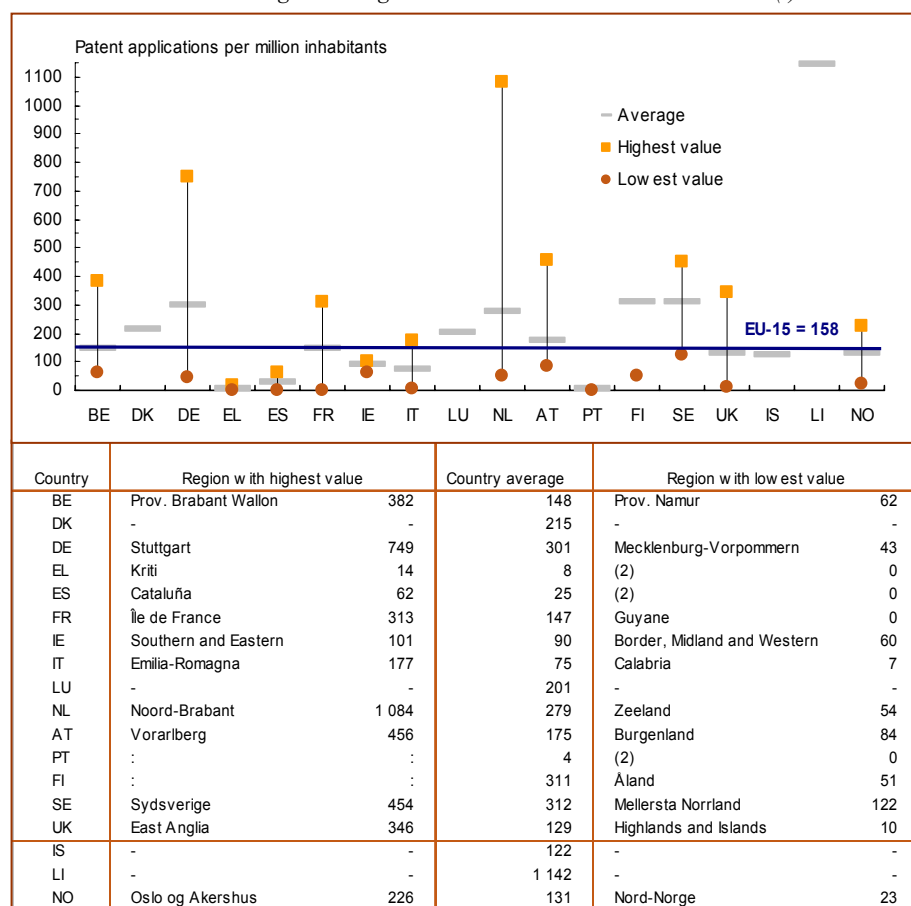


# Patent applications to the EPO from the EU regions 1997 to 2002

*Patenting in EU-15 is highly concentrated in a few regions*

Figure 1: Patent applications to the EPO per million inhabitants in the EEA-18  
National averages and regional extremes at NUTS 2 level in 2002 <sup>(1)</sup>



- (1) 2002: provisional data;  
2002 population data for all regions — with the exception of those in Norway: Eurostat estimations;  
The following new NUTS 2 regions (NUTS 2003) are excluded from the table because population data is not available: Brandenburg-Nordost (DE), Brandenburg-Südwest (DE), Pohjois-Suomi (FI), Länsi-Suomi (FI), Etelä-Suomi (FI), Provincia Autonoma Bolzano/Bozen (IT), Provincia Autonoma Trento (IT), Centro (PT), Lisboa (PT).
- (2) For EL, ES and PT, there was more than one region with zero patent applications per million inhabitants in 2002:  
EL: Dytiki Makedonia, Ionia Nisia, Voreio Aigaio;  
ES: Ciudad Autónoma de Ceuta and Ciudad Autónoma de Melilla;  
PT: Alentejo and Regio Autónoma dos Açores.

- In 2002, the EU-15 region that applied for most patents to the EPO was Île de France (3 467). However, in relative terms, Noord-Brabant (NL) was ahead (1 084 patent applications per million inhabitants).
- Out of 213 regions at the NUTS 2 level, 50% of the total patent applications to the EPO were applied for by inventors from 20 regions.
- Concerning patent applications in high tech fields, with 1 201 applications, which corresponded to 502 per million inhabitants, Noord-Brabant (NL) led both in absolute and relative terms.
- In the high tech fields, 13 regions accounted for 50% of the total high tech patent applications to the EPO from the EU-15.

Statistics  
in focus

SCIENCE AND  
TECHNOLOGY

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Author  
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## In 2002, Île de France (FR) led in absolute terms and Noord-Brabant (NL) as a proportion of population

Figure 1 shows the regional distribution of patent applications per million inhabitants in the EU-15, by mapping the national averages and the regional extremes at the NUTS 2 level. In 2002, 8 EU-15 countries had at least one region above the EU-15 average (158). Germany and the Netherlands are the countries with the greatest regional disparities. In the Netherlands, the highest region registered 1 084 patent applications per million inhabitants (Noord-Brabant) and the lowest only 54 (Zeeland).

Regional disparities are noticeable not only among regions of each country, but also across Member States of the EU. The top three patenting regions of each Member State in absolute terms in 2002 are listed in Table 1. It can be seen that German regions lead in absolute terms, as even the third region in this country is above the top regions of the rest of the Member States — with the exception of the French capital region of Île de France (FR) and the Dutch region of Noord-Brabant.

Table 1: Top three patenting regions per EEA-18 country in absolute terms — 2002 <sup>(1)</sup>

Country	NUTS 2 region	Total number	Per million inhabitants (2)	% of EU-15 total	Distribution by IPC section in % (3)							
					A	B	C	D	E	F	G	H
<b>EU-15</b>		<b>60 158</b>	<b>158</b>	<b>100.0</b>	<b>15.8</b>	<b>18.9</b>	<b>14.1</b>	<b>1.9</b>	<b>4.1</b>	<b>10.0</b>	<b>17.0</b>	<b>18.1</b>
BE	Prov. Antwerpen	341	207	0.6	11.1	20.6	20.2	0.1	2.0	6.1	22.3	17.6
	Prov. Vlaams-Brabant	232	226	0.4	14.5	10.9	34.0	2.6	2.7	4.1	11.9	19.2
	Région de Bruxelles-Capitale	168	173	0.3	16.9	13.3	35.6	3.7	3.4	4.0	12.0	10.9
DK	Denmark	1 153	215	1.9	27.1	13.1	18.3	0.9	4.2	8.2	14.2	14.0
DE	Oberbayern	3 034	741	5.0	8.1	17.5	9.1	0.9	2.3	10.2	21.7	30.2
	Stuttgart	2 952	749	4.9	3.6	27.8	2.4	2.7	3.0	28.6	15.1	16.8
	Düsseldorf	1 662	316	2.8	14.7	20.8	28.9	3.7	5.2	10.1	7.5	9.1
EL	Attiki	52	13	0.1	30.3	13.3	11.4	0.0	7.7	8.9	17.3	11.2
	Kentriki Makedonia	16	9	0.0	31.1	19.7	13.1	0.0	0.0	6.1	11.6	18.3
	Kriti	8	14	0.0	58.8	0.0	5.9	0.0	0.0	11.8	11.8	11.8
ES	Cataluña	384	62	0.6	24.2	29.7	12.3	1.8	5.4	5.1	8.7	12.9
	Comunidad de Madrid	224	43	0.4	22.8	10.1	20.6	0.2	2.9	3.8	17.0	22.5
	Comunidad Valenciana	101	25	0.2	19.6	23.4	17.0	1.6	9.4	5.1	10.0	13.9
FR	Île de France	3 467	313	5.8	19.3	14.8	12.4	0.3	3.1	10.1	18.7	21.4
	Rhône-Alpes	1 480	258	2.5	18.6	15.2	17.1	2.7	3.5	6.5	19.0	17.3
	Provence-Alpes-Côte d'Azur	512	112	0.9	14.6	12.9	12.8	0.4	2.1	4.2	32.6	20.5
IE	Southern and Eastern	287	101	0.5	22.3	8.5	10.1	0.0	3.7	3.1	26.3	26.1
	Border, Midland & Western	61	60	0.1	56.9	18.8	0.0	1.6	11.2	6.5	1.6	3.3
IT	Lombardia	1 391	152	2.3	20.7	20.8	13.3	5.1	5.1	8.9	10.4	15.8
	Emilia-Romagna	710	177	1.2	24.2	42.0	8.7	0.8	4.2	9.6	7.4	3.1
	Veneto	542	119	0.9	29.4	25.1	10.5	4.4	6.5	9.8	5.5	8.8
LU	Luxembourg	89	201	0.1	3.3	33.5	22.7	3.5	3.0	19.7	7.6	6.7
NL	Noord-Brabant	2 593	1 084	4.3	6.0	3.6	3.2	0.4	0.7	2.2	38.2	45.8
	Zuid-Holland	536	156	0.9	26.0	14.9	24.1	1.1	8.0	4.3	11.7	9.8
	Noord-Holland	329	129	0.5	20.4	22.7	29.2	0.0	3.6	4.0	11.6	8.5
AT	Oberösterreich	289	209	0.5	9.6	30.7	13.4	5.8	10.6	12.5	9.7	7.7
	Wien	272	168	0.5	20.3	15.1	17.0	1.3	5.4	4.1	13.8	23.0
	Steiermark	208	173	0.3	5.2	20.7	13.5	2.9	8.1	13.2	15.7	20.7
PT	Lisboa	22	:	0.0	16.5	21.8	26.9	0.0	4.6	14.9	9.2	6.2
	Norte	13	4	0.0	12.6	0.0	25.3	3.8	7.6	22.8	10.1	17.9
	Centro (P)	7	:	0.0	4.0	15.3	1.5	0.0	46.3	0.0	14.9	17.9
FI	Etelä-Suomi	988	:	1.6	9.3	12.3	9.9	6.0	3.0	5.5	17.5	36.4
	Länsi-Suomi	418	:	0.7	6.3	15.5	5.2	10.5	4.6	6.8	23.3	27.7
	Pohjois-Suomi	151	:	0.3	4.6	8.6	8.2	1.3	0.8	3.3	17.0	56.2
SE	Stockholm	827	452	1.4	18.4	8.9	6.4	1.6	1.1	6.4	20.3	36.9
	Västsverige	583	328	1.0	24.5	23.1	7.5	3.3	3.1	14.1	12.1	12.3
	Sydsverige	582	454	1.0	14.9	17.5	7.3	0.9	3.3	7.5	23.5	25.1
UK	East Anglia	771	346	1.3	10.0	11.3	14.7	0.4	3.4	2.5	27.3	30.4
	Berkshire, Bucks & Oxfordshire	735	343	1.2	20.3	10.1	21.5	0.6	2.2	3.9	25.2	16.2
	Gloucesters., Wilts. & North Somerset	517	234	0.9	13.8	10.3	5.8	1.0	3.2	4.6	31.1	30.1
IS	Iceland	35	122	0.1	26.1	6.7	30.8	0.0	0.0	2.9	28.4	5.2
LI	Liechtenstein	38	1 142	0.1	45.5	12.8	7.8	0.0	2.6	14.8	6.7	9.8
NO	Oslo og Akershus	224	226	0.4	18.9	14.7	10.6	0.1	4.9	7.0	28.6	15.3
	Agder og Rogaland	121	188	0.2	12.0	23.4	6.3	0.1	22.2	16.7	7.8	11.5
	Sør-Østlandet	99	114	0.2	12.4	14.3	25.8	0.7	7.9	16.7	15.5	6.7

(1) 2002 provisional data.

(2) 2002 population data for all regions — with the exception of those in Norway: Eurostat estimations.

(3) See abbreviations in page 7.

Overall, the *International Patent Classification* — IPC section that accounted for the largest proportion of patent applications to the EPO from the EU-15 was 'Performing operations; transporting', followed by 'Electricity'. When looking at the leading regions selected in Table 1, 'Electricity' is the main IPC section for 11 of them, whilst 'Human necessities' was most important for another 10.

As shown in Table 2, patenting activities in the EU-15 are highly concentrated in a few leading regions. Out of 213 regions at the NUTS 2 level, 25% of the total patent applications to the EPO were applied for by inventors from 6 regions, whereas 20 regions accounted for 50% of the total. This high regional concentration of patenting activities is

noticeable regardless of the IPC section being observed. However, the highest concentration was registered in the 'Electricity' section, for which only 13 regions accounted for 50% of the applications in this field.

The performance of Noord-Brabant (NL) in 2002 was outstanding, as being the leading EU-15 region as a proportion of population with 1 084 patent applications per million inhabitants — Figure 2, it was also the region for which patent applications to the EPO grew the most during the 1997-2002 period — 21.6% per annum, Figure 3.

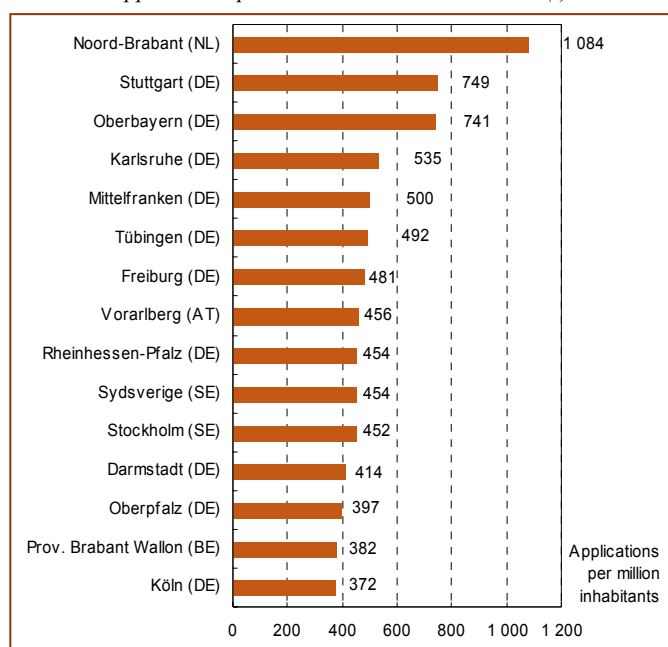
As a proportion of population, German regions represent 10 out of the 15 leading regions shown in Figure 2.

Table 2: Concentration of patent applications to the EPO in EU-15 regions by IPC section <sup>(1)</sup>

	Number of regions per quartile of patent applications				Patent applications from EU-15	% of patent applications not broken down by region
	Q1	Q2	Q3	Q4		
<b>Total</b>	<b>6</b>	<b>20</b>	<b>54</b>	<b>213</b>	<b>60 158</b>	<b>0.25</b>
A Human necessities	8	24	58	213	9 499	0.41
B Performing operations; transporting	6	20	53	213	11 386	0.24
C Chemistry; metallurgy	6	19	52	213	8 484	0.22
D Textiles; paper	5	13	34	213	1 145	0.29
E Fixed constructions	8	24	63	213	2 475	0.31
F Mechanical engineering; lighting; heating; weapons; blasting	3	15	43	213	6 042	0.13
G Physics	4	16	41	213	10 223	0.26
H Electricity	3	13	36	213	10 905	0.18

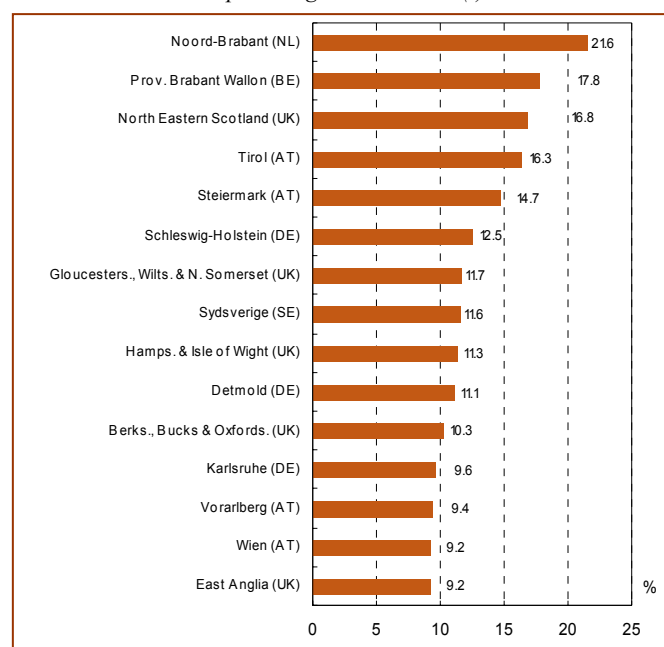
**Example:** 25% of the total patent applications to the EPO (Q1) were applied for by inventors from 6 EU-15 regions, 50% were applied for by inventors from 20 regions and 75% by inventors from 54 regions. The total number of regions at the NUTS 2 level, excluding the not possible to regionalise categories, is 213. (1) 2002 provisional data.

Figure 2: Top fifteen patenting regions in EU-15 in terms of applications per million inhabitants — 2002 <sup>(1)</sup>



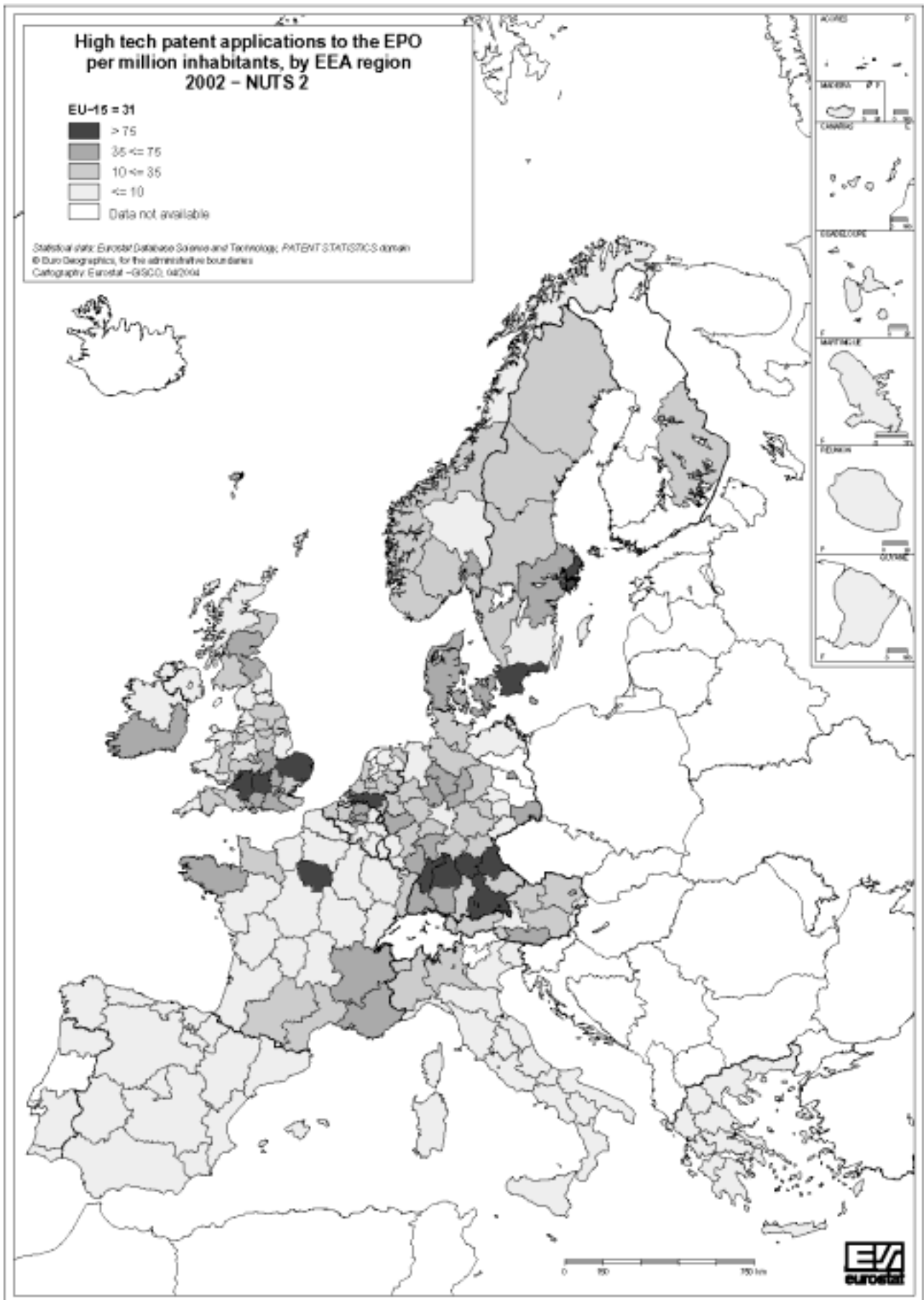
(1) 2002: provisional data; 2002 population data for all regions — with the exception of those in Norway: Eurostat estimations; The following new NUTS 2 regions (NUTS 2003) are excluded from the figure because population data is not available: Brandenburg-Nordost (DE), Brandenburg-Südwest (DE), Pohjois-Suomi (FI), Länsi-Suomi (FI), Etelä-Suomi (FI), Provincia Autonoma Bolzano/Bozen (IT), Provincia Autonoma Trento (IT), Centro (PT), Lisboa (PT).

Figure 3: Fifteen EU-15 regions with the highest growth in patenting — 1997-2002 <sup>(1)</sup>



(1) 2002: provisional data; Annual average growth rate 1997-2002 EU-15: 7.0%; Regions considered only if they have a patent applications to the EPO per million inhabitants rate above the EU average (158); The following new NUTS 2 regions (NUTS 2003) are excluded from the figure because population data is not available: Brandenburg-Nordost (DE), Brandenburg-Südwest (DE), Pohjois-Suomi (FI), Länsi-Suomi (FI), Etelä-Suomi (FI), Provincia Autonoma Bolzano/Bozen (IT), Provincia Autonoma Trento (IT), Centro (PT), Lisboa (PT).

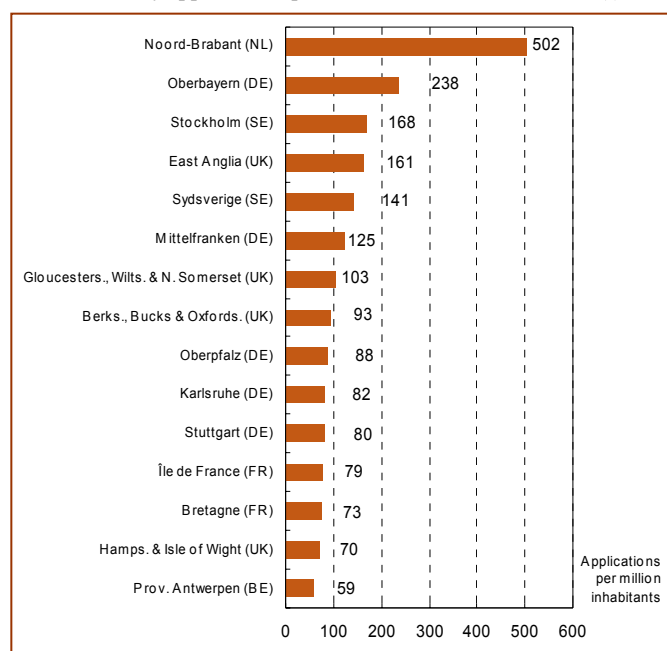
Map 1:



2002: provisional data; 2002 population data for all regions — with the exception of those in Norway: Eurostat estimations;  
 The following new NUTS 2 regions (NUTS 2003) are excluded from the map because population data is not available:  
 Brandenburg-Nordost (DE), Brandenburg-Südwest (DE), Pohjois-Suomi (FI), Länsi-Suomi (FI), Etelä-Suomi (FI),  
 Provincia Autonoma Bolzano/Bozen (IT), Provincia Autonoma Trento (IT), Centro (PT), Lisboa (PT).

## In high tech patenting, Noord-Brabant (NL) led both in absolute terms and as a proportion of population in 2002

Figure 4: Top fifteen high tech patenting regions in the EU-15 in terms of applications per million inhabitants — 2002 <sup>(1)</sup>



- (1) 2002: provisional data; 2002 population data for all regions — with the exception of those in Norway: Eurostat estimations; The following new NUTS 2 regions (NUTS 2003) are excluded from the table because population data is not available: Brandenburg-Nordost (DE), Brandenburg-Südwest (DE), Pohjois-Suomi (FI), Länsi-Suomi (FI), Etelä-Suomi (FI), Provincia Autonoma Bolzano/Bozen (IT), Provincia Autonoma Trento (IT), Centro (PT), Lisboa (PT).

Map 1 shows the regional distribution of high tech patenting at the NUTS 2 level. In 2002, high tech patent applications per million inhabitants in the EEA-18 regions ranged between 502 in Noord-Brabant (NL) to zero applications in various regions of Spain, Finland, France, Greece and Italy. Following Noord-Brabant, the leading EU-15 regions as a proportion of population were the German region of Oberbayern (238) and Stockholm (168) in Sweden — Figure 4.

In terms of the total number of applications, Noord-Brabant was also the leading EU-15 region in high tech patenting, as in 2002 it applied for 1 201 patents in these fields — Table 3. Whilst high tech patents in the EU represented 19.5% of total patents overall, in Noord-Brabant they accounted for 46.3% of the total.

As regards the distribution of patent applications by high tech group, applications in the field of *Communication technology* — CTE represented almost half of high tech patent applications from EU-15. This general trend was also observed for the majority of the leading regions in absolute terms, as for 16 out of the 20 regions presented in Table 3, the *Communication technology* field accounted for the largest proportion.

Table 3: Top twenty high tech patenting regions in EU-15 in absolute terms — 2002 <sup>(1)</sup>

Country	NUTS 2 region	Total number	Per million inhabitants (2)	High tech as a % of total applications	Distribution by high tech group in % (3)					
					AVI	CAB	CTE	LSR	MGE	SMC
<b>EU-15</b>		<b>11 739</b>	<b>31</b>	<b>19.5</b>	<b>1.3</b>	<b>29.0</b>	<b>45.4</b>	<b>1.5</b>	<b>14.2</b>	<b>8.6</b>
NL	Noord-Brabant	1 201	502	46.3	0.1	33.9	53.7	0.0	0.7	11.6
DE	Oberbayern	973	238	32.1	1.1	25.3	50.1	0.9	9.5	13.2
FR	Île de France	873	79	25.2	1.1	26.0	53.5	3.0	13.0	3.5
FI	Etelä-Suomi	392	:	39.7	0.3	21.0	72.7	0.0	4.6	1.4
UK	East Anglia	358	161	46.4	0.3	28.1	42.8	4.2	16.5	8.1
DE	Stuttgart	315	80	10.7	0.8	21.2	65.0	0.9	2.4	9.7
SE	Stockholm	306	168	37.1	0.3	22.5	62.9	3.9	5.4	5.0
FR	Rhône-Alpes	299	52	20.2	0.8	40.2	21.0	2.1	12.8	23.0
DE	Köln	244	57	15.3	0.9	23.5	41.5	0.4	21.7	12.1
DK	Danmark	241	45	20.9	0.0	20.1	42.0	2.1	32.6	3.2
UK	Gloucesters., Wilts. & N. Somerset	228	103	44.1	2.7	41.1	48.1	0.1	5.2	2.7
DE	Karlsruhe	221	82	15.4	0.7	52.4	20.2	0.5	22.7	3.5
FR	Bretagne	216	73	56.4	0.0	13.3	82.9	1.9	1.7	0.3
DE	Mittelfranken	211	125	25.0	0.4	38.3	44.1	0.0	4.9	12.3
UK	Berks., Bucks. & Oxfordshire	199	93	27.0	1.1	37.6	36.3	0.7	20.5	3.7
FR	Provence-Alpes-Côte d'Azur	196	43	38.2	2.9	52.0	30.7	0.0	9.0	5.4
IT	Lombardia	188	21	13.5	2.5	30.3	46.4	0.0	5.4	15.4
SE	Sydsverige	181	141	31.1	0.0	42.7	49.8	0.3	6.2	1.0
DE	Berlin	181	53	26.9	0.8	17.0	37.5	3.6	34.5	6.6
DE	Darmstadt	168	45	10.8	2.1	22.8	43.8	0.6	22.9	7.8

- (1) 2002 provisional data.  
(2) 2002 population data for all regions — with the exception of those in Norway: Eurostat estimations.  
(3) See abbreviations in page 7.

Table 4 shows the level of concentration of high tech patent applications to the EPO in the EU-15 regions. It may be seen that the level of concentration is even higher in high tech patenting than it was in total patents — Recall Table 2. Out of 213 regions at the NUTS 2 level, 25% of high tech patent applications to the EPO in 2002 were applied for by inventors from 3 regions, compared to 6 in total patenting. 50% were applied for by inventors from 13 different regions, as opposed to 20 in total patenting. This high regional concentration of high tech patenting activities is noticeable regardless of the high tech group being observed. However, the highest concentration was registered in *Semiconductors* and *Lasers*, for which 50% of the applications originated from only 8 regions.

The EU-15 regions with the highest and the lowest growth in high tech patenting during the 1997-2002 period are listed in Table 5. Readers should notice that only regions with a ratio of high tech patent applications per million inhabitants at least equal to the EU average (31) are taken into account in the ranking. High tech patent applications to the EPO grew at an annual average growth rate of 15.7% during the 1997-2002 period in EU-15. Among the EU-15 regions, Dresden in Germany was the fastest growing region (48.9% per annum). Following Dresden were the German region of Rheinhessen-Pfalz (40.3%) and Bretagne (39.3%) in France. The regions that grew the least were Bedfordshire and Hertfordshire (2.9%) in the UK and Stockholm (4.2%) in Sweden.

Table 4: Concentration of high tech patent applications to the EPO in EU-15 regions by high tech group — 2002 <sup>(1)</sup>

	Number of regions per quartile of high tech patent applications				High tech patent applications from EU-15	% of high tech patent applications not broken down by region
	Q1	Q2	Q3	Q4		
<b>Total high tech</b>	<b>3</b>	<b>13</b>	<b>35</b>	<b>213</b>	<b>11 739</b>	<b>0.18</b>
Aviation — AVI	4	11	28	213	147	0.00
Computer and automated business equipment — CAB	3	12	31	213	3 399	0.09
Communication technology — CTE	3	9	27	213	5 335	0.19
Lasers — LSR	3	8	18	213	182	0.00
Micro-organism and genetic engineering — MGE	6	15	45	213	1 663	0.40
Semiconductors — SMC	2	8	26	213	1 014	0.08

**Example:** 25% of the high tech patent applications to the EPO (Q1) were applied for by inventors from 3 regions, 50% were applied for by inventors from 13 regions and 75% by inventors from 35 regions. The total number of regions at the NUTS 2 level, excluding the *not possible to regionalise* categories, is 213.

(1) 2002 provisional data.

Table 5: Ten EU-15 regions with highest and lowest growth <sup>(1)</sup> in high tech patenting — 1997-2002 <sup>(2)</sup>

Regions with highest growth				Regions with lowest growth			
Country	NUTS 2 region	Total number 2002	AAGR (3) 1997-2002 in %	Country	NUTS 2 region	Total number 2002	AAGR (3) 1997-2002 in %
DE	Dresden	75	48.9	UK	Bedfords. & Hertfordshire	69	2.9
DE	Rheinhessen-Pfalz	87	40.3	SE	Stockholm	306	4.2
FR	Bretagne	216	39.3	DE	Freiburg	95	5.9
AT	Kärnten	24	38.9	UK	Essex	55	7.1
UK	Leicesters., Rutland and Northamptons.	63	32.0	DE	Hannover	113	7.7
NL	Noord-Brabant	1201	31.7	DE	Oberpfalz	95	8.8
SE	Sydsverige	181	30.4	DE	Schwaben	59	9.1
UK	Inner London	161	30.3	UK	Surrey, East & West Sussex	106	9.8
DE	Mittelfranken	211	28.8	DE	Stuttgart	315	10.8
IE	Southern & Eastern	104	28.2	NL	Utrecht	35	10.8

(1) With a ratio of high tech patent applications per million inhabitants at least equal to the EU average (31).

(2) 2002 provisional data.

(3) AAGR: Annual average growth rate. Annual average growth rate 1997-2002 EU-15: 15.7%.



## ➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

This Statistics in Focus provides an insight into the regional patenting activities at the European Patent Office (EPO). The analysis covers the EEA-18 regions with especial focus on EU-15. Regions are classified according to the 2003 edition of the Nomenclature of Territorial Units for Statistics — NUTS, and are considered at the NUTS 2 level.

### Eurostat's patents database

A patent is a legal title of industrial property granting its owner the exclusive right to exploit an invention commercially for a limited area and time. The patent confers on its owner the right to stop others from, among other things, making, using or selling such an invention without authorisation. In return for the exclusive right to exploit it, the technical details of the invention are published.

The three criteria that qualify an invention as subject to be patented are its novelty, utility and inventiveness, which are ultimately the grounds for the fundamental hypothesis that a patent represents a codification of inventive activity. It is on the basis of this hypothesis that patent statistics are used to build up indicators of R&D output.

Eurostat's patent database contains two collections of statistical data:

- Patent applications to EPO by date of filing (data source: EPO) — PAT\_EU,
- Patent indicators at the EPO, the USPTO and triadic patent families (data source: OECD) — PAT\_EUT.

Each collection originates from a different source and the methodologies used for processing the data are not necessarily the same.

All the data presented in this SIF originate from the PAT\_EU collection, which is maintained in close co-operation with the European Patent Office — EPO (1). Every year the EPO supplies Eurostat with the latest available data, which are then processed to derive the regional and national indicators. Detailed series of patent data can be obtained from Eurostat's reference database *NewCronos*; Theme 9; Domain: Patent Statistics.

The database contains data at the national and regional levels. Following a complete revision of the patents database in 2004, including the calculation of derived indicators, regional data are broken down according to the 2003 edition of the *Nomenclature of Territorial Units for Statistics — NUTS* (2). This may explain potential differences with data extracted before the 2004 update.

Data in the PAT\_EU database are given broken down according to the *International Patent Classification — IPC*, which assigns an invention to an IPC-class according to its function or intrinsic nature or its field of application (3). The database covers the period 1989 to 2002, 2002 data being provisional. At times, provisional data may show a slight decrease in the number of patent applications to the EPO compared to the previous years. This could be explained by the fact that for the *Patent Co-operation Treaty — PCT* — applications, the data on the country of residence of the applicant(s) and/or the inventor(s) is imputed into the EPO database only after their international publication. This means that data are only final 18 months after the priority date — See below. Therefore, 2002 final data will only be available after August 2004.

Different criteria can be chosen to count patents. Depending on the options made, the obtained indicators have different value and different meaning. The criteria used by Eurostat for the data extraction from the EPO refer especially to the regional potential for innovation and are defined as follows:

- **Type of patents covered:** Data in the PAT\_EU database refer to applications filed directly under the European Patent Convention or to applications filed under the Patent Co-operation Treaty and designating the EPO (Euro-PCT).
- **Reference year:** Patent applications are counted according to the year in which they were filed at the EPO or year of application.

- **Geographical assignment of the patent:** The regional distribution of patent applications is assigned according to the inventor's place of residence, following the methodological recommendations given in *'The Regional Dimension of R&D and Innovation Statistics — Regional Manual'*. If one application has more than one inventor, the application is divided equally among all of them and subsequently among their regions.
- **Assignment to the IPC codes:** If a patent is assigned to more than one IPC code, the application is equally divided among all the IPC-subclasses.
- **High tech patent applications:** The definition of high tech followed by Eurostat is that of the Trilateral Statistical Report. Here, the following technical fields are defined as high technology: computer and automated business equipment; micro-organism and genetic engineering; aviation; communication technology; semi-conductors; lasers. Each group is constructed by aggregating a list of IPC subclasses.

For further information on definitions and explanatory notes see metadata in Eurostat's reference database *NewCronos*; Theme 9; Domain: PATENTS.

### Statistical abbreviations and symbols

- : not available
- not applicable

### IPC Sections

- Section A: Human necessities
- Section B: Performing operations; transporting
- Section C: Chemistry; metallurgy
- Section D: Textiles; paper
- Section E: Fixed constructions
- Section F: Mechanical engineering; lighting; heating; weapons; blasting
- Section G: Physics
- Section H: Electricity.

### High technology groups

- AVI Aviation
- CAB Computer and automated business equipment
- CTE Communication technology
- LSR Lasers
- MGE Micro-organism and genetic engineering
- SMC Semi-conductors.

(1) See EPO's web site at <http://www.epo.org>.

(2) For further details refer to **Regions, Nomenclature Territorial Units for Statistics NUTS**, Eurostat, 2003.

(3) For further detail on the IPC classification visit the WIPO's web site at <http://www.wipo.int>.

# Further information:

## ➤ Reference publications

Title Statistics on Science and Technology in Europe, 2003 edition  
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## ➤ Databases

NewCronos, Theme 9, Domain: patents

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