COUNTRY PROFILE

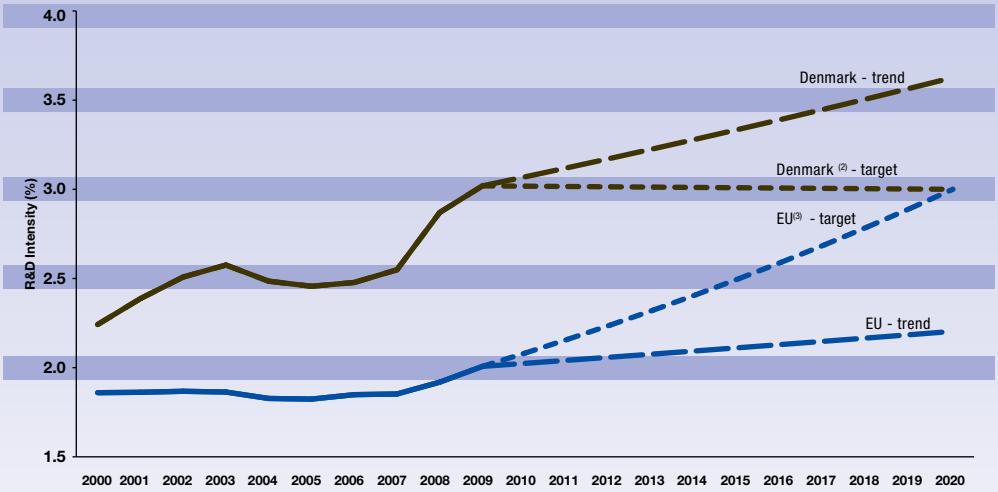
DK - Denmark

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

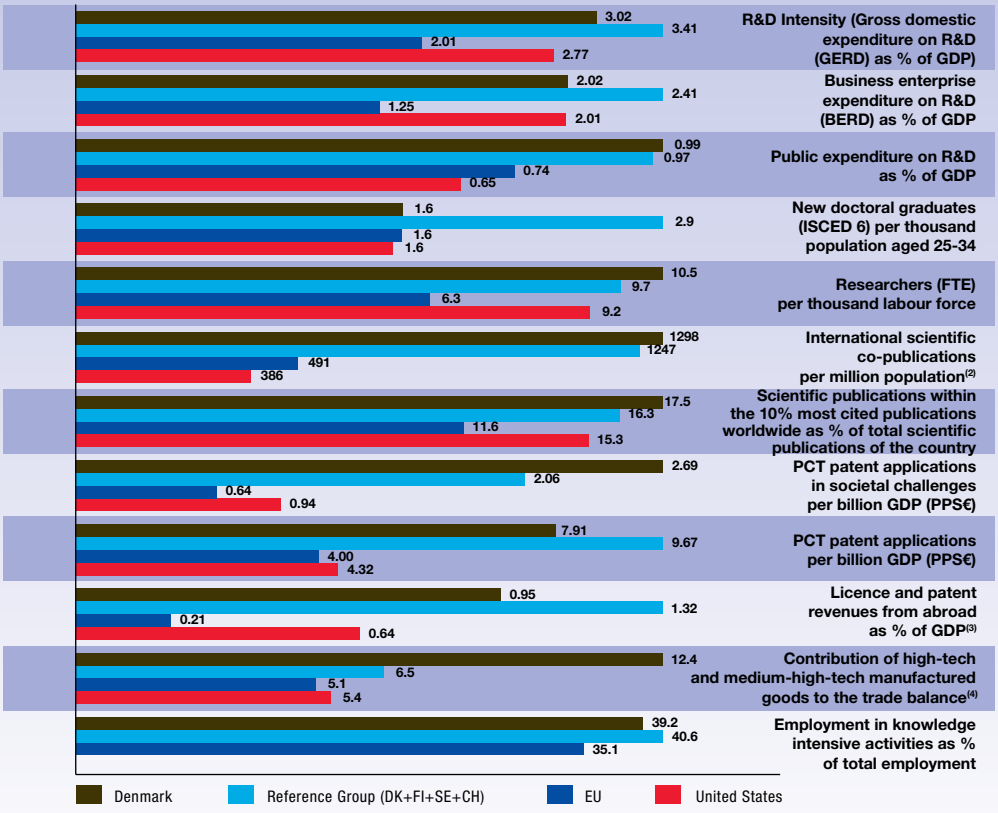
R&D Intensity projections, 2000-2020(1)



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(1)



Innovation Union Competitiveness Report 2011

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.

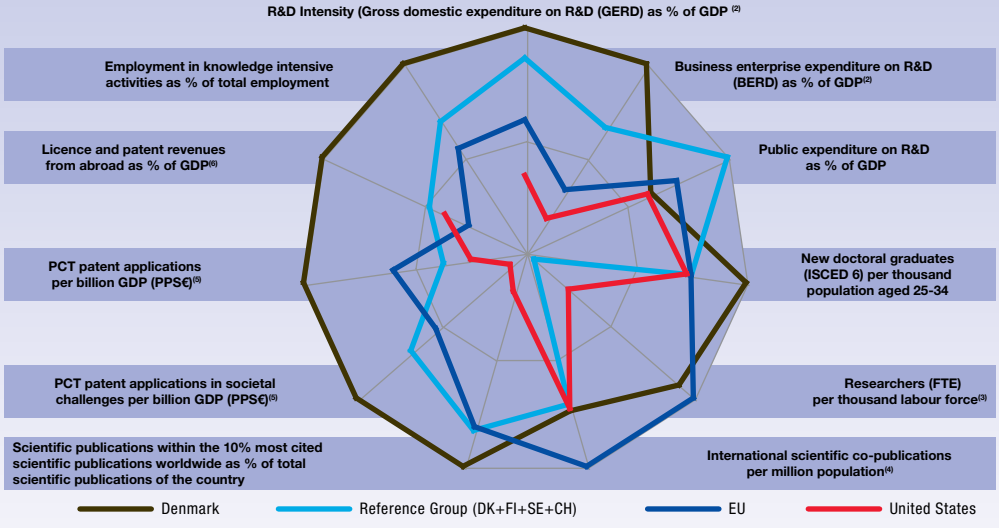
Research and Innovation Performance

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[1]

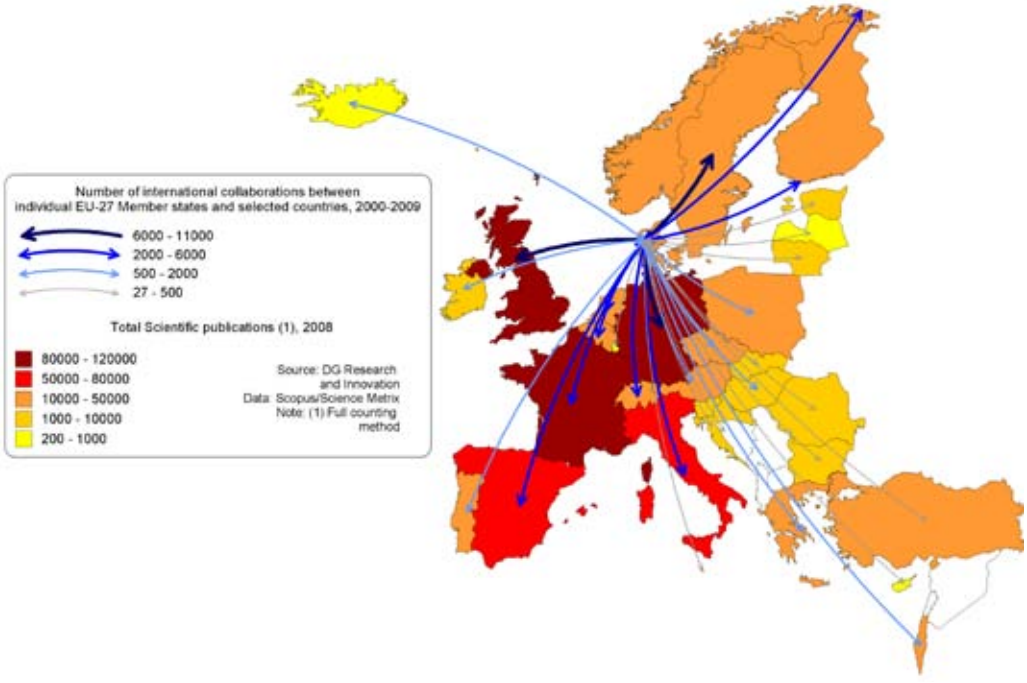


Innovation Union Competitiveness Report 2011

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.

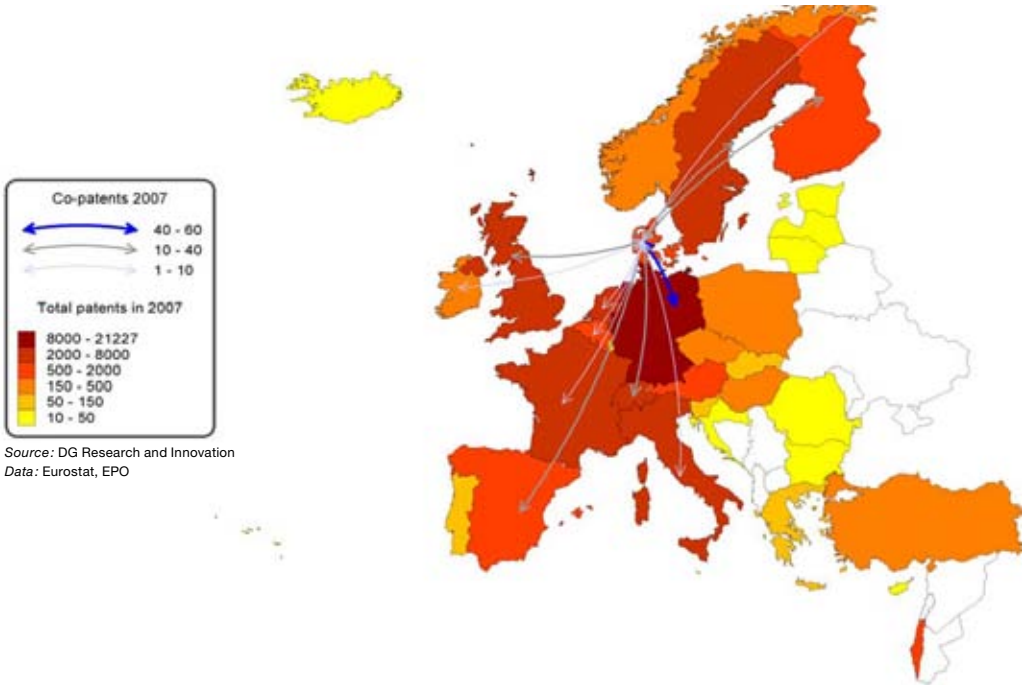
DENMARK

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



DENMARK

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



Source: DG Research and Innovation
Data: Eurostat, EPO

Participation in the European Research Area: Scientific and Technological collaborations

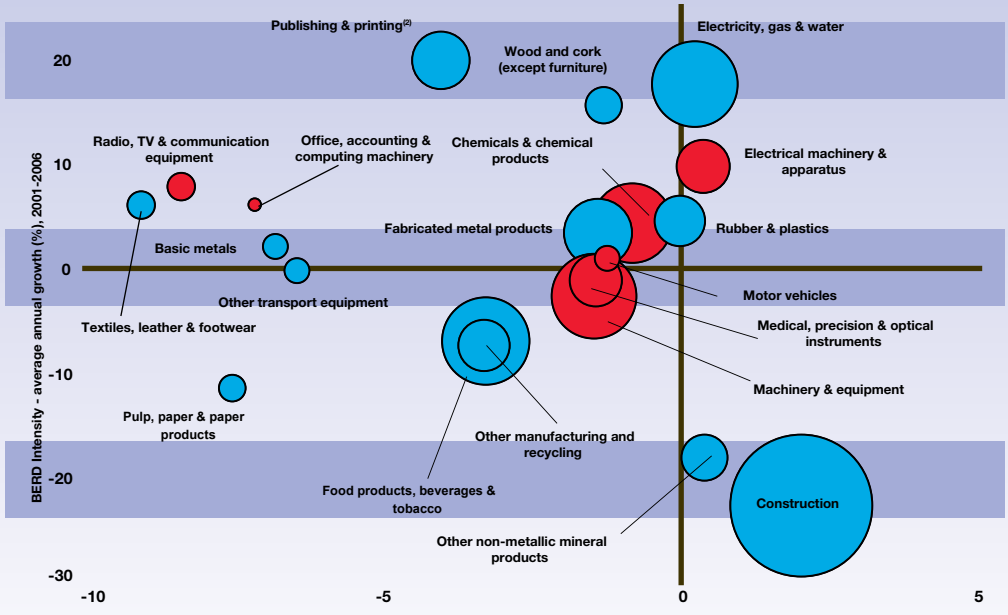
Denmark is a small and open country, which is reflected in both scientific and technological cooperation. However, its scientific cooperation with other European countries, benefiting from the emerging European Research Area, is more intensive and broader in scope than its technological cooperation in 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.

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:

- 14th in terms of number of applicants and
- 12th 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:

- 5th in terms of applicants success rate and
- 5th 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:

- 12th in number of participations and
- 12th 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)	- 5th	
- 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		
(% EU-27*)	1 991.35	
(2.26%)	88 295	
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%)		

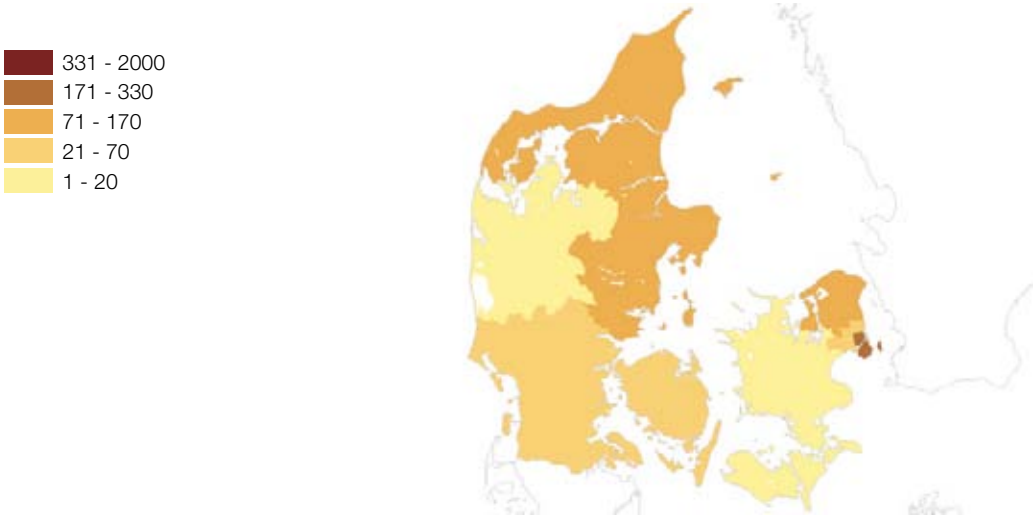


TABLE 1

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 valida 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	% ot total EC contribution to grant holders
HES	2770	884.81	672	24.26%	203.41	22.99%	588	229.52	55.37%
PRC	1 350	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	1 313	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%
Nordsjolland (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%