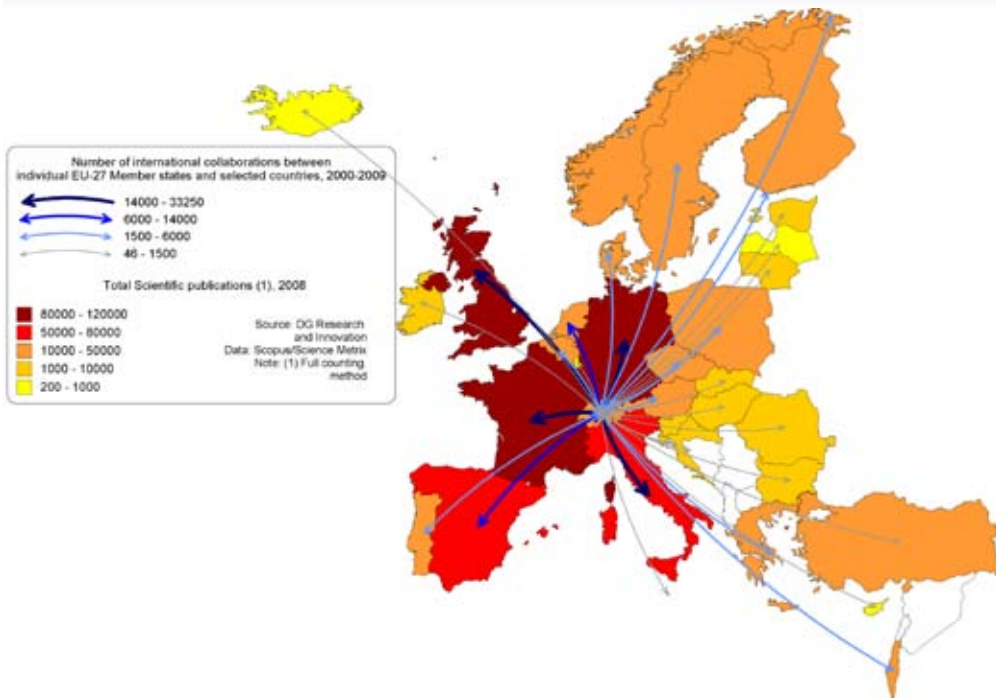
(3) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

# SWITZERLAND

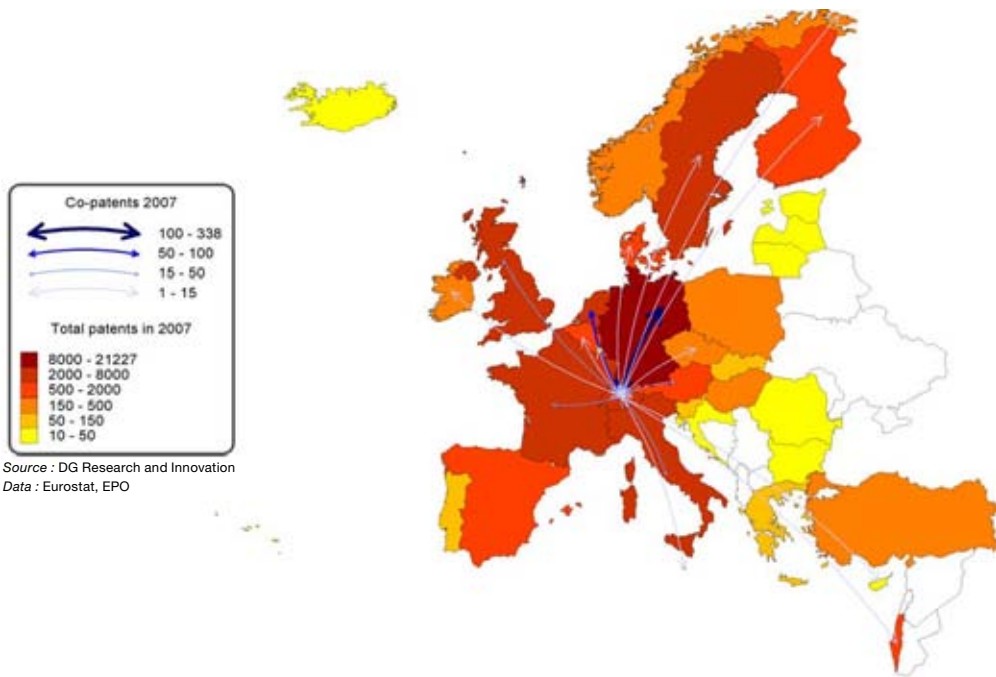
## Co-publications between Switzerland and European Countries in 2000-2009



Source: DG Research and Innovation  
Data: Scopus/Science Metrix  
Note: (1) Full counting method

## SWITZERLAND

## Co-invented patent applications between Switzerland and European Countries, 2007



system and a powerful pharmaceutical and rising environmental industry, which take up this knowledge, develop new technologies and in turn invest in higher knowledge production, generating a virtuous circle. In terms of the overall technological inventiveness of the economy, Switzerland more than doubles the EU and the United States, and comes close to the average of the reference group. The high quality of Swiss patents, as reflected by the licence and patent revenues from abroad, outperforms by far any other system. The relative low number of researchers employed in the economy, below the EU average, could constitute a potential threat to this good performance, especially if the system continues to expand as it may face a skill shortage.

In dynamic terms, Switzerland's scientific and technological performance has improved above the average of the EU, the United States and the reference group countries. The Swiss research and innovation system seems to have been able to absorb in an efficient manner the increasing R&D resources injected in the economy. It produces more and better scientific and technological outputs, which are then transferred into the economy.

### Participation in the European Research Area : Scientific and Technological collaborations

Switzerland is a small country with a very open research and innovation system. The very high quality of its scientific and technological production, its superior education system on all levels, coupled with its strategic geographical position and close historical, cultural and linguistic ties have allowed the Swiss research and innovation system to establish strong scientific and technological links with partners in other European systems. As an indication, 45% of the total Swiss patent applications count with a co-inventor located abroad, one of the highest percentages, if not the highest, in the world. Italy, France, the United Kingdom and especially Germany are the main scientific partners, while Germany remains the reference technological partner for Swiss enterprises and research centres.

This strong openness is allowing the system to tap into the main global knowledge networks, benefit from strong knowledge spillovers and leverage on their important R&D investments.

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 7 111 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 8 998 applicants from Switzerland (44.49% of Associated Countries) and
- requesting EUR 3 477.00m of EC contribution (44.10% of Associated Countries)

Among the Associated Countries Switzerland (CH) ranks:

- 1<sup>st</sup> in terms of number of applicants and
- 1<sup>st</sup> in terms of requested EC contribution

### Success rates

- The CH applicant success rate of 26.1% is higher than the Associated Countries applicant success rate of 23.5%.
- The CH EC financial contribution success rate of 26.6% is higher than the Associated Countries rate of 21.7%.

Specifically, following evaluation and selection, a total of

- 1 834 proposals were retained for funding (25.8%)
- involving 2 344 (26.1%) successful applicants from Switzerland and
- requesting EUR 925.93m (26.6%) of EC financial contribution

Among the Associated Countries, Switzerland (CH) ranks:

- 2<sup>nd</sup> in terms of applicants success rate and
- 2<sup>nd</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Switzerland (CH) participates in

- 1 553 signed grant agreements
- involving 16 711 participants of which 2 010 (12.03%) are from Switzerland
- benefiting from a total of EUR 5 531.34m of EC financial contribution of which EUR 848.22m (15.33%) is dedicated to participants from Switzerland.

Among the Associated Countries in all FP7 signed grant agreements, Switzerland (CH) ranks:

- 1<sup>st</sup> in number of participations and
- 1<sup>st</sup> in budget share

### SME performance and participation

- The CH SME applicant success rate of 23.04% is higher than the Associated Countries SME applicant success rate of 20.42%.
- The CH SME EC financial contribution success rate of 21.00% is higher than the corresponding Associated Countries rate of 18.51%.

Specifically,

- 2 092 CH SME applicants requesting EUR 618.01m
- 482 (23.04%) successful SMEs requesting EUR 129.79m (21.00%)

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

- 303 CH SME grant holders, i.e., 15.07% of total CH participation
- EUR 86.62m, i.e., 10.21% of total CH budget share

### Top 3 collaborative links with

- DE - Germany (2 529)
- UK - United Kingdom (1 687)
- FR - France (1 512)

Nr. of FP7 applicants (% Associated Countries)	8 998		EC contribution to FP7 grant holders in EUR million	
(44.49%)	20 227		(% Associated Countries)	848.22
Req. EC contribution by FP7 applicants in EUR million			(55.25%)	1 535.13
(% Associated Countries)	3 477.00		Nr. of FP7 coordinators (% of grant holders)	408
(44.10%)	7 884		(20.30%)	915
Nr. of successful FP7 applicants (% Associated Countries)	2 344		(22.36%)	
(48.81%)	4 802		Nr. of FP7 SME grant holders (% of grant holders)	303
Req. EC contribution by successful FP7 applicants in EUR million			(15.07%)	634
(% Associated Countries)	925.93		(15.49%)	
(54.11%)	1 711.27		EC contribution to FP7 SME grant holders in EUR million	
Success rate FP7 applicants	26.1%	23.5%	(% of grant holders)	86.62
Success rate			(10.21%)	175.41
FP7 EC contribution	26.6%	21.7%	(11.43%)	
Nr. of FP7 grant holders (% Associated Countries)	2 010			
(49.12%)	4 092			



TABLE 1

**CH - Switzerland - 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	2413	1040.35	460	19.06%	188.97	18.16%
Marie-Curie Actions	1610	n/a	430	26.71%	n/a	n/a
Health	1088	497.54	277	25.46%	114.38	22.99%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	527	216.66	230	43.64%	93.23	43.03%
European Research Council	488	871.92	136	27.87%	264.43	30.33%
Environment (including Climate Change)	487	136.12	139	28.54%	35.06	25.75%

TABLE 2

**CH - Switzerland - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all CH grant holders	EC contribution (EUR million)	% of total EC contribution to CH
ERC	126	6.27%	205.47	24.22%
Information and Communication Technologies	455	22.64%	172.81	20.37%
Marie-Curie Actions	323	16.07%	103.06	12.15%
Health	248	12.34%	100.30	11.82%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	199	9.90%	71.72	8.46%
Research Infrastructures	108	5.37%	52.14	6.15%

Notes : Report generated on: 2011/03/28.11:36 AM

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

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

\*\*E-STAT Reference year: 2007

\*\*European Innovation Scoreboard is available at the website of DG Enterprise and Industry

TABLE 3

**CH - Switzerland - 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	4354	1316.19	1083	24.87%	310.94	23.62%	1062	521.93	61.53%
PRC	2244	661.85	556	24.78%	160.37	24.23%	493	139.60	16.46%
REC	1169	445.30	349	29.85%	140.90	31.64%	332	159.62	18.82%
OTH	420	99.93	99	23.57%	23.15	23.17%	51	10.50	1.24%
PUB	326	82.00	122	37.42%	26.18	31.92%	72	16.59	1.96%
SME	2092	618.01	482	23.04%	129.79	21.00%	303	86.62	10.21%

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

TABLE 4

**CH - Switzerland - The most active NUTS3 regions,  
by EC contribution granted to the FP7 research projects**

CH - Switzerland region	Number of grant holders	% of all CH - Switzerland grant holders	EC contribution (M euro)	% of total EC contribution to CH
Zürich (CH040)	590	29.35%	268.19	31.62%
Vaud (CH011)	402	20.00%	196.80	23.20%
Genève (CH013)	256	12.74%	133.76	15.77%
Bern (CH021)	178	8.86%	49.32	5.81%
Basel-Stadt (CH031)	152	7.56%	56.81	6.70%

TABLE 5

**CH - Switzerland - Most active organisations in terms  
of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all CH grant holders	EC contribution (M euro)	% of total EC contribution to CH grant holders
Ecole Polytechnique Federale de Lausanne (EPFL)	258	12.84%	145.35	17.14%
Eidgenössische Technische Hochschule Zürich (ETH Zurich)	264	13.13%	137.04	16.16%
Universitaet Zuerich (UZH)	114	5.67%	63.79	7.52%
European Organization for Nuclear Research (CERN)	55	2.74%	55.93	6.59%
Universite de Geneve	104	5.17%	52.32	6.17%

# COUNTRY PROFILE



## TR - Turkey

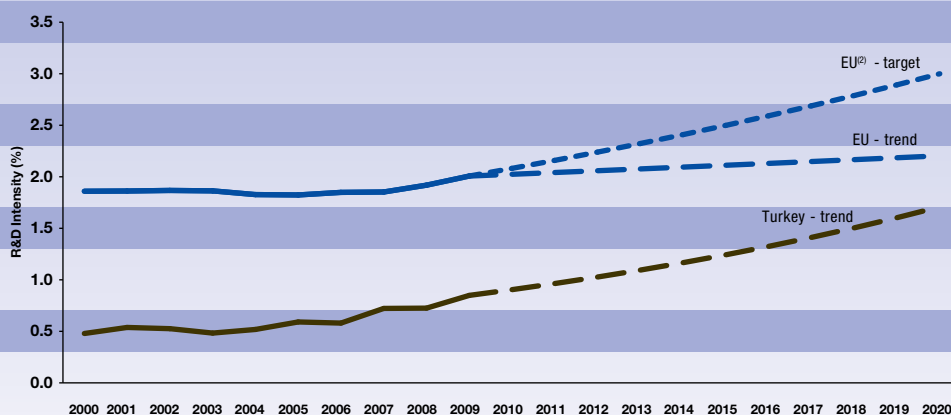
### Progress towards increasing the R&D intensity

The most recent figures for Turkey on R&D intensity are 0.85% for 2009, which represents a noticeable increase compared to the value in 2000. Over the period 2000-2009, the Gross Domestic Expenditure on R&D (GERD) in Turkey experienced an average annual real growth rate of 10.1%, which is the fourth highest growth rate in Europe. Although Turkey's R&D intensity is still far below the EU average, Turkey is in a positive catching-up process. In 2009, business expenditure on R&D in Turkey actually increased by 6.1%.

The National Science, Technology and Innovation Strategy 2011-2016 was adopted in December 2010 by the Supreme Council of Science and Technology. The strategy focuses on human resources development for science, technology and innovation, transformation of research outputs into products and services, enhancing interdisciplinary research, highlighting the role of SMEs, R&D infrastructures and international cooperation. Besides these horizontal aspects, automotive, machinery and production technologies, ICT, energy, water, food, security and space were determined as focus areas. In line with this, the strategy puts special emphasis on keeping the balance between focused areas and bottom-up research.

### TURKEY

### R&D Intensity projections, 2000-2020<sup>(1)</sup>



Source: DG Research and Innovation

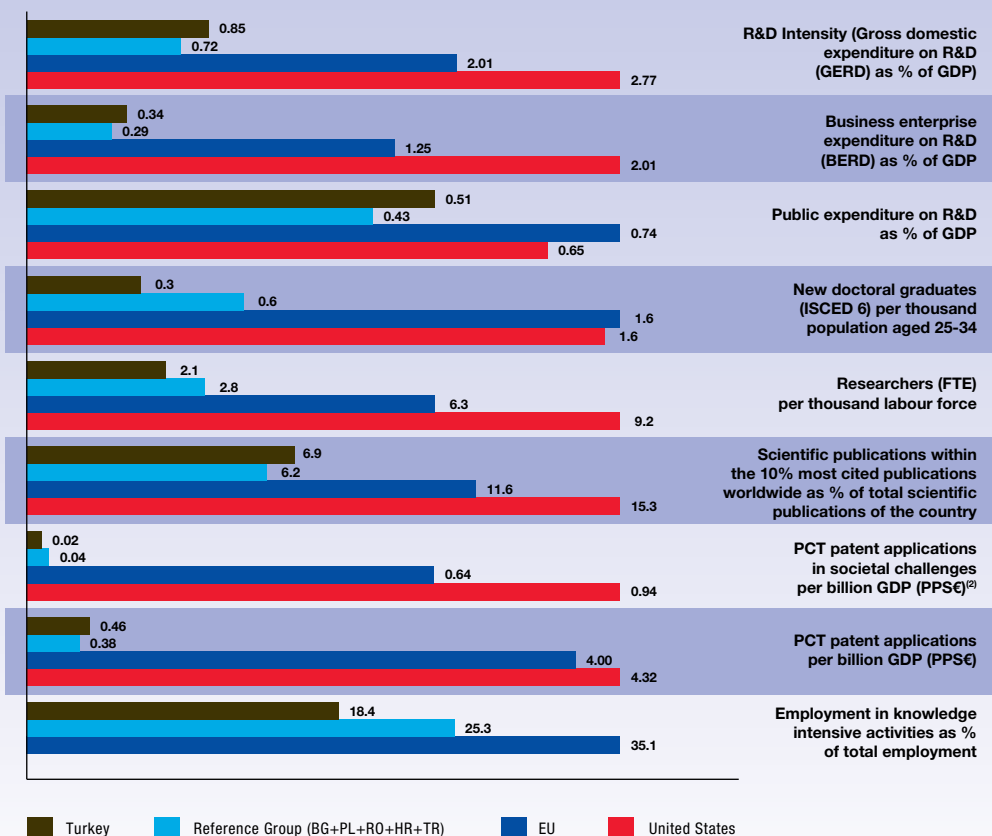
Data: DG Research and Innovation, Eurostat

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

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

Innovation Union Competitiveness Report 2011

## TURKEY

R&D profile, 2009<sup>(1)</sup>

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) HR is not included in the Reference Group.

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

Innovation Union Competitiveness Report 2011

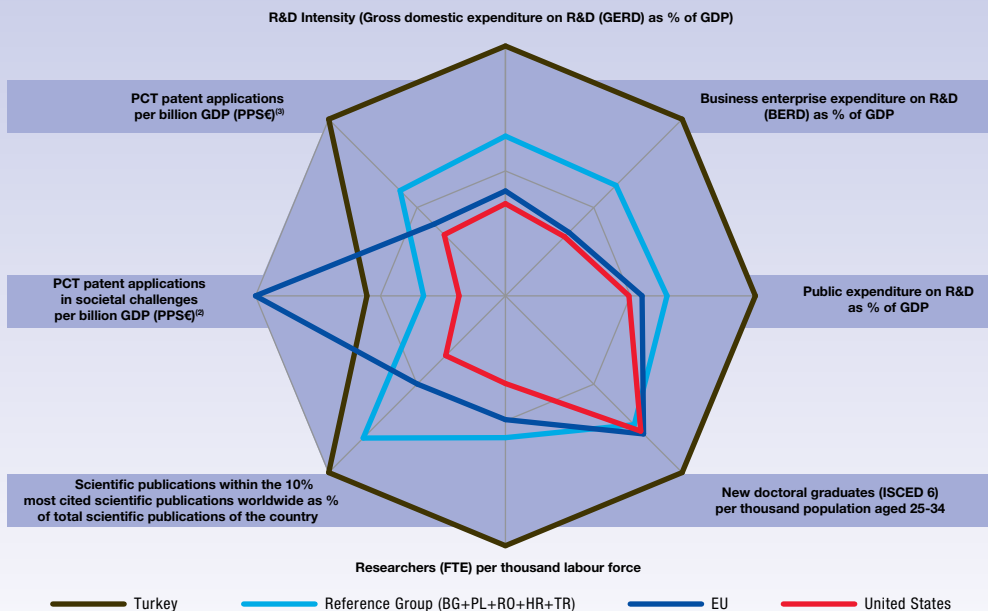
## Research and Innovation Performance

Turkey's R&D profile is weaker than that of the EU average, in particular new doctoral graduates and patenting activity. Given this structural base, Turkey has a specific relative strength in the quality of its scientific production, with 6.9% of its scientific publications among the top 10% most cited worldwide. On the other hand, Turkey is behind countries with similar industrial structure and knowledge capacity in what respect human resources intensity, and on the knowledge-intensity of its economy (reflecting both manufacturing and services). Concerning PCT patent applications in societal challenges defined as climate change mitigation and health, it should be noted that these areas are not primary S&T priority areas in Turkey. Therefore, PCT patent applications in societal challenges may not reflect the patenting dynamics of Turkey.

The growth of the Turkish research and innovation system is evidenced in all the main indicators (see graph below), except for patent activity in societal challenges. Turkey improved at a higher rate than the other countries with a comparable industrial structure and knowledge capacity, in particular in human resources for research and innovation. In the report, chapter 2 in part II, it is also visible that over the period 2000-2008 Turkey considerably improved knowledge transfer from public research to business enterprise, as measured by the public sector expenditure on R&D financed by business enterprise as % of GDP. This is particularly important given the relatively good performance of Turkey in scientific quality output.

# TURKEY

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

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) HR is not included in the Reference Group; Average annual growth refers to real growth.

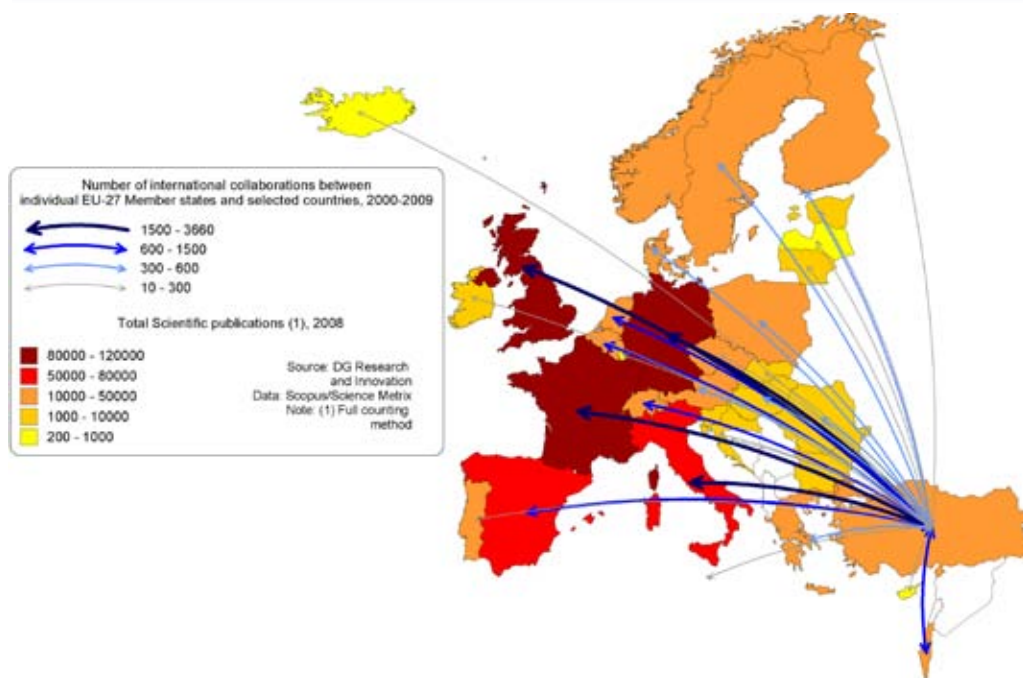
(3) Average annual growth refers to real growth.

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

Innovation Union Competitiveness Report 2011

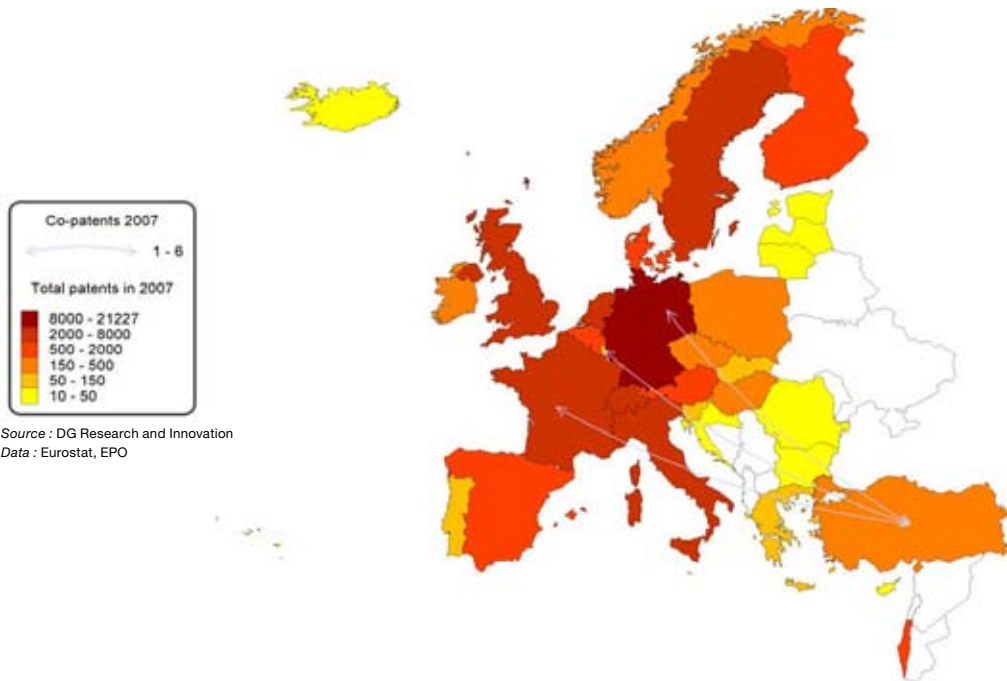
# TURKEY

## Co-publications between Turkey and European Countries in 2000-2009



## TURKEY

## Co-invented patent applications between Turkey and European Countries, 2007



Source : DG Research and Innovation  
Data : Eurostat, EPO

### Participation in the European Research Area : Scientific and Technological collaborations

The report shows in Part II that Turkey is modestly integrated in the European scientific co-publication networks and it holds a very marginal position in the main technological cooperation networks (as measured by co-patenting).

As seen from the figures below, the main scientific partner countries are the larger European countries in terms of research investments, i.e. Italy, France, the United Kingdom and Germany. As a difference from the technological cooperation, co-publications are intensive with almost all EU Member States and with some other Associated countries. However, the integration of Turkey in European S&T networks may improve in the coming years given the relatively high trans-European mobility of Turkish students, and in particular in their participation in European mobility instruments such as the ERASMUS student mobility scheme.

### FP7 Key facts and figures

#### Applications

As of 2011/03/16, a total of

- 3001 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 3847 applicants from Turkey (62.44% of Candidate Countries) and
- requesting EUR 1501.15m of EC contribution (72.19% of Candidate Countries)

Among the Candidate Countries Turkey (TR) ranks:

- 1<sup>st</sup> in terms of number of applicants and
- 1<sup>st</sup> in terms of requested EC contribution

#### Success rates

- The TR applicant success rate of 16.2% is lower than the Candidate Countries applicant success rate of 17.9%.
- The TR EC financial contribution success rate of 5.5% is lower than the Candidate Countries rate of 7.3%.

Specifically, following evaluation and selection, a total of

- 508 proposals were retained for funding (16.9%)
- involving 625 (16.2%) successful applicants from Turkey and
- requesting EUR 82.14m (5.5%) of EC financial contribution

Among the Candidate Countries, Turkey (TR) ranks:

- 5<sup>th</sup> in terms of applicants success rate and
- 5<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, Turkey (TR) participates in

- 437 signed grant agreements
- involving 5012 participants of which 511 (10.20%) are from Turkey
- benefiting from a total of EUR 1 111.10m of EC financial contribution of which EUR 75.23m (6.77%) is dedicated to participants from Turkey.

Among the Candidate Countries in all FP7 signed grant agreements, Turkey (TR) ranks:

- 1<sup>st</sup> in number of participations and
- 1<sup>st</sup> in budget share

### SME performance and participation

- The TR SME applicant success rate of 13.74% is lower than the Candidate Countries SME applicant success rate of 15.12%.
- The TR SME EC financial contribution success rate of 8.53% is lower than the corresponding Candidate Countries rate of 10.71%.

Specifically,

- 1 070 TR SME applicants requesting EUR 293.23m
- 147 (13.74%) successful SMEs requesting EUR 25.00m (8.53%)

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

- 81 TR SME grant holders, i.e., 15.85% of total TR participation
- EUR 15.24m, i.e., 20.26% of total TR budget share

### Top 3 collaborative links with

- DE - Germany (429)
- IT - Italy (373)
- UK - United Kingdom (364)

Nr. of FP7 applicants (% Candidate Countries)	3847	
(62.44%)	6161	
Req. EC contribution by FP7 applicants in EUR million	1501.15	
(% Candidate Countries)	2079	
(72.19%)		
Nr. of successful FP7 applicants (% Candidate Countries)	625	
(58.30%)	1072	
Req. EC contribution by successful FP7 applicants in EUR million	82.14	
(% Candidate Countries)	152.58	
(53.84%)		
Success rate FP7 applicants	16.2%	17.9%
Success rate		
FP7 EC contribution	5.5%	7.3%
Nr. of FP7 grant holders (% Candidate Countries)	511	
(58.53%)	873	
EC contribution		

to FP7 grant holders in EUR million	
(% Candidate Countries)	75.23
(55.61%)	135.27
Nr. of FP7 coordinators (% of grant holders)	144
(28.18%)	195
(22.34%)	
Nr. of FP7 SME grant holders (% of grant holders)	81
(15.85%)	131
(15.01%)	
EC contribution to FP7 SME grant holders in EUR million	
(% of grant holders)	15.24
(20.26%)	30.20
(22.32%)	

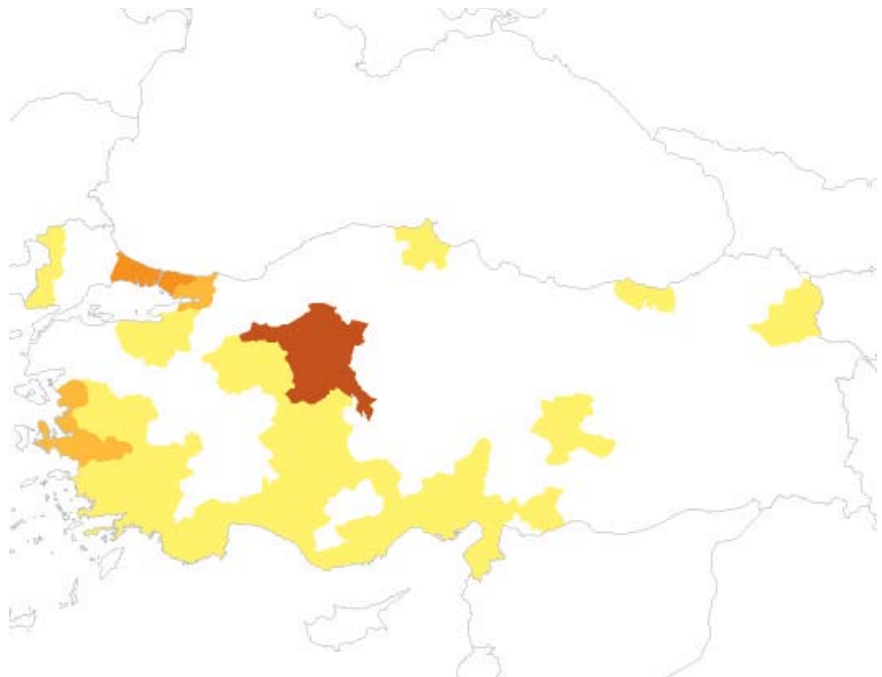
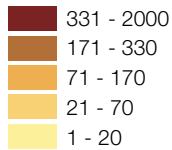




TABLE 1

**TR - Turkey - 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)
Marie-Curie Actions	565	n/a	163	28.85%	n/a	n/a
Information and Communication Technologies	518	150.92	46	8.88%	11.15	7.38%
Research for the benefit of SMEs	419	62.59	73	17.42%	11.76	18.79%
Research Potential	367	722.71	12	3.27%	11.49	1.59%
Food, Agriculture and Fisheries, and Biotechnology	251	53.51	42	16.73%	5.24	9.80%
Socio-economic sciences and Humanities	245	39.06	16	6.53%	1.66	4.25%

TABLE 2

**TR - Turkey - Most active FP7 research priority areas  
by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all TR grant holders	EC contribution (EUR million)	% of total EC contribution to TR
Marie-Curie Actions	138	27.01%	13.70	18.22%
Information and Communication Technologies	40	7.83%	9.93	13.20%
Research Potential	12	2.35%	9.29	12.35%
Research for the benefit of SMEs	57	11.15%	8.35	11.11%
Research Infrastructures	36	7.05%	6.05	8.04%
Environment (including Climate Change)	38	7.44%	4.45	5.91%

Notes : Report generated on: 2011/03/28.11:34 AM

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

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

\*\*E-STAT Reference year: 2007

\*\*European Innovation Scoreboard is available at the website of DG Enterprise and Industry

TABLE 3

## TR - Turkey - 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	1761	559.65	293	16.64%	32.57	5.82%	267	38.83	51.62%
PRC	956	238.06	140	14.64%	23.58	9.91%	105	20.12	26.74%
REC	470	421.92	106	22.55%	14.03	3.33%	103	13.32	17.71%
PUB	236	46.31	53	22.46%	4.90	10.58%	29	2.04	2.72%
OTH	233	57.58	32	13.73%	5.11	8.88%	7	0.91	1.22%
SME	1070	293.23	147	13.74%	25.00	8.53%	81	15.24	20.26%

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

TABLE 4

## TR - Turkey - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects

TR - Turkey region	Number of grant holders	% of all TR - Turkey grant holders	EC contribution (M euro)	% of total EC contribution to TR
Ankara (TR510)	212	41.49%	36.42	48.42%
Istanbul (TR100)	171	33.46%	21.89	29.10%
Izmir (TR310)	33	6.46%	4.42	5.88%
Kocaeli (TR421)	29	5.68%	5.61	7.46%
Malatya (TRB11)	9	1.76%	0.39	0.51%

TABLE 5

## TR - Turkey - most active organisations in terms of EC contribution granted to the FP7 research projects

Legal Name	Number of Participations	% of all TR grant holders	EC contribution (M euro)	% of total EC contribution to TR grant holders
Middle East Technical University (METU)	38	7.44%	8.65	11.50%
Türkiye Bilimsel ve Teknolojik Arastırma Kurumu (TUBITAK)	67	13.11%	7.02	9.33%
Bilkent Üniversitesi (Bilkent)	30	5.87%	5.64	7.50%
Koc University (KU)	25	4.89%	3.95	5.25%
Sabancı University	32	6.26%	3.65	4.85%

# COUNTRY PROFILE



## UK - United Kingdom

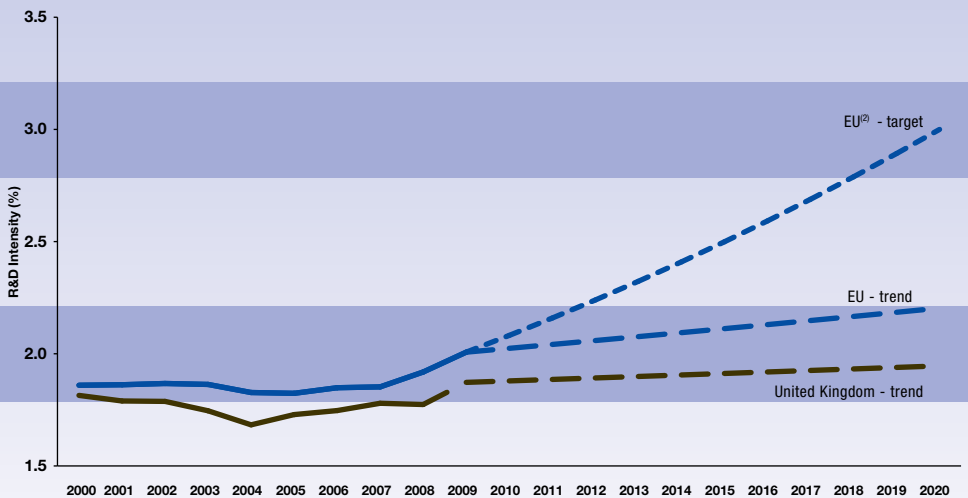
### Progress towards meeting the Europe 2020 R&D intensity target

In the last decade, R&D intensity in the United Kingdom averaged around 1.8%, the latest figure being 1.87% in 2009<sup>14</sup>. The trend over the reference period showed an initial fall followed by a mild recovery since 2005. At present, R&D intensity in the United Kingdom falls

below the EU average. Although the recent cutbacks in public expenditure have not severely hit research budgets, further measures to boost both public and private R&D may be needed to bridge the R&D gap with the EU average and, especially, with other trading competitors.

### UNITED KINGDOM

#### R&D Intensity projections, 2000-2020<sup>(1)</sup>



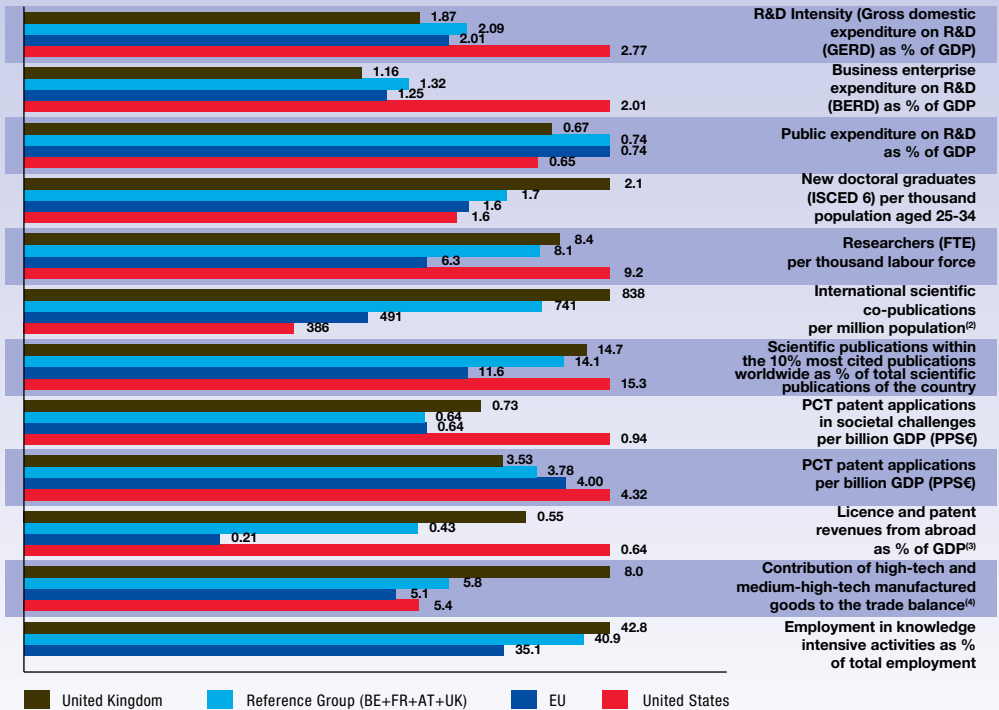
Source: DG Research and Innovation  
Data: DG Research and Innovation, Eurostat

Notes: (1) The R&D Intensity projections based on trends are derived from the average annual growth in R&D Intensity for 2000-2009.  
(2) EU: This projection is based on the R&D Intensity target of 3.0% for 2020.

Innovation Union Competitiveness Report 2011

UNITED KINGDOM

R&D profile, 2009<sup>(1)</sup>



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.

Innovation Union Competitiveness Report 2011

Research and Innovation Performance

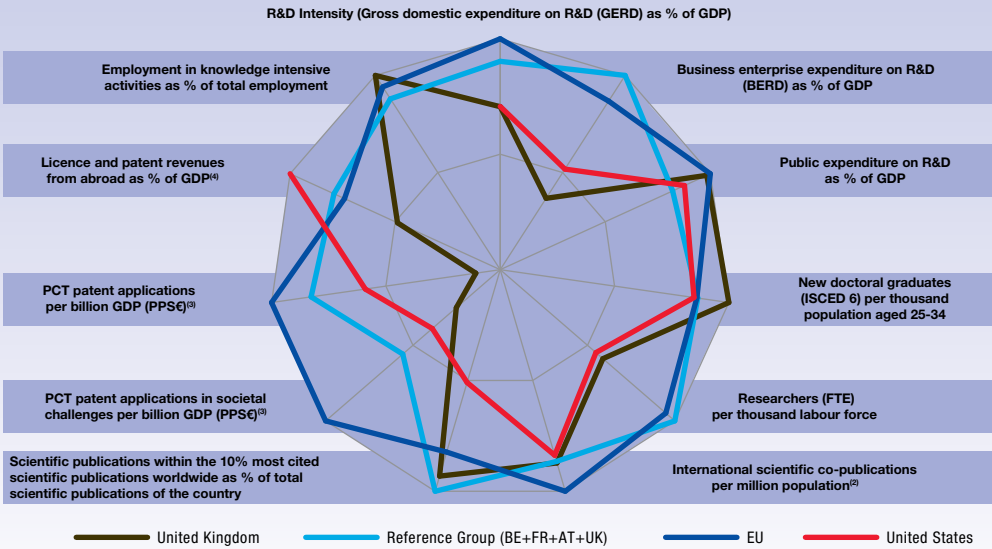
The British research and innovation system is characterised by strong performance over a range of research and innovation indicators, such as high quality publications, high quality patents for which it obtains high licence and patent revenues from abroad or the high share of the population working in knowledge intensive activities. In all these key indicators, the United Kingdom outperforms both the EU average and a group of similar countries and nears the United States. A number of world class Universities, a large share of young doctoral graduates and competitive strengths in some high-tech and medium-high tech sectors such as the pharmaceutical sector can account for this strong performance. On the other hand, the system underperforms in terms of public and private R&D investment and technological performance as measured by the importance of PCT patents in the economy. These lower values can be justified to some

extent by the nature of the economic structure of the United Kingdom: when adjusting for the sectoral mix, the United Kingdom investment intensity gap is for instance only 0.25 points of GDP as compared with Germany and 0.5% points as compared with France. R&D underinvestment could potentially affect the United Kingdom's future scientific and technological competitiveness, although it is important to note the contribution of other forms of innovative activity to these outcomes.

Looked at in a longer perspective, in the last decade the United Kingdom public and especially private R&D investments lagged behind the EU and the United States. High quality scientific output grew at a similar rate as the reference group and the EU despite relatively lower growth of public R&D investments. It is welcome that, in a context where most UK Government Departments are facing significant expenditure cuts,

# UNITED KINGDOM

## Average annual growth (%), 2000-2009<sup>(1)</sup>



Source: DG Research and Innovation

Data: Eurostat, OECD, Science Matrix / 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.

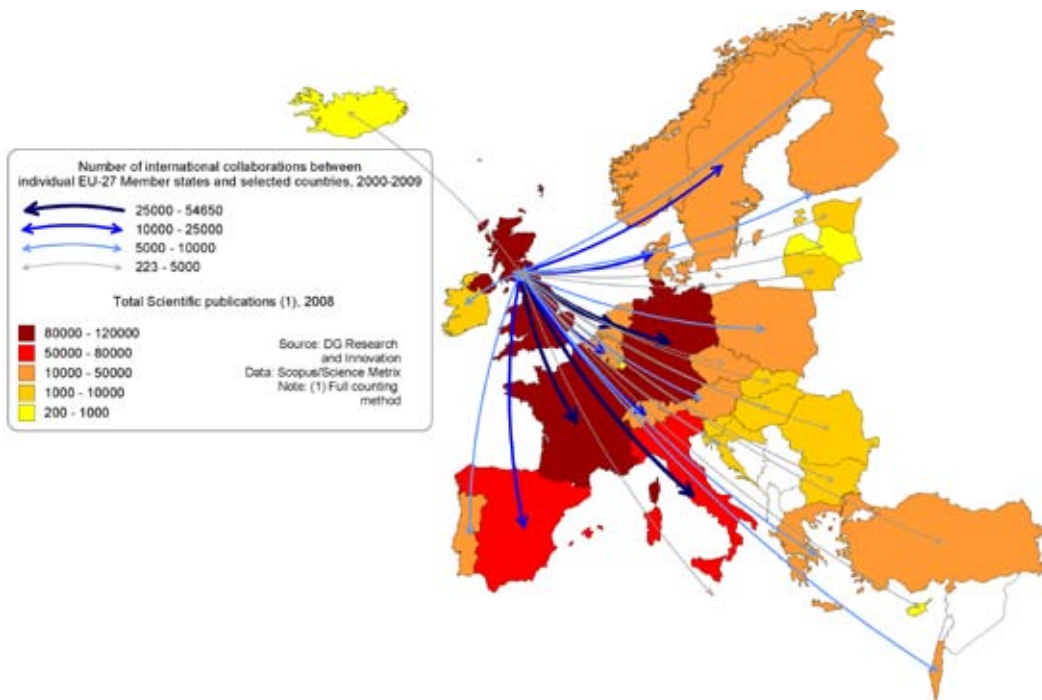
(4) EU refers to extra-EU.

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

Innovation Union Competitiveness Report 2011

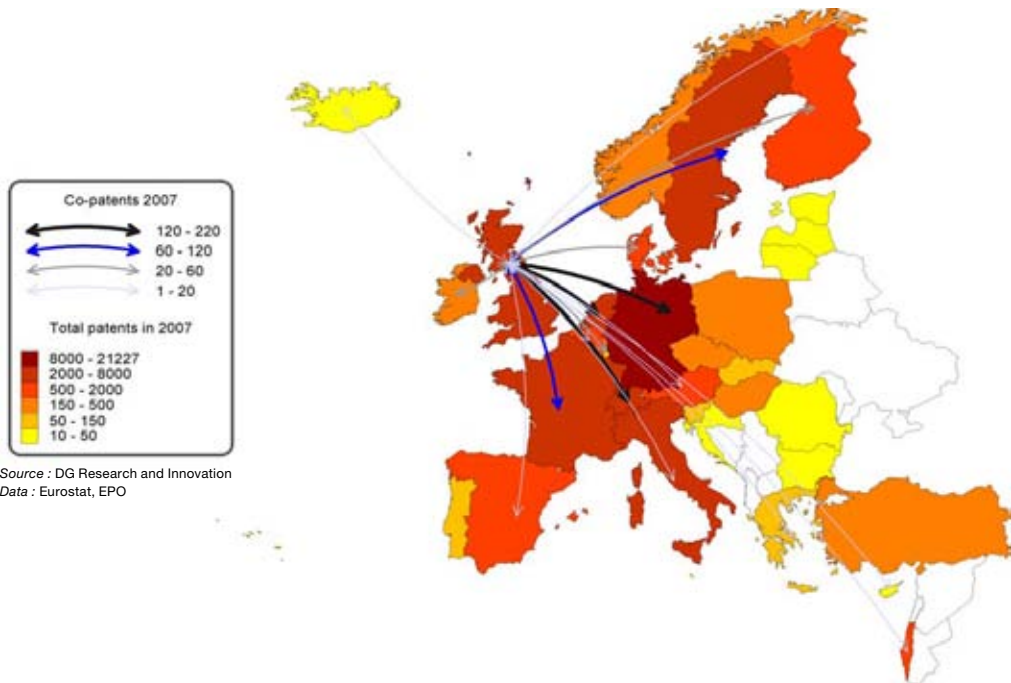
# UNITED KINGDOM

## Co-publications between the United Kingdom and European Countries in 2000-2009



## UNITED KINGDOM

## Co-invented patent applications between the United Kingdom and European Countries, 2007



the UK Government has announced a Settlement for Science and Research programme of £ 4.6 billion per year for the next four years (2011-2015). This is ring fenced across the four year period. Furthermore, the UK announced that it will target its support for business towards areas with high impact on growth and leverage additional private sector investment<sup>15</sup>.

### Participation in the European Research Area : Scientific and Technological collaborations

The United Kingdom is a very open scientific system as evidenced by the high level of co-publications. This allows tapping into international knowledge, enhancing excellence and rendering the system more efficient. The main research partners in the European Research Area are Germany, France, Italy and the Netherlands, which reflects the size of the research systems of these countries.

A similar structure is replicated in terms of co-registration of patents, where Germany or the Netherlands become the main technological partners. It is important to note that Switzerland also ranks high in this list of technological partners and this is due to the closer linkages between the countries in key industries such as pharmaceuticals.

### Structural change towards a more research-intensive economy

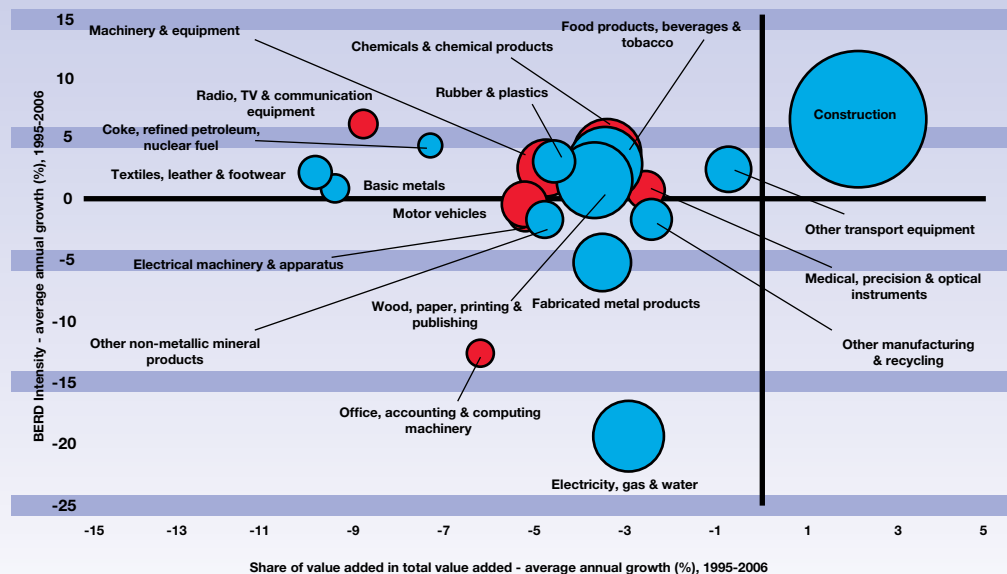
In the last decade, private R&D intensity remained static around 1.2%. To a large extent, this performance was due to the loss in importance in the economy of some high-technology and medium-high technology sectors such as chemical and chemical products, machinery and equipment and office, machinery and computing equipment. In addition, the research intensity, measured as the investment in R&D as a percentage of total value added, of most sectors stagnated, or in some cases fell. This stagnation, in an increasingly globalised economy with countries sharply raising their R&D investments, could endanger the long-term competitiveness of these sectors<sup>16</sup>.

15 The Technology Strategy Board will become the Government's prime channel to support business-led technology innovation and will be provided with additional funding of over £200m to establish a network of elite Technology and Innovation Centres.

16 Of course, the dynamics of an economy depends also of many other factors. See for instance, NESTA's report *The Vital 6% and High Growth Enterprises: What Governments can do to make a difference* (OECD, 2010).

## UNITED KINGDOM

### Share of value added versus BERD intensity - Average annual growth, 1995-2006



Source: DG Research and Innovation

Data: OECD

Note: (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.

Innovation Union Competitiveness Report 2011

## FP7 Key facts and figures

### Applications

As of 2011/03/16, a total of

- 22 871 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 36 145 applicants from The United Kingdom (13.56% of EU-27\*) and
- requesting EUR 13 071.00m of EC contribution (14.80% of EU-27\*)

Among the EU-27\* The United Kingdom (UK) ranks:

- 2<sup>nd</sup> in terms of number of applicants and
- 2<sup>nd</sup> in terms of requested EC contribution

### Success rates

- The UK applicant success rate of 24.1% is higher than the EU-27\* applicant success rate of 21.6%.
- The UK EC financial contribution success rate of 22.1% is higher than the EU-27\* rate of 20.7%.

Specifically, following evaluation and selection, a total of

- 5 272 proposals were retained for funding (23.1%)
- involving 8 721 (24.1%) successful applicants from The United Kingdom and
- requesting EUR 2 886.06m (22.1%) of EC financial contribution
- Among the EU-27\*, The United Kingdom (UK) ranks:
  - 6<sup>th</sup> in terms of applicants success rate and
  - 6<sup>th</sup> in terms of EC financial contribution success rate

### Signed grant agreements

As of 2011/03/16, The United Kingdom (UK) participates in

- 4 372 signed grant agreements
- involving 38 289 participants of which 7 287 (19.03%) are from The United Kingdom
- benefiting from a total of EUR 11 621.96m of EC financial contribution of which EUR 2 698.98m (23.22%) is dedicated to participants from The United Kingdom.

Among the EU-27\* in all FP7 signed grant agreements, The United Kingdom (UK) ranks:

- 2<sup>nd</sup> in number of participations and
- 2<sup>nd</sup> in budget share

### SME performance and participation

- The UK SME applicant success rate of 21.88% is higher than the EU-27\* SME applicant success rate of 19.33%.
- The UK SME EC financial contribution success rate of 21.26% is higher than the corresponding EU-27\* rate of 18.26%.

Specifically,

- 7 582 UK SME applicants requesting EUR 2 174.16m
- 1 659 (21.88%) successful SMEs requesting EUR 462.16m (21.26%)

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

- 1 159 UK SME grant holders, i.e., 15.91% of total UK participation
- EUR 340.03m, i.e., 12.60% of total UK budget share

### Top 3 collaborative links with

- DE - Germany (4981)
- FR - France (3525)
- IT - Italy (3157)

**Nr. of Researchers as% of population	N/A	0.40%
Rank in EU-27* Innovation scoreboard (2008)	- 4 <sup>th</sup>	
- Above EU-27 average		
- Innovation Leader		
Nr. of FP7 applicants (% EU-27*)	36 145	
(13.56%)	266 507	
Req. EC contribution by FP7 applicants in EUR million	13 071.00	
(% EU-27*)	88 295	
(14.80%)		
Nr. of successful FP7 applicants (% EU-27*)	8 721	
(14.73%)	59 199	
Req. EC contribution by successful FP7 applicants in EUR million	2 886.06	
(% EU-27*)	18 262.02	
(15.80%)		
Success rate FP7 applicants	24.1%	21.6%
Success rate		
FP7 EC contribution	22.1%	20.7%
Nr. of FP7 grant holders (% EU-27*)	7 287	
(14.21%)	51 279	
EC contribution to FP7 grant holders in EUR million		
(% EU-27*)	2 698.98	
(16.28%)	16 578.15	
Nr. of FP7 coordinators (% of grant holders)	1 903	
(26.11%)	9 383	
(18.30%)		
Nr. of FP7 SME grant holders (% of grant holders)	1 159	
(15.91%)	8 845	
(17.25%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	340.03	
(12.60%)	2 207.73	
(13.32%)		



TABLE 1

**UK - United Kingdom - 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	7385	3109.15	1178	15.95%	494.52	15.91%
Marie-Curie Actions	7017	n/a	1954	27.85%	n/a	n/a
Health	3490	1829.10	920	26.36%	456.49	24.96%
Research for the benefit of SMEs	3395	516.10	806	23.74%	118.17	22.90%
Transport (including Aeronautics)	2321	760.79	649	27.96%	218.48	28.72%
European Research Council	2127	3301.66	373	17.54%	612.25	18.54%

TABLE 2

**UK - United Kingdom - Most active FP7 research priority areas by EC contribution granted to the research projects**

FP7 priority area	Number of grant holders	% of all UK grant holders	EC contribution (EUR million)	% of total EC contribution to UK
ERC	341	4.68%	492.00	18.23%
Information and Communication Technologies	1150	15.78%	460.37	17.06%
Health	875	12.01%	408.81	15.15%
Marie-Curie Actions	1481	20.32%	356.54	13.21%
Research Infrastructures	359	4.93%	178.52	6.61%
Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	440	6.04%	145.03	5.37%

Notes : Report generated on: 2011/03/28.10:50 AM

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

FP7 grant agreements and participation figures are valid as of 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

TABLE 3

**UK - United Kingdom - 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	19973	5953.80	4744	23.75%	1264.71	21.24%	4391	1838.45	68.12%
PRC	8273	2306.28	1983	23.97%	577.40	25.04%	1723	497.57	18.44%
REC	3028	836.44	935	30.88%	267.75	32.01%	803	277.08	10.27%
OTH	1697	404.88	400	23.57%	93.66	23.13%	121	22.38	0.83%
PUB	1053	269.28	289	27.45%	70.68	26.25%	249	63.50	2.35%
SME	7582	2174.16	1659	21.88%	462.16	21.26%	1159	340.03	12.60%

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

TABLE 4

**UK - United Kingdom - The most active NUTS3 regions, by EC contribution granted to the FP7 research projects**

UK - United Kingdom region	Number of grant holders	% of all UK - United Kingdom grant holders	EC contribution (M euro)	% of total EC contribution to UK
Inner London - West (UKI11)	1362	18.69%	561.72	20.81%
Oxfordshire (UKJ14)	440	6.04%	233.71	8.66%
Cambridgeshire CC (UKH12)	417	5.72%	179.91	6.67%
Edinburgh, City of (UKM25)	256	3.51%	110.65	4.10%
Inner London - East (UKI12)	246	3.38%	86.25	3.20%

TABLE 5

**UK - United Kingdom - Most active organisations in terms of EC contribution granted to the FP7 research projects**

Legal Name	Number of Participations	% of all UK grant holders	EC contribution (M euro)	% of total EC contribution to UK grant holders
The Chancellor, Masters and Scholars of the University of Cambridge	331	4.54%	157.07	5.82%
The Chancellor, Masters And Scholars of the University of Oxford (University of Oxford)	278	3.82%	146.92	5.44%
Imperial College of Science, Technology and Medicine (Imperial)	283	3.88%	127.48	4.72%
University College London	240	3.29%	127.41	4.72%
The University of Edinburgh	177	2.43%	89.12	3.30%