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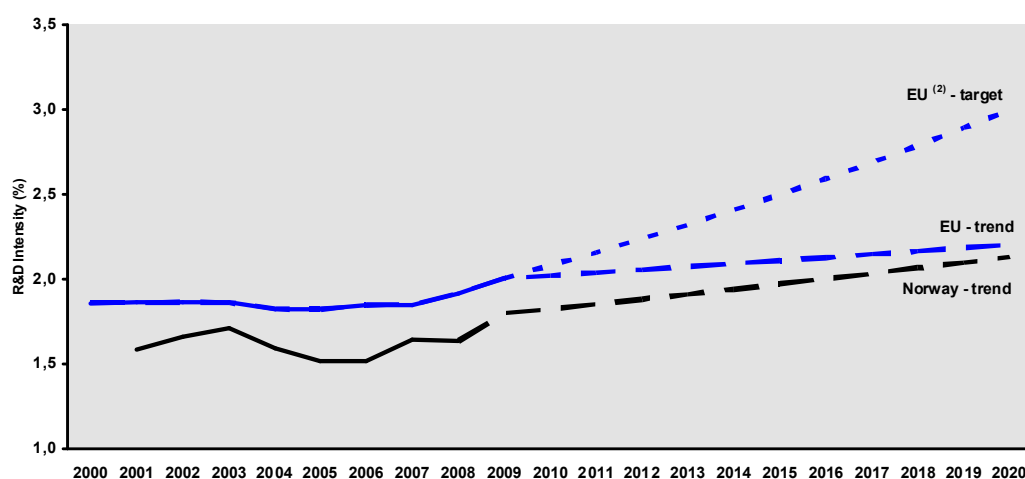
COMMISSION STAFF WORKING PAPER

Innovation Union Competitiveness report 2011

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 innovation concerns 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 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.

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



Source: DG Research and Innovation

Innovation Union Competitiveness Report 2011

Data: DG Research and Innovation, Eurostat

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

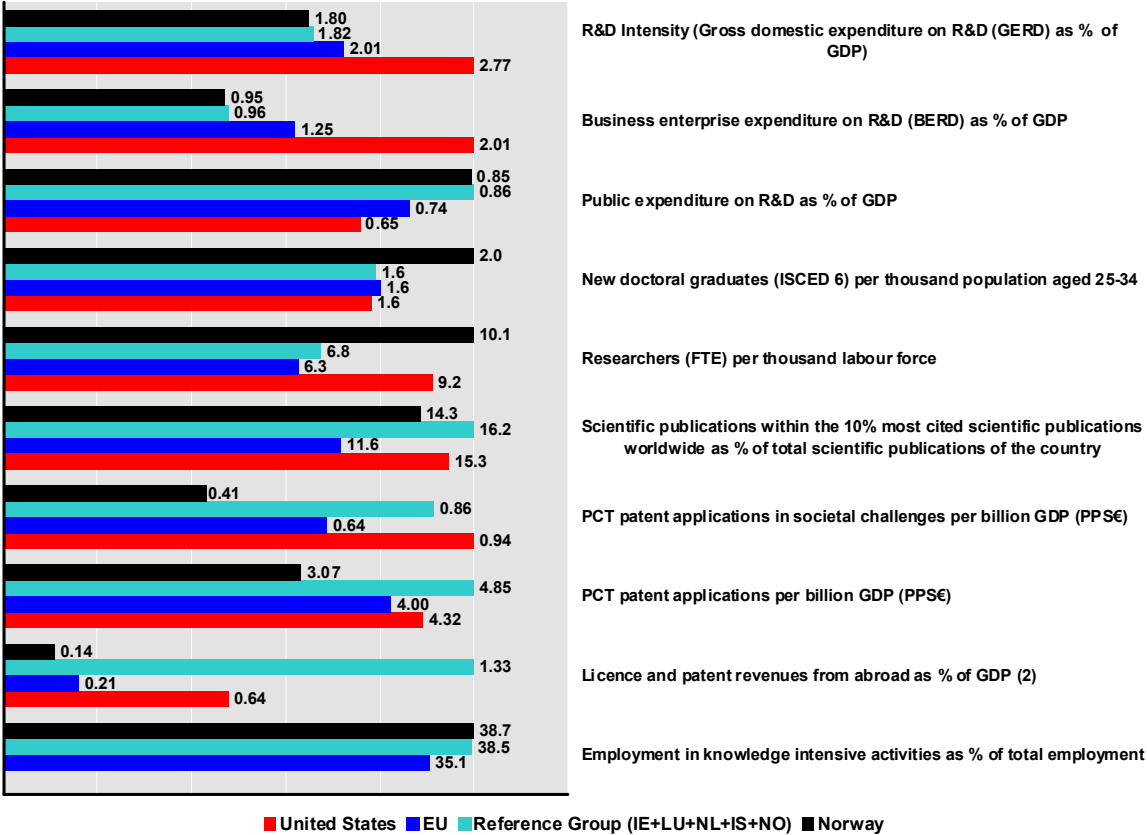
Research and Innovation Performance

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 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 EPO per billion GDP, Norway was in 2007 (most recent year available) at a level below 2%, compared to the EU average above 4%.

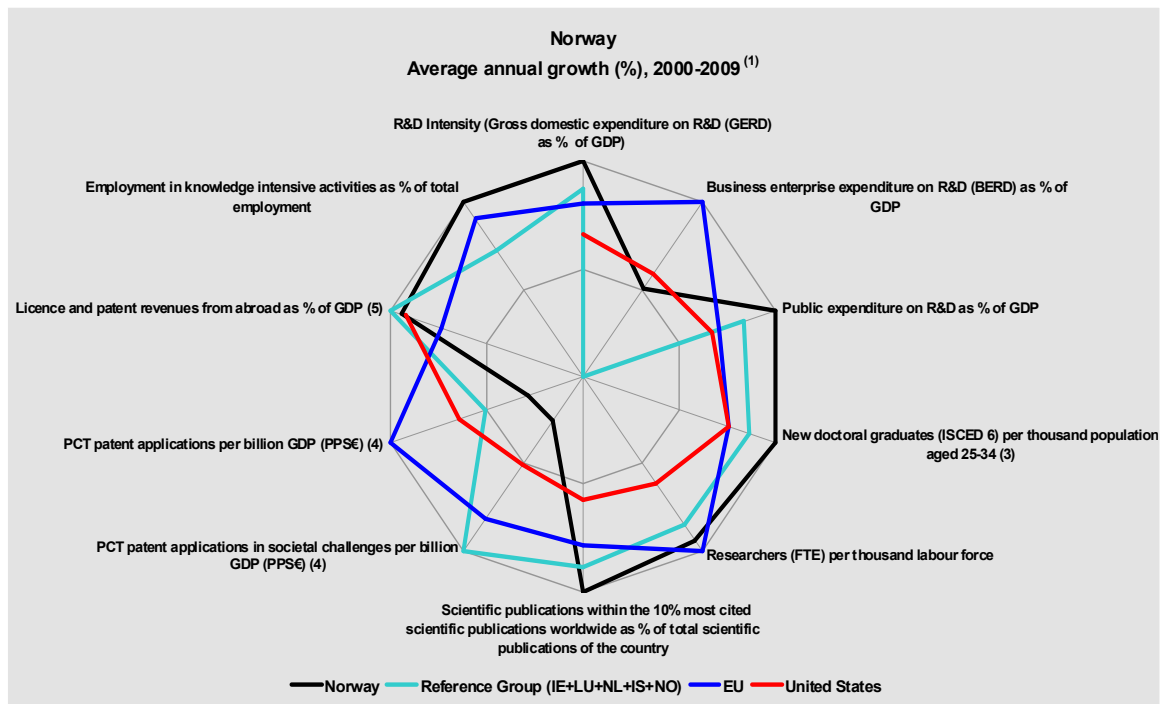
Norway

R&D profile, 2009⁽¹⁾



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) EU refers to extra-EU.
 (3) Elements of estimation were involved in the compilation of the data.

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.



Source: DG Research and Innovation

Innovation Union Competitiveness Report 2011

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 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.

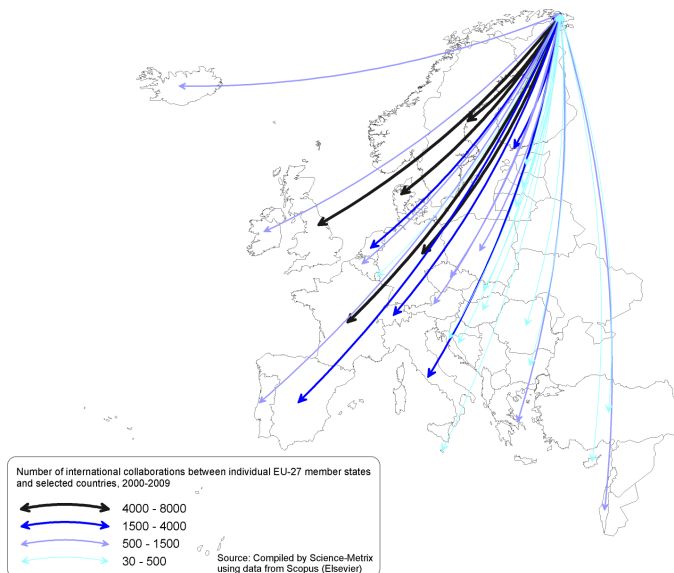
(6) Elements of estimation were involved in the compilation of the data.

Connecting to the scientific and technological collaborations in the European Research Area

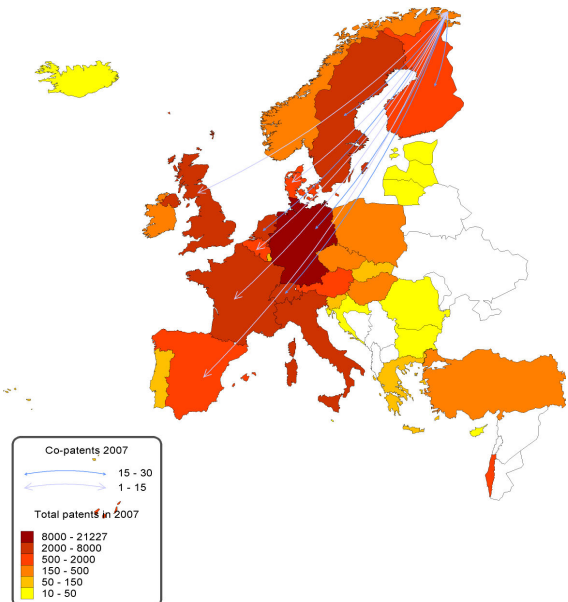
Norway's scientific cooperation (measured by co-publications) with other European countries is broader and more intense than its technological cooperation (measured by co-patents), providing potential for growing internationalisation of the technology cooperation. The main scientific partner countries are the Nordic neighbours and the larger research countries such as the United Kingdom, Germany and France. As a difference from the technological cooperation, co-publications are intensive with almost EU Member States and with associated countries 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

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



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



Source: DG Research and Innovation
Data: Scopus/ Science Metrix and Eurostat

FP7 Key facts and figures

Applications:

As of 2011/03/16, a total of

- 3.446 eligible proposals were submitted in response to 248 FP7 calls for proposals
- involving 4.801 applicants from Norway (23,74% of Associated Countries) and
- requesting EUR 1.799,61m of EC contribution (22,83% of Associated Countries)

Among the Associated Countries Norway (NO) ranks:

- 2nd in terms of number of applicants and
- 3rd 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 1.184 (24,7%) successful applicants from Norway and
- requesting EUR 378,98m (21,1%) of EC financial contribution

Among the Associated Countries, Norway (NO) ranks:

- 3rd in terms of applicants success rate and
- 3rd 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 8.933 participants of which 951 (10,65%) are from Norway
- benefiting from a total of EUR 2.451,21m 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:

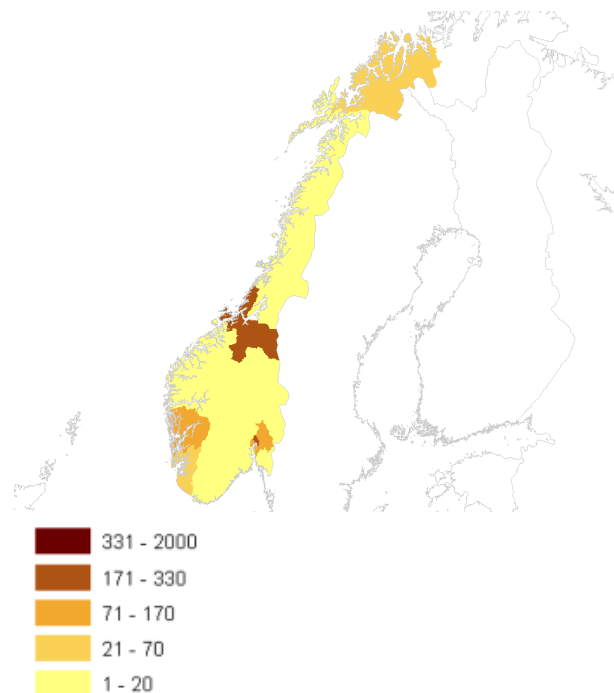
- 2nd in number of participations and
- 3rd in budget share

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,

Nr. of FP7 applicants	4.801	
(% Associated Countries)	20.227	
(23,74%)		
Req. EC contribution by FP7 applicants in EUR million	1.799,61	
(% Associated Countries)	7.884	
(22,83%)		
Nr. of successful FP7 applicants	1.184	
(% Associated Countries)	4.802	
(24,66%)		
Req. EC contribution by successful FP7 applicants in EUR million	378,98	
(% Associated Countries)	1.711,27	
(22,15%)		
Success rate FP7 applicants	24,7%	23,5%
Success rate		
FP7 EC contribution	21,1%	21,7%
Nr. of FP7 grant holders		
(% Associated Countries)	951	
(23,24%)	4.092	
EC contribution to FP7 grant holders in EUR million		
(% Associated Countries)	303,28	
(19,76%)	1.535,13	
Nr. of FP7 coordinators		
(% of grant holders)	155	
(16,30%)	915	
(22,36%)		
Nr. of FP7 SME grant holders		
(% grant holders)	182	
(19,14%)	634	
(15,49%)		
EC contribution to FP7 SME grant holders in EUR million		
(% of grant holders)	43,19	
(14,24%)	175,41	
(11,43%)		



- 1.437 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 (1.012)
- DE - Germany (985)
- FR - France (692)

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 %

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 %

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),

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%

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 TROMSOE	20	2,10%	7,57	2,49%

NOTES:

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

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

**E-STAT Reference year: 2007

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