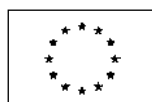


Europe in figures

Eurostat yearbook 2005

Chapter 5



EUROPEAN
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General and
regional statistics

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Luxembourg: Office for Official Publications of the European Communities, 2005

ISSN 1681-4789

ISBN 92-894-9122-1

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Eurostat, Dissemination unit

ACKNOWLEDGEMENTS

The editors of the Eurostat yearbook 2005 would like to thank all those who were involved in its preparation. The yearbook could be published thanks to the assistance and support of the following:

EUROSTAT, THE STATISTICAL OFFICE OF THE EUROPEAN COMMUNITIES*
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Geonomenclature (*E. Jouangrand*)

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The Eurostat yearbook is easy to use

- Introductory texts for each section explain the main features and the relevance of the information presented and give an idea of what other data on the subject Eurostat has on offer.
- A glossary clarifies the statistical terms and concepts used.
- References indicate how to get more Eurostat data and analysis on the subject.
- The abbreviations and acronyms used are spelled out on the bookmark to the yearbook.

Date of data extraction

The statistical data presented in this yearbook were extracted on **29 April 2005** and represent the data availability at that time. In the cases where the data were extracted later, these are mentioned in the chapters concerned.

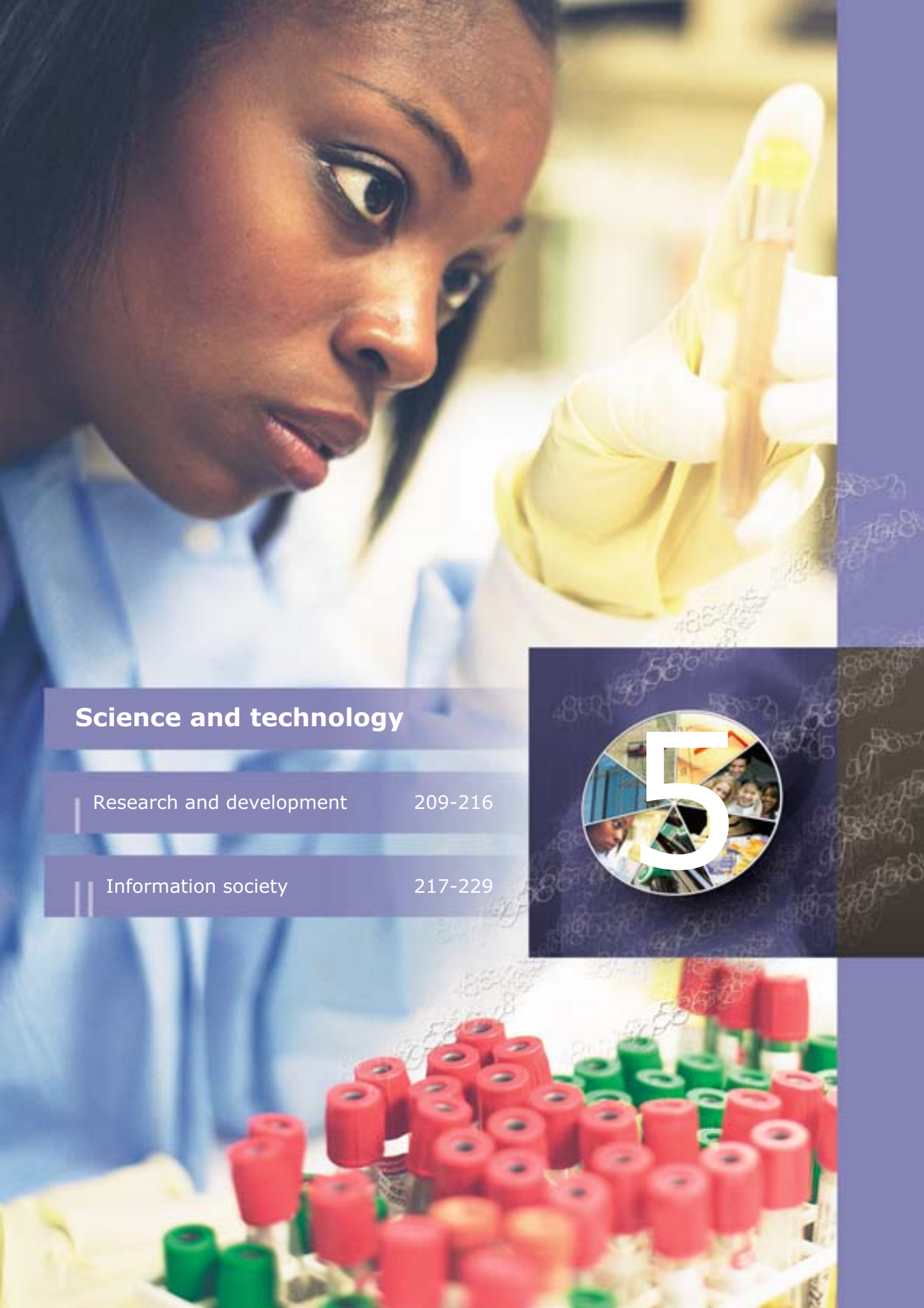
Order and coding of countries

The order of the EU Member States used in the Eurostat yearbook is their order of protocol. It follows the alphabetical order of the countries' short names in their respective native languages.

Generally, the countries are identified in the Eurostat yearbook 2005 by using the shortest official designation. If codes are used, these are the two-digit ISO codes, except for Greece and the United Kingdom for which EL and UK, respectively, are used.

Symbols and codes in the tables

- 'Not applicable' or 'real zero' or 'zero by default'
- 0 Less than half the final digit shown
- . Not applicable
- .. Confidential data. Data not conclusive or withheld owing to non-disclosure practice
- : Data not available
- b Break in series
- e Estimated value
- f Forecast
- i See footnote
- p Provisional value
- r Revised value
- s Eurostat estimate



Science and technology

Research and development 209-216

Information society 217-229





Research and development

Eurostat data

Eurostat provides a wide range of data on:

- innovation
- human resources in science and technology
- patent applications to the European Patent Office
- patents granted by the United States Patent and Trademark Office
- R & D expenditure
- R & D on government budget appropriations or outlays for research and development
- scientific and technical R & D personnel
- employment in high-technology sectors

Research and development: an engine of growth

Research and development (R & D) is a driving force behind economic growth, job creation, innovation of new products and increasing quality of products in general, as well as improvements in healthcare and environmental protection. At the Lisbon Summit in March 2000, the European Council set a clear strategic objective for Europe in the next decade: to make the EU the most competitive and dynamic knowledge-based economy in the world.

Eurostat supports this ambitious goal with its reliable and relevant statistical information on R & D and innovation, as well as on science and technology. Eurostat calculates a number of indicators and provides data for deeper analytical studies. Most indicators are calculated annually and are available at national and regional level (NUTS 2 level). Depending on the indicator, data are available not only for the Member States of the European Union but also for other members of the European Economic Area, candidate countries, Japan and the United States.

Inputs into R & D

Data on R & D expenditure and personnel as well as on government budget appropriations or outlays for research and development (GBAORD) are collected every year from the national statistical offices.

R & D expenditure is a 'priority indicator' for the effort devoted to R & D. The basic measure is 'intramural expenditures', i.e. all expenditures for R & D performed within a statistical unit or sector of the economy, whatever the source of funds. Among the several indicators available, R & D intensity (i.e. R & D expenditure as a percentage of GDP) is the most recommended for international comparisons and is very significant for comparing the countries' R & D efforts.

R & D intensity for the EU-25 showed a positive growth rate in the six years up to 2003.



When compared with the United States and Japan, the EU lags behind, but this is mainly due to the differences observed in the business enterprise sector. Within the EU, the highest R & D intensity is observed in Finland and Sweden, which outperform countries with the highest R & D expenditure in terms of volume (Germany, France and the United Kingdom). These are the only EU-25 Member States whose R & D intensity exceeded the 3 % level set by the Lisbon strategy.

In terms of human resources, data on scientific and technical R & D personnel provide indicators for useful international comparisons of resources devoted to R & D. For statistical purposes, indicators on R & D personnel are compiled in terms of persons, i.e. head count (HC), in full-time equivalent (FTE) or person-years, by gender, etc. At the EU-15 level, R & D personnel in HC as a proportion of the labour force has seen a modest increase over the last decade, with the Nordic countries taking the lead. In 2002, the EU-25 average percentage of R & D personnel among employed people was 1.31. This percentage was a little higher for the EU-15 at 1.42 %.

GBAORD are the amount governments allocate towards R & D activities. Comparisons of GBAORD across countries give an impression of the relative importance attached to State-funded R & D. GBAORD statistics complement the *ex post* figures on 'government-financed' gross expenditure on research and development (GERD) and, when broken down by socioeconomic objective, underline the domains governments believe to be important for current and future policy action. When measured as a proportion of GDP, Japan is approaching the ratio of the EU and the United States since the 1990s, while these two countries have followed a similar evolution.

Outputs of R & D

Patents reflect part of a country's inventive activity and show the country's capacity to exploit knowledge and translate it into potential economic gains. In this context, indicators based on patent statistics are widely used as a measure of R & D output and serve to assess the inventive performance of the countries, regions or industries. Patent data published in the Eurostat yearbook are provided by the European Patent Office (EPO) and the data for the United States Patent and Trademark Office (USPTO) are provided by the OECD.

The data from the EPO refer to patent applications filed under the European Patent Convention or under the Patent Cooperation Treaty and designating the EPO for protection. Although not all applications are granted, each one still represents technical effort by the inventor and so is regarded as an appropriate indicator of innovative potential. Overall, patent applications to the EPO have increased significantly since the beginning of the 1990s. The steady upward trend has, however, lost momentum since the beginning of the new decade and 2002 is the first year to show declining figures, albeit these figures are only provisional. Of the European countries, Germany has the highest number of patenting activities of the EPO total, when measured in absolute values. In relative terms, the country with the highest number of patent applications per million inhabitants is Sweden followed by Finland. These two countries, together with the Netherlands, are also leading in high-technology patenting and show a high specialisation in the communication technology field.

Human resources

The importance of high-technology sectors has increased considerably over the last few years and this has had a significant impact on the structure and organisation of employment in Europe. In order to permit analysis of knowledge- and technology-intensive sectors, Eurostat collects data on employment in high-technology and medium-high-technology manufacturing sectors, knowledge-intensive services (KIS), high-technology service sectors, other subsectors and reference sectors (for definitions, see glossary entry 'High-technology sectors').

Data on employment in high-technology and derived indicators are extracted and built up using data from the EU labour force survey (LFS). Data are available both at the national and regional levels. Within Europe, UK regions and Finland show high employment in high and medium-high technology. In the service sector, Greece appears to be one of the most dynamic countries regarding employment in other KIS.

In 2002, Sweden, Finland and Germany had the highest rates of patent applications to the EPO per million inhabitants (over 300 patents per million inhabitants), these rates being almost twice as high as those for Japan and the United States. Of the 10 new Member States, Slovenia, Malta, Hungary and the Czech Republic show the highest rates, between 11 and 33 patent applications per million inhabitants.



Researchers

Full-time equivalent; all institutional sectors



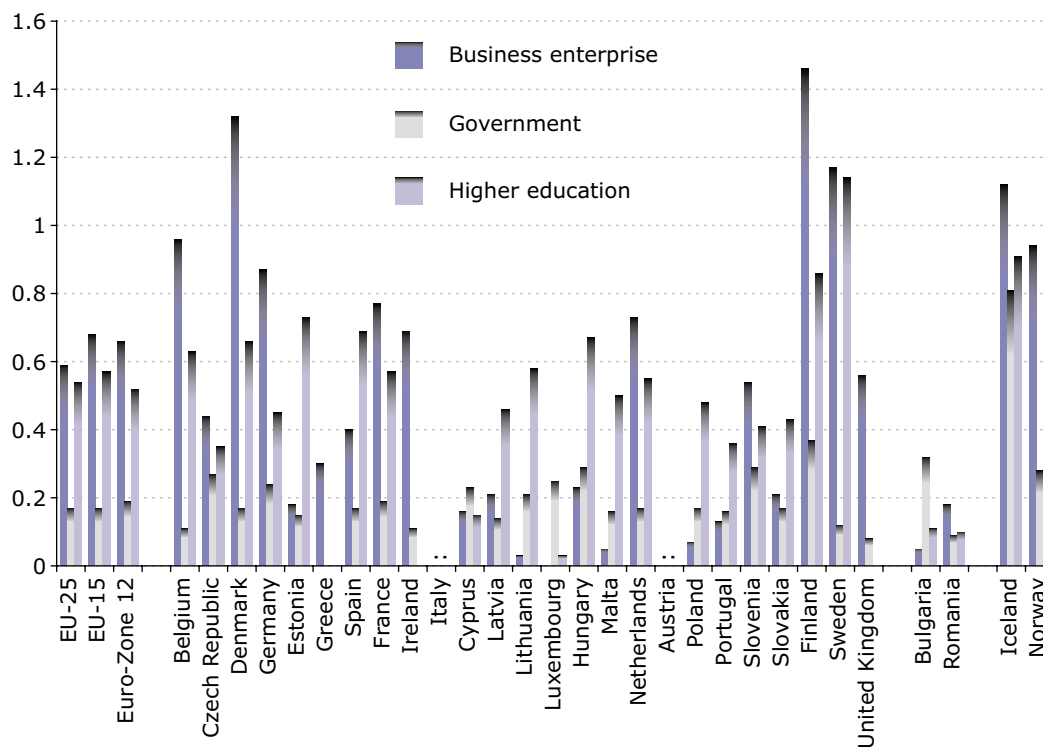
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-25	865 691 (s)	873 719 (s)	902 944 (s)	918 123 (s)	938 879 (s)	946 798 (s)	982 437 (s)	1 026 310 (s)	1 067 777 (s)	1 111 896 (s)	1 159 506 (s)	1 179 266 (ps)
EU-15	761 193 (s)	773 145 (s)	800 430 (s)	815 885 (s)	834 934 (s)	839 825 (s)	873 499 (s)	915 883 (s)	955 793 (s)	997 104 (s)	1 046 123 (s)	1 062 402 (ps)
Euro-zone	584 826 (s)	588 918 (s)	605 842 (s)	611 657 (s)	629 728 (s)	630 868 (s)	648 971 (s)	681 680 (s)	715 640 (s)	761 061 (s)	783 920 (s)	794 810 (ps)
Belgium	:	20 839 (e)	22 773 (e)	23 491 (e)	24 477 (e)	25 579 (e)	28 141	30 211	30 540	32 237	32 856 (p)	34 562 (p)
Czech Republic	20 084 (i)	13 627 (i)	13 325 (i)	11 935 (b)	12 963 (i)	12 580 (i)	12 566 (i)	13 535 (i)	13 852	14 987	14 974	15 809
Denmark	:	13 611	:	15 955	16 699 (bi)	17 511 (i)	:	18 945	:	19 453	25 912	25 130 (p)
Germany	:	229 839	:	231 128 (e)	:	235 791	237 712	254 691	257 874 (e)	264 386	265 812	267 000
Estonia	:	:	:	:	:	:	2 978	3 002	2 666	2 631	3 059	2 976 (e)
Greece	:	8 015	:	9 706	:	10 964 (r)	:	14 828 (i)	:	:	:	14 928.67
Spain	41 687	43 368	47 868	47 344	51 632	53 883	60 269	61 568	76 670 (e)	80 081	83 318	92 523
France	142 198	145 824	148 638	149 824	152 533	152 740	155 006	160 424	170 628 (r)	177 374	186 420	:
Ireland	5 561 (s)	6 425 (s)	:	:	:	:	:	8 217 (e)	8 516	:	9 686	10 449 (p)
Italy	74 422	74 434	75 722	75 536	76 441	:	64 230	64 886	66 110	:	71 242	:
Cyprus	147 (i)	:	:	:	:	:	236	278	303	333	435	460 (p)
Latvia	:	3 999	3 010	3 072	2 839	2 610	2 557	2 626	3 814 (r)	3 497	3 451	3 203
Lithuania	:	:	:	:	7 532	7 800	8 436	8 539	7 777	8 075	6 326	6 606
Luxembourg	:	:	:	:	:	:	:	:	1646 (r)	:	:	:
Hungary	12 311	11 818	11 752	10 499	10 408 (i)	11 154 (i)	11 731 (i)	12 579 (i)	14 406 (i)	14 666 (i)	14 965	15 180
Malta	:	:	:	:	:	:	:	:	:	:	:	:
Netherlands	:	32 200 (b)	34 200	34 038	34 012	38 055 (i)	39 081 (i)	40 640	41 896	45 328	:	:
Austria	:	12 821	:	:	:	:	18 715	:	:	:	:	:
Poland	41 440 (i)	:	47 433	50 426	52 474	55 602	56 179	56 433	55 174	56 918	56 725	58 595
Portugal	:	:	:	11 586	:	13 580	:	15 752	:	17 724	18 745 (ep)	19 766 (p)
Slovenia	:	3 745 (i)	4 767 (i)	4 897 (i)	4 489	4 022	4 285	4 427	4 336	4 497	4 642	4 789 (e)
Slovakia	:	:	10 249	9 711	10 010	9 993	10 145	9 204	9 955	9 585	9 181	9 626
Finland	:	18 589	:	20 857	:	26 412	30 431	32 677	:	:	38 632 (i)	:
Sweden	:	30 495	:	33 665	:	36 878	:	39 921 (i)	:	:	:	:
United Kingdom	135 064	139 183	145 792	152 331 (s)	145 863	146 541 (s)	158 586 (s)	:	:	:	:	:
Bulgaria	:	27 292	12 608	13 990	14 751	11 980	11 972	10 580	9 479	9 217	9 223	9 589
Croatia	:	:	:	:	:	:	:	:	:	:	8 572	:
Romania	:	3 8612 (i)	33 751 (i)	32 780 (i)	30 303 (i)	28 431 (i)	27 494 (i)	23 473	20 476	19 726	20 286	20 965
Turkey	:	:	:	:	:	:	:	:	:	22 702	23 995	:
Iceland	709 (s)	815 (s)	846 (s)	1 076 (s)	890 (s)	1 456	1 533	1 577	:	1 869	:	:
Norway	:	14 763	:	15 928	:	17 490	:	18 295	:	19 722	:	20 239 (p)
Japan	511 407 (i)	526 501 (i)	541 015 (i)	551 990 (i)	617 365 (b)	625 442	652 845	658 910	647 572	675 898	646 547	:
United States	:	1 013 772 (b)	:	1 035 995	:	1 159 908	:	1 261 227	:	:	:	:

Researchers (RSE) are professionals engaged in the conception or creation of new knowledge, products, processes, methods, and systems, and in the management of the projects concerned. FTE (full-time equivalent) corresponds to one year's work by one person (for example, a person who devotes 40 % of his/her time to R & D is counted as 0.4 FTE).



Research and development personnel in 2002

Share in the labour force in %

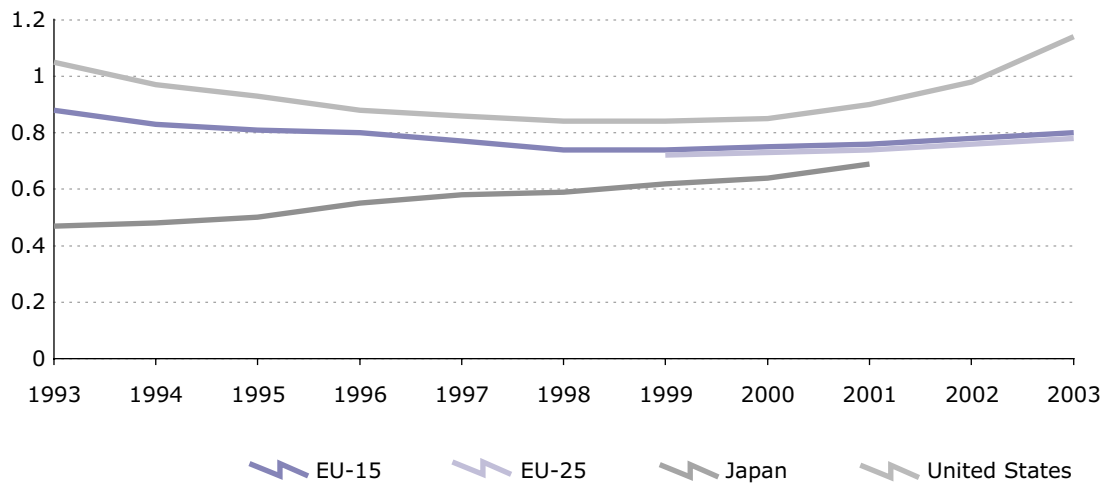


Data extracted on 16 August 2005. EU-25, EU-15: provisional data for 2003.

R & D personnel include all persons employed directly on R & D, plus persons supplying direct services to R & D, such as managers, administrative staff and office staff. Head count (HC) data measure the total number of R & D personnel who are mainly or partly employed on R & D. R & D personnel in HC are expressed as a percentage of the labour force (comprises population aged 15 and over who are employed or unemployed but not inactive).



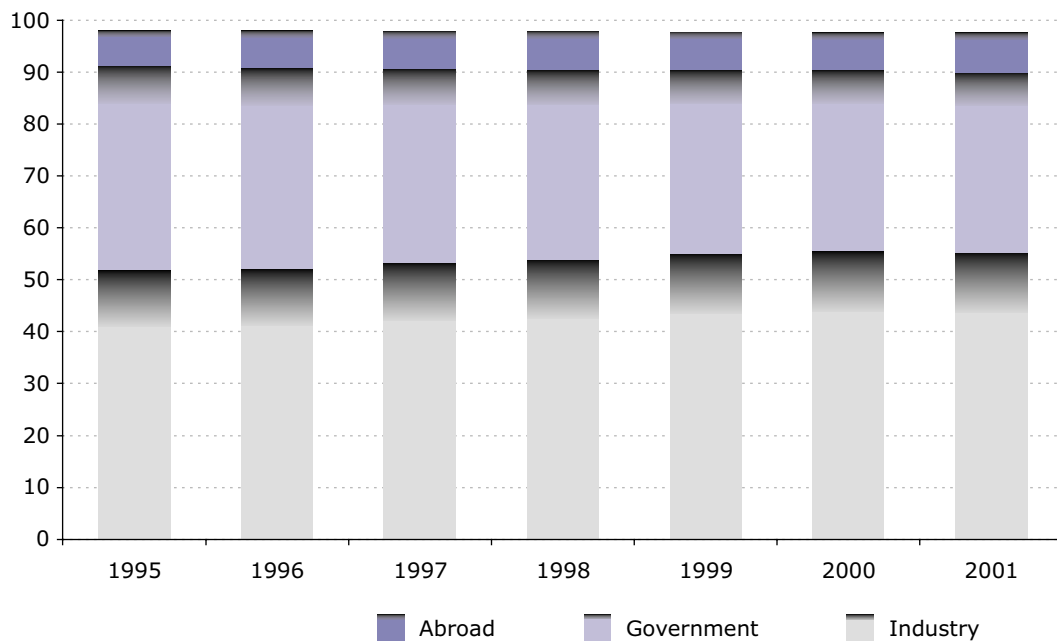
Government budget appropriations or outlays for R & D
In % of GDP



EU-15, EU-25: estimated values.

Data on government budget appropriations or outlays for R & D (GBAORD) refer to budget provisions, not to actual expenditure, i.e. GBAORD measures government support for R & D using data collected from budgets. GBAORD are a way of measuring government support to R & D activities. GBAORD is expressed as a percentage of GDP.

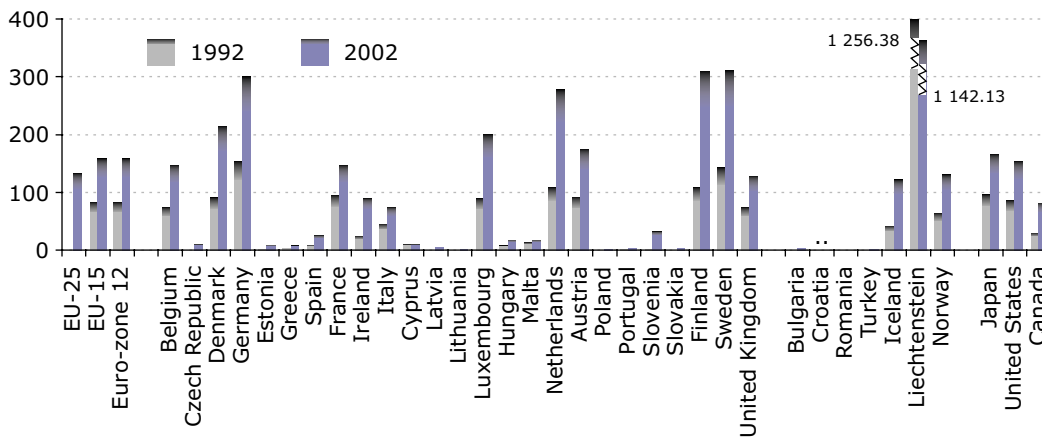
Gross domestic expenditure on R & D (GERD) in the EU-25, by source of funds
In %



Source: OECD, Eurostat.

Estimated data.

Number of patent applications to the European Patent Office (EPO)
Per million inhabitants



2002: provisional data.

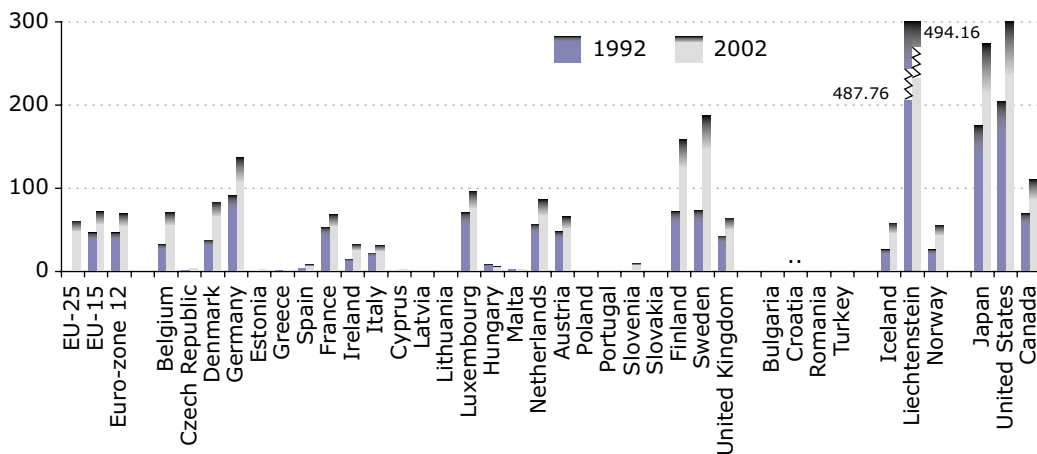
Data refer to applications filed directly under the European Patent Convention or to applications filed under the Patent Cooperation Treaty and designated to the EPO (Euro-PCT). Patent applications are counted according to the year in which they were filed at the EPO and are broken down according to the international patent classification (IPC). They are also broken down according to the inventor's place of residence, using fractional counting if multiple inventors or IPC classes are provided to avoid double counting.

The Czech Republic and Slovenia also have the highest growth in patenting activity, with the 2002 figures being more than 15 times higher than the 1992 figures.

In 2002, the highest rates of patents granted by the United States Patent and Trademark Office (expressed as the number of patents per million inhabitants) were recorded in Liechtenstein, the United States, Japan, Sweden, Finland and Germany.

5

Number of patents granted by the US Patent and Trademark Office (USPTO)
Per million inhabitants

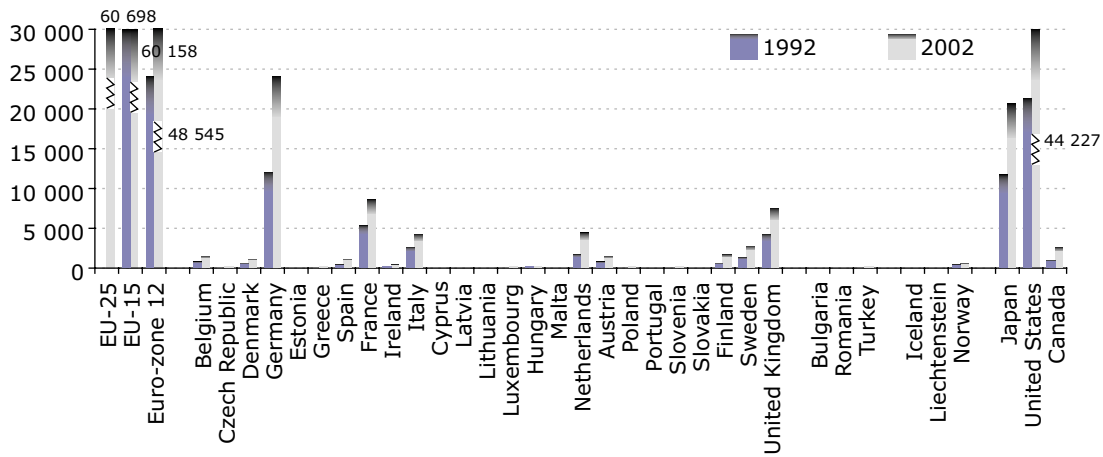


Includes estimated data.

USPTO data refer to patents granted while EPO data refer to patent applications. Data are recorded by year of publication as opposed to year of filing as used for the EPO data. This is because patents in the United States (at least in the past) were only published once they were granted. Patents are allocated to the country of the inventor, using fractional counting in the case of multiple inventor countries. The methodology used is not harmonised with that of Eurostat and therefore the comparison between EPO and USPTO patent data should be interpreted with caution.



Total European patent applications



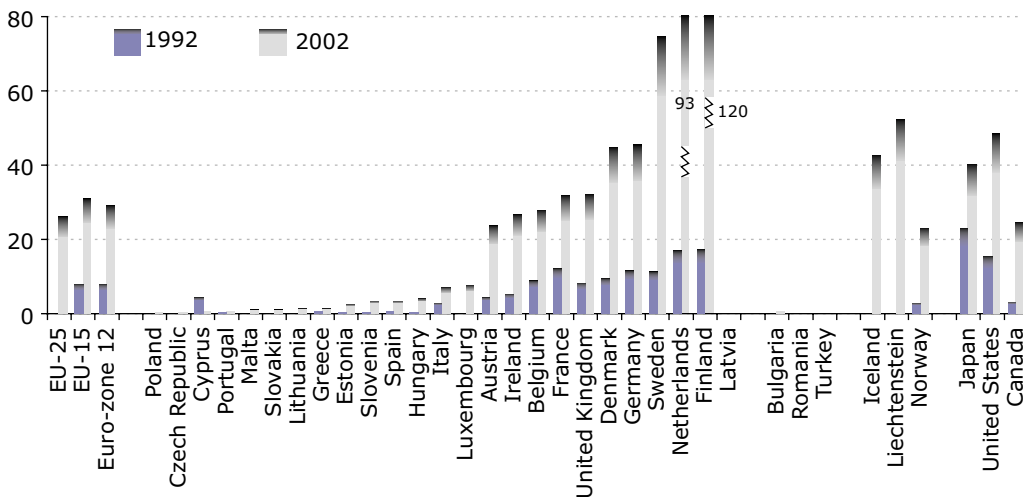
2002: provisional data.

The total European patent applications refer to requests for protection of an invention directed either directly to the European Patent Office (EPO) or filed under the Patent Cooperation Treaty and designated to the EPO (Euro-PCT), regardless of whether they are granted or not. The data show the total number of applications per country.

There were nearly 60 700 patent applications in 2002 to the EPO from the EU-25. Although there has been a slight decrease since 2001,

patenting activity is still at a historically high level, and is almost twice as high as it was in 1992.

European high-technology patents Per million inhabitants



2002: provisional data.

The data refer to the ratio of patent applications made directly to the European Patent Office (EPO) or via the Patent Cooperation Treaty and designated to the EPO (Euro-PCT) in the field of high-technology patents per million inhabitants of a country. The definition of high-technology patents uses specific subclasses of the international patent classification (IPC) as defined in the trilateral statistical report of the EPO, JPO and USPTO.

The rate of patent applications (relative to the population) on high technology reflects the output of the efforts made for research and development in the high-technology industries. In

2002, the 'top 10' countries for high-technology patents were Finland, the Netherlands, Sweden, Switzerland, Liechtenstein, the United States, Germany, Denmark, Iceland and Japan.

Gross domestic expenditure on R & D (GERD)

In % of GDP

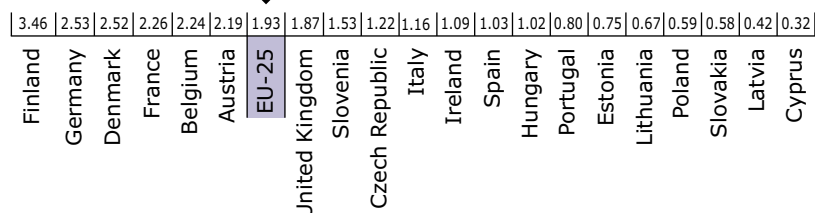


	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
EU-25	:	:	1.84 (s)	1.82 (s)	1.82 (s)	1.82 (s)	1.86 (s)	1.88 (s)	1.92 (s)	1.93 (s)	1.95 (ps)
EU-15	1.92 (s)	1.89 (s)	1.88 (s)	1.87 (s)	1.86 (s)	1.86 (s)	1.9 (s)	1.93 (s)	1.98 (s)	1.99 (s)	2 (ps)
Euro-zone	1.89 (s)	1.84 (s)	1.85 (s)	1.83 (s)	1.83 (s)	1.84 (s)	1.88 (s)	1.89 (s)	1.9 (s)	1.93 (s)	1.9 (ps)
Belgium	1.7 (e)	1.69 (e)	1.72 (er)	1.8 (er)	1.87 (er)	1.9	1.96	2.04	2.17	2.24 (p)	2.33 (p)
Czech Republic	:	:	0.95 (b)	0.98	1.09	1.16	1.16	1.23	1.22	1.22	1.35
Denmark	1.74	:	1.84	1.85 (e)	1.94	2.06	2.1	2.27	2.4	2.52 (r)	2.6 (p)
Germany	2.33 (r)	2.24 (e)	2.25 (r)	2.25 (e)	2.29 (r)	2.31	2.44	2.49	2.51	2.53	2.5 (e)
Estonia	:	:	:	:	:	0.58	0.7	0.62	0.73	0.75	0.77 (bp)
Greece	0.47	:	0.49	:	0.51	:	0.67	:	0.64	:	0.62
Spain	0.88	0.81	0.81	0.83 (e)	0.82	0.89	0.88	0.94	0.95	1.03	1.11
France	2.4	2.34	2.31	2.3	2.22	2.17	2.18	2.18 (b)	2.23	2.26	2.19
Ireland	1.17 (e)	1.31 (e)	1.34 (e)	1.32 (e)	1.28 (e)	1.25	1.19	1.15	1.15	1.09	1.12 (p)
Italy	1.13	1.05	1	1.01	1.05 (br)	1.07	1.04	1.07	1.11	1.16	:
Cyprus	:	:	:	:	:	0.23	0.25	0.25	0.27	0.32	0.33 (p)
Latvia	0.44	0.38	0.48	0.42	0.39	0.41	0.37	0.45	0.41	0.42	0.39
Lithuania	:	0.52	0.45	0.51 (b)	0.55	0.55	0.51	0.59	0.68	0.67	0.68 (p)
Luxembourg	:	:	:	:	:	:	:	1.71	:	:	:
Hungary	0.98 (i)	0.89 (i)	0.73 (i)	0.65 (i)	0.72 (i)	0.68	0.69	0.8	0.95	1.02 (i)	0.97 (i)
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	1.93 (b)	1.97	1.99	2.03	2.04	1.94	2.02 (r)	1.9 (r)	1.89 (r)	:	:
Austria	1.47	1.54 (e)	1.56 (e)	1.6 (e)	1.71 (e)	1.78	1.91	1.95	2.07	2.19	2.19
Poland	:	:	0.65	0.67	0.67	0.68	0.7	0.66	0.64	0.59	0.59
Portugal	:	:	0.57 (r)	:	0.62	:	0.75	:	0.85	0.8 (ep)	0.79 (p)
Slovenia	1.6 (bi)	1.76 (i)	1.59 (i)	1.35	1.33	1.39	1.42	1.44	1.56	1.53	1.53 (e)
Slovakia	:	0.9	0.93	0.92	1.09	0.79	0.66	0.65	0.64	0.58	0.57
Finland	2.18	2.29	2.28	2.54	2.71	2.88	3.23	3.4	3.41	3.46	3.51 (p)
Sweden	2.99	:	3.35	:	3.55	3.62 (e)	3.65	:	4.27	:	:
United Kingdom	2.11	2.06	1.97	1.9	1.82	1.81	1.85	1.85 (r)	1.89 (r)	1.87	:
Bulgaria	1.18	0.88	0.62	0.52 (b)	0.51	0.57	0.57	0.52	0.47	0.49	0.5
Croatia	:	:	:	:	:	:	:	:	:	1.12 (p)	:
Romania	:	:	:	:	:	0.49	0.4	0.37	0.39	0.38	0.4
Turkey	0.44	0.36	0.38	0.45	0.49	0.5	0.63	0.64	0.72	0.66	:
Iceland	1.33	1.38	1.54	:	1.88	2.07	2.38	2.75 (e)	3.06	3.09 (f)	:
Norway	1.72	:	1.7	:	1.64	:	1.65	:	1.6	1.67	1.89 (p)
Japan	2.63 (i)	2.58 (i)	2.69 (i)	2.78	2.84	2.95	2.96	2.99	3.07	3.12	:
United States	2.5 (i)	2.4 (i)	2.49 (i)	2.53 (i)	2.56 (i)	2.59 (bi)	2.63 (i)	2.7 (i)	2.71 (i)	2.64 (ip)	2.76 (ip)

The four indicators provided are GERD (gross domestic expenditure on R & D) as a percentage of GDP, percentage of GERD financed by industry, percentage of GERD financed by government and percentage of GERD financed from abroad. 'Research and experimental development (R & D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of this stock of knowledge to devise new applications' (Frascati manual, 2002 edition, Subsection 63). R & D is an activity where there are significant transfers of resources between units, organisations and sectors and it is important to trace the flow of R & D funds.

Gross domestic expenditure on R & D (GERD) in 2002

In % of GDP



EU-25: Eurostat estimate. Belgium, Portugal: provisional value. Denmark: revised value. Hungary: including the amounts used outside the R & D units.

The four indicators provided are GERD (gross domestic expenditure on R & D) as a percentage of GDP, percentage of GERD financed by industry, percentage of GERD financed by government and percentage of GERD financed from abroad. 'Research and experimental development (R & D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of this stock of knowledge to devise new applications' (Frascati manual, 2002 edition, Subsection 63). R & D is an activity where there are significant transfers of resources between units, organisations and sectors and it is important to trace the flow of R & D funds.



Information society

Eurostat data

Eurostat provides a wide range of data on:

- access of households to information and communication technology (ICT)
- access of enterprises to information and communication technology
- expenditure on ICT
- e-commerce
- market structures of the various telecommunication market segments
- prices of some typical telecommunications services

The information society: an opportunity for Europe ...

Information technology is developing vigorously day by day. However, the information society, a society whose wealth and growth are based on its ability to handle information efficiently, is not only a technical phenomenon: it is transforming the way we communicate, the way we do business, and the way we live. The information society holds enormous potential and opportunities for Europe and all of its citizens. The eEurope action plan was launched at the Seville European Council in June 2002 and endorsed by the Council of Ministers in the eEurope resolution of January 2003. It aims to develop modern public services and a dynamic environment for e-business through widespread availability of broadband access at competitive prices and a secure information infrastructure.

... and a challenge for statisticians

Monitoring the rapid change powered by the Internet and other new means of information and communication is a challenge statisticians are well aware of. They rethink their statistical tools and how best to use them to satisfy the new demands for data concerning all aspects of the information society. They cooperate with the different kinds of data users to identify and mediate the new demands.



The information society in the Eurostat yearbook

The Eurostat yearbook has expanded its section on the information society to present several eEurope indicators, which stem from the eEurope 2005 action plan, and are derived from the annual ICT surveys in enterprises and households/individuals which are carried out by the national statistical institutes following a model questionnaire issued by Eurostat. As well as the 'traditional' basic variables included so far such as Internet users and mobile phones, this section now looks closer at broadband penetration, and the use of e-government and e-commerce.

- **Main telephone lines** are the traditional way to connect to the e-communication networks. They are usually used for voice



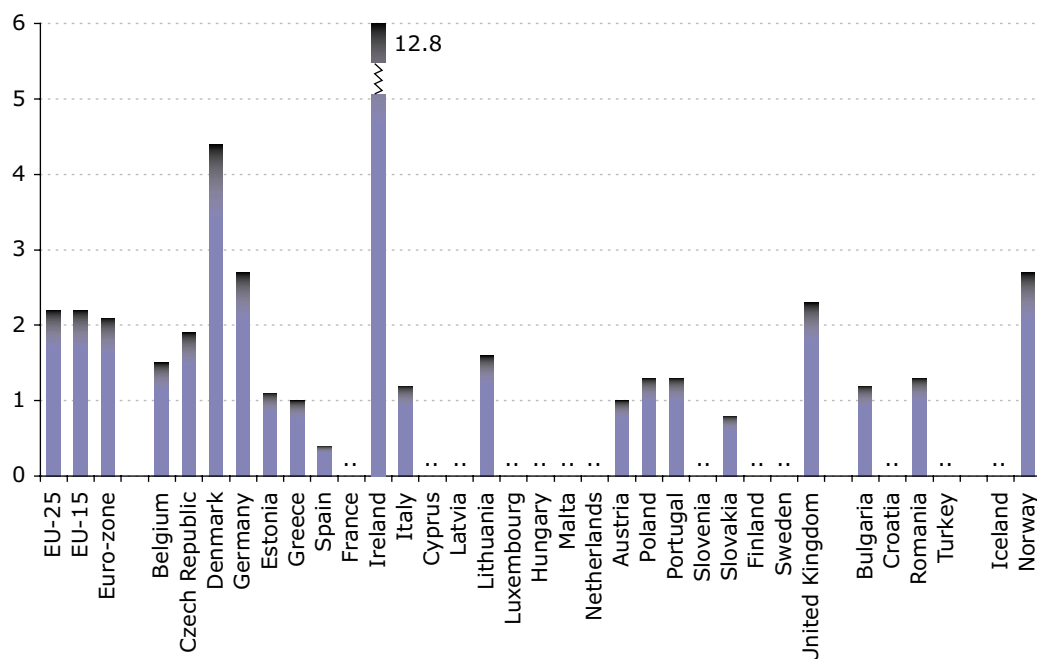
telephony, but accessing the Internet is also possible using a modem and dial-up. The rapid growth of the more powerful means to access the Internet (broadband) and mobile communications have eroded the market of the traditional fixed telecommunication networks and brought development to stagnation, even though the traditional side of the networks has been improved (for instance, the ISDN).

- The **level of Internet access** is reported separately for households and for enterprises.

- **Mobile phones** were first introduced in Europe in the early 1980s. Constrained by weight and power requirements, they were at the beginning mainly confined to cars. As mobile phones became lighter, cheaper and technically more advanced, the market started to take off, especially in the second half of the 1990s.
- **Broadband penetration** is measured here by the percentage of households and enterprises that are connectable to an exchange that has been converted to support xDSL technology, to a cable network upgraded for Internet traffic, or to other broadband technologies.
- **E-government** use is also measured in both surveys and split into three usage levels – for obtaining information, for downloading information and for returning filled-in forms from public authorities.
- **E-commerce** in the yearbook is portrayed by the number of individuals who buy over the Internet and the number of enterprises which sell over the Internet or other networks.

Share of enterprises' total turnover from e-commerce in 2004

In %

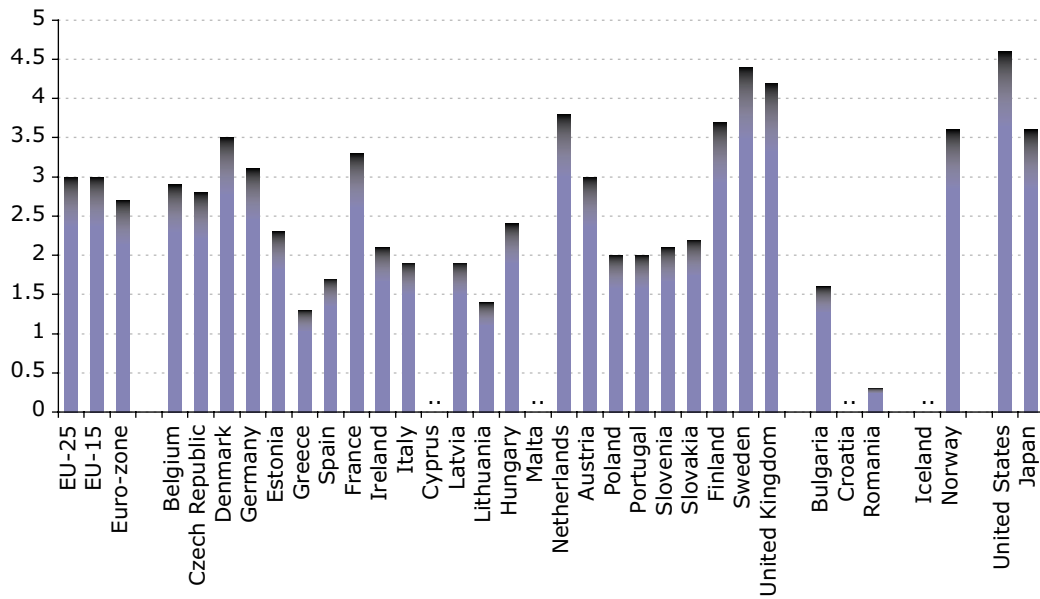


Information comes from the surveys carried out by the national statistical institutes on usage of information and communication technologies (ICTs) by enterprises. The indicator is calculated as the enterprises' receipts from sales through the Internet as a percentage of the total turnover. Sales through other networks are not included, leaving out, for instance, EDI-based sales. Only enterprises with 10 or more employees are covered. The year given relates to the survey year. The e-commerce data relate to the year prior to the survey.



ICT expenditure: IT expenditure in 2004

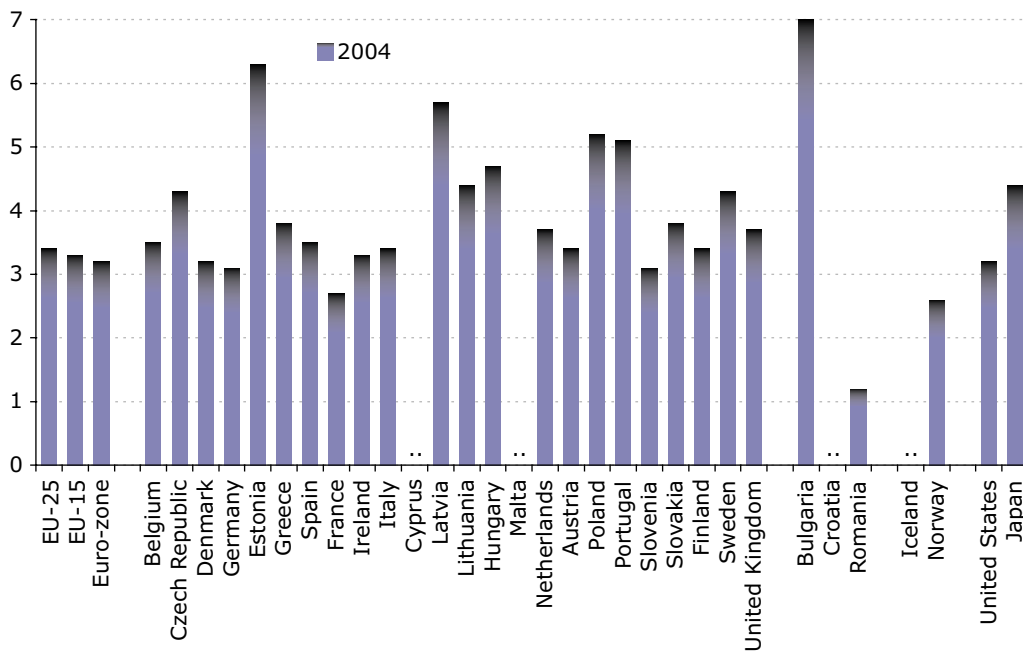
In % of GDP



Annual data on expenditure for IT hardware, equipment, software and other services as a percentage of gross domestic product.

ICT expenditure: telecommunications expenditure in 2004

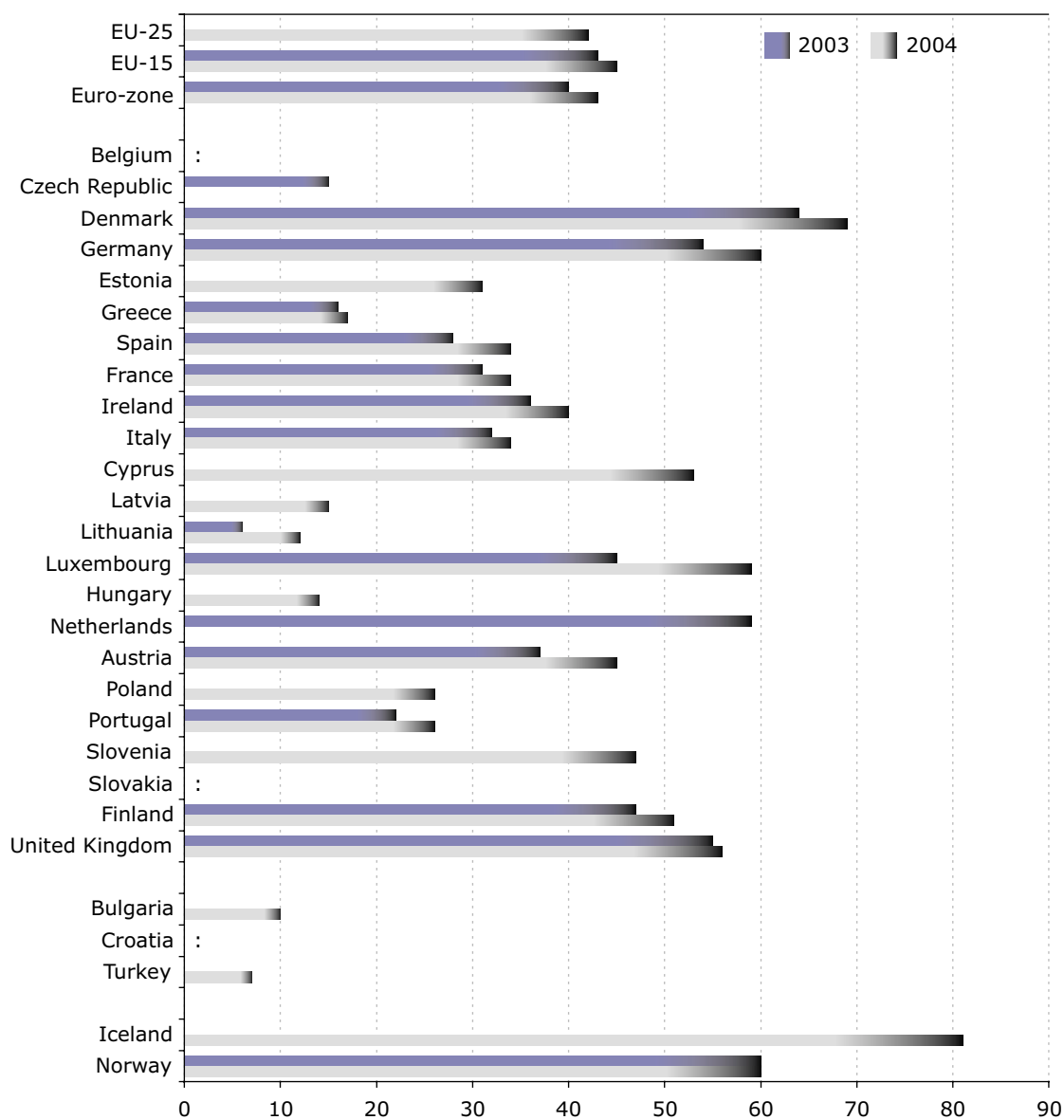
In % of GDP



Annual data on expenditure for telecommunication hardware, equipment, software and other services as a percentage of gross domestic product.

Level of Internet access: households

% of households which have Internet access at home



Percentage of households which have Internet access at home. All forms of Internet use are included. The population considered is aged 16 to 74.

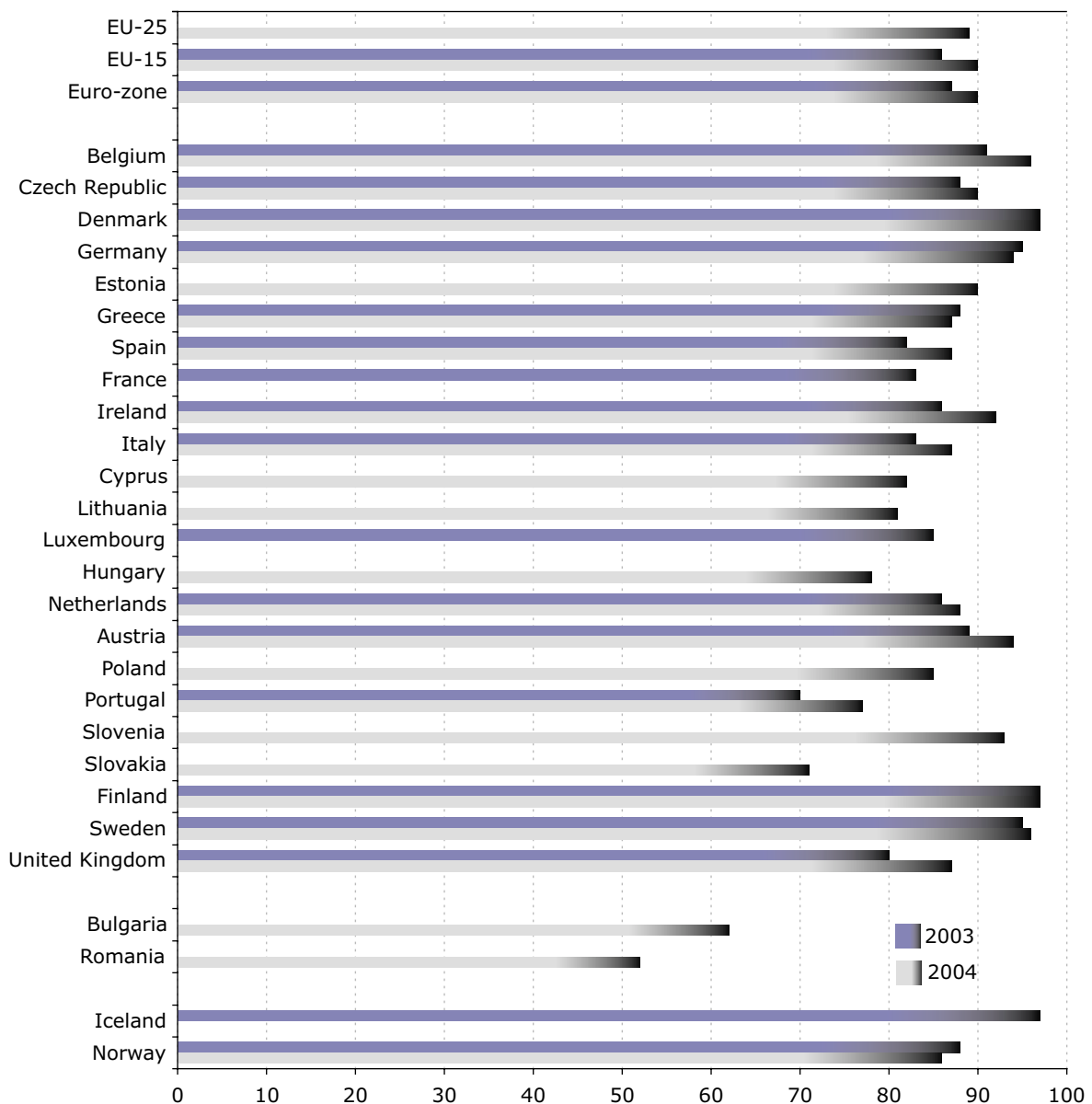


Access to the Internet has increased for both households and enterprises. In 2004, the level of households' access to the Internet in the EU-25 was 42 %, while that of enterprises was higher at 89 %. In some countries, the level

was over 95 % of all enterprises (with more than nine employed persons). In all the other countries of the EU-25 for which data are available, this level was over 70 %.

Internet access of enterprises

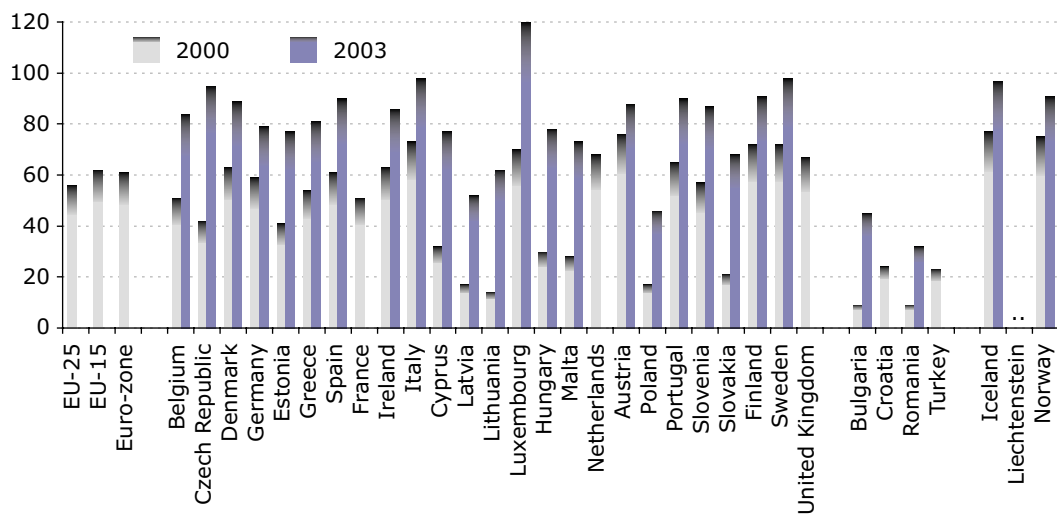
In %



This indicator consists of enterprises with 10 or more full-time employees. The enterprises have their main activity in NACE Sections D, F, G, H (groups 55.1 – 55.2 only), I, K, O (groups 92.1 – 92.2 only).

Mobile phone subscribers

Per 100 inhabitants



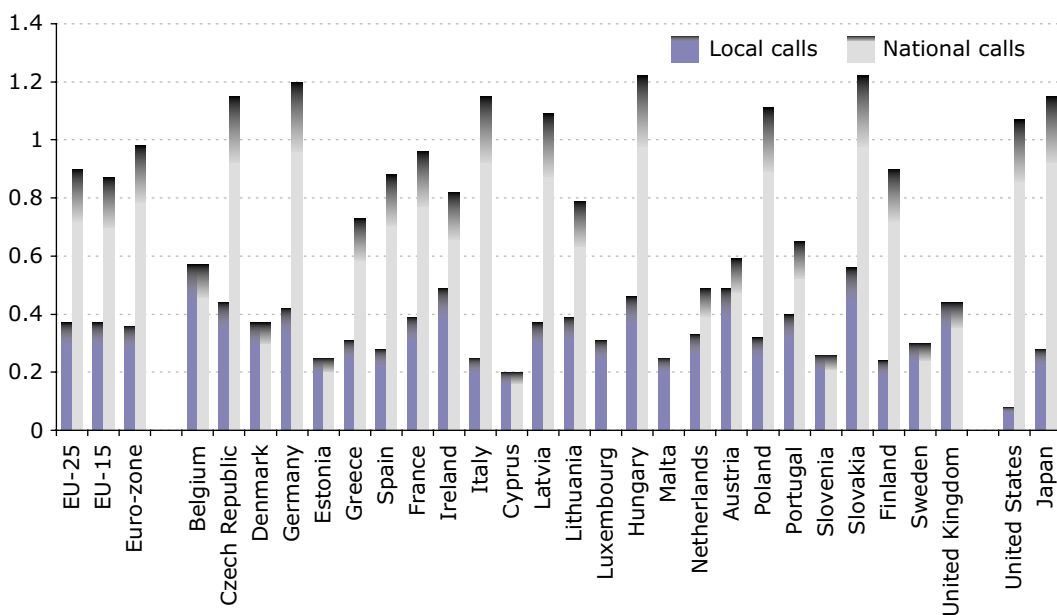
This indicator shows the number of subscriptions to public mobile telecommunication systems using cellular technology related to the population. The total number of mobile subscriptions in the country is divided by the number of inhabitants of the country and multiplied by 100. Active pre-paid cards are treated as subscriptions. One person may have more than one subscription.

From 1991 to 2003, the number of mobile phone subscribers increased continuously: until 1993, the rate per 100 inhabitants was under 10 in many European countries; in 2003, it often rose close to 100 and in Luxembourg even surpassed it. This is possible as one per-

son may have more than one subscription, privately or offered by the employer. Penetration rates higher than 90 % were observed in Sweden, Italy, the Czech Republic and Finland. Some of the new Member States rank quite high in this comparison.

Prices of telecommunications: local and national calls in 2004

In EUR



The indicator gives the price in euro of a 10-minute call at 11 a.m. on a weekday (including VAT) for a local call (3 km) and for a national call (200 km). The prices refer to August. Normal tariffs without special rates are used.



Price of telecommunications: calls to the United States In EUR

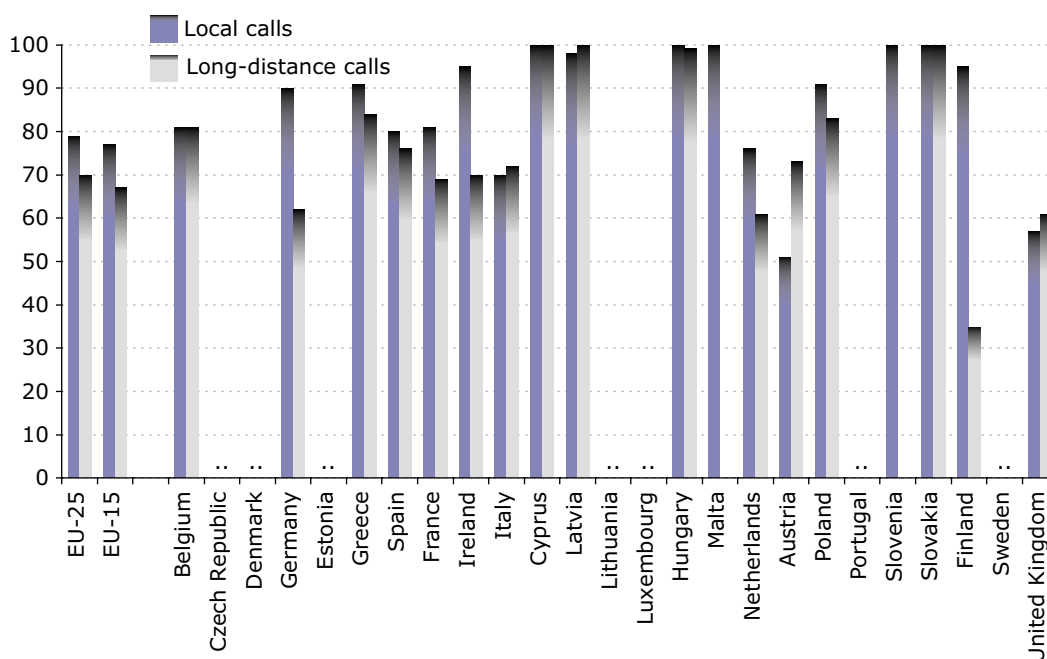


	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	:	:	:	:	:	3	2.88	2.07
EU-15	6.63	4.51	3.5	3.1	2.65	2.22	2.13	1.85
Euro-zone	7.2	4.68	3.44	3.06	2.53	2	1.9	1.83
Belgium	7.5	6	5.95	5.95	1.84	1.83	1.94	1.98
Czech Republic	:	:	:	:	:	2.87	2.87	2.87
Denmark	6.72	5.26	4.72	4.72	2.72	2.72	2.39	2.39
Germany	7.41	4.32	2.45	2.45	1.23	1.23	1.23	1.23
Estonia	:	:	:	10.26	:	2.38	2.38	2.41
Greece	7	5.82	5.82	3.26	2.91	2.95	2.95	2.91
Spain	6.17	6.08	4.53	4.25	4.25	2.2	1.53	1.53
France	6.78	3.44	3.05	2.97	2.97	2.34	2.34	2.24
Ireland	4.61	3.68	2.92	2.92	1.91	1.9	1.9	1.9
Italy	7.26	4.99	3.63	2.79	2.79	2.24	2.12	2.12
Cyprus	:	:	:	3.79	3.79	2.39	1	0.79
Latvia	:	:	:	6.23	6.23	6.26	6.26	6.25
Lithuania	:	:	:	11.96	11.96	8.08	8.08	4.07
Luxembourg	7.37	5.67	2.74	2.06	1.44	1.44	1.44	1.37
Hungary	:	:	:	4.81	4.81	4.83	3.32	2.72
Malta	:	:	:	:	:	12.7	12.61	1.81
Netherlands	8.48	2.77	0.9	0.78	0.78	0.76	0.85	0.85
Austria	9.21	5.76	6.08	4.32	4.32	3.77	3.77	1.9
Poland	:	:	:	9.6	9.6	9.6	9.6	3.33
Portugal	8.25	6.13	4.23	3.68	2.89	2.52	2.52	2.52
Slovenia	:	:	:	:	2.98	1.75	1.75	1.75
Slovakia	:	:	:	8.39	8.39	2.86	2.86	2.85
Finland	8.31	7.43	5.65	5.68	4.8	4.84	4.84	4.77
Sweden	5.4	4.99	4.99	1.14	1.14	1.14	1.14	1.09
United Kingdom	3.92	3.46	3.46	3.46	3.46	3.46	3.46	2.05
Norway	5.68	3.48	2.1	1.21	1.18	0.92	0.86	:
Japan	13.49	16.09	6.13	4.91	4.91	4.91	4.91	4.91

The indicator gives the price in euro of a 10-minute call at 11 a.m. on a weekday (including VAT) for an international call (to the United States). The prices refer to August each year. Normal tariffs of the incumbent operator without special rates are used.

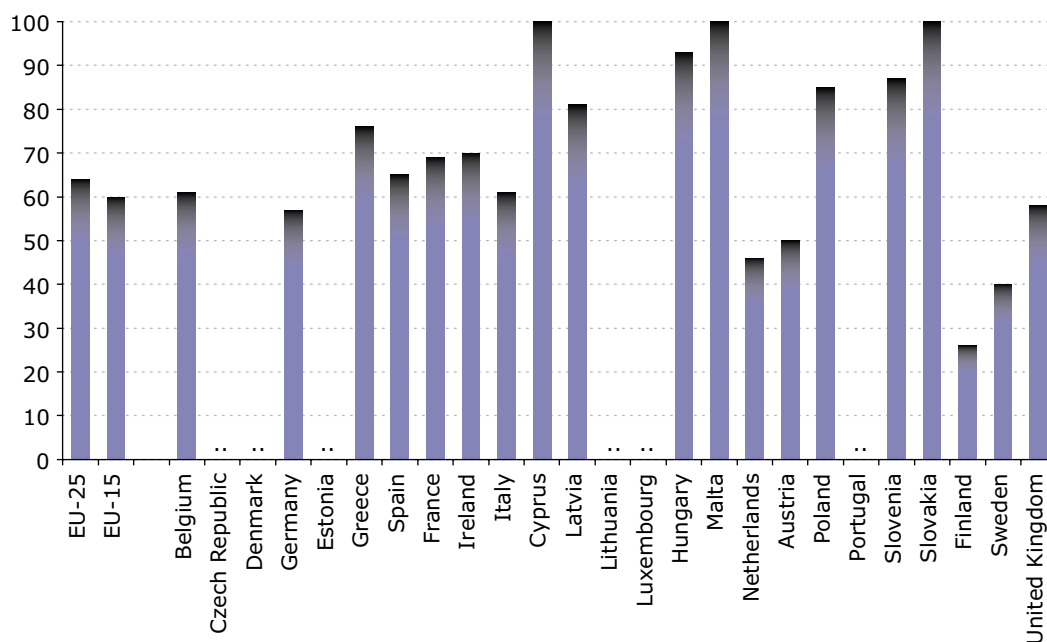


Market share of the incumbent in fixed telecommunications in 2003



The incumbent is defined as the enterprise active on the market just before liberalisation. The market share is calculated as the share of the incumbent's retail revenues of the total market. A local call is a call within a local network. A long-distance call is a call from one local network to another.

Market share of the incumbent in fixed telecommunications: international calls in 2003

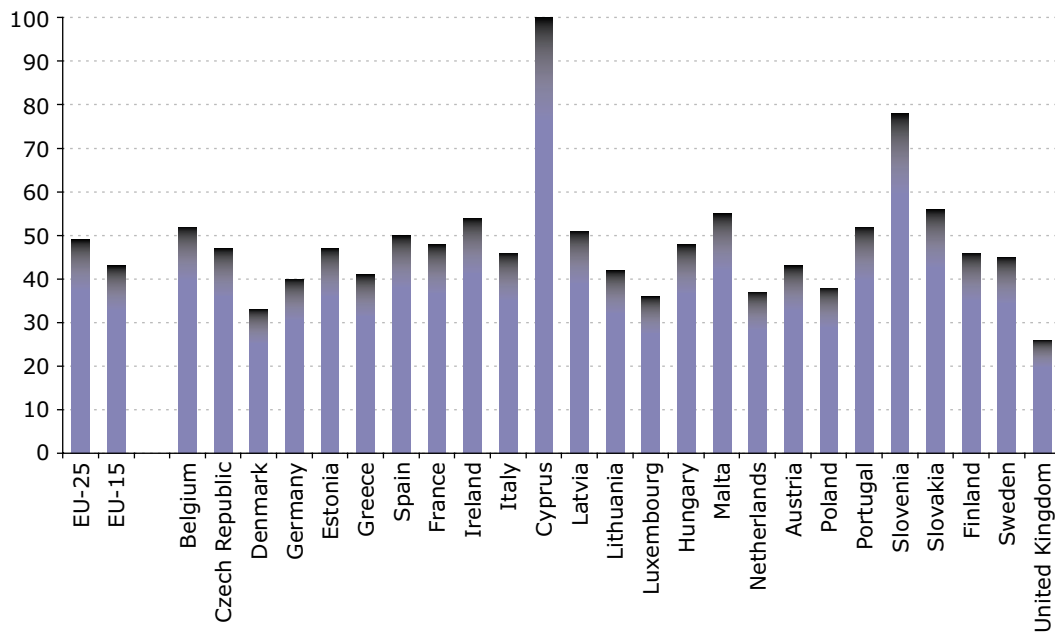


The incumbent is defined as the enterprise active on the market just before liberalisation. The market share is calculated as the share of the incumbent's retail revenues of the total market.



Market share of the leading operator in mobile telecommunications in 2004

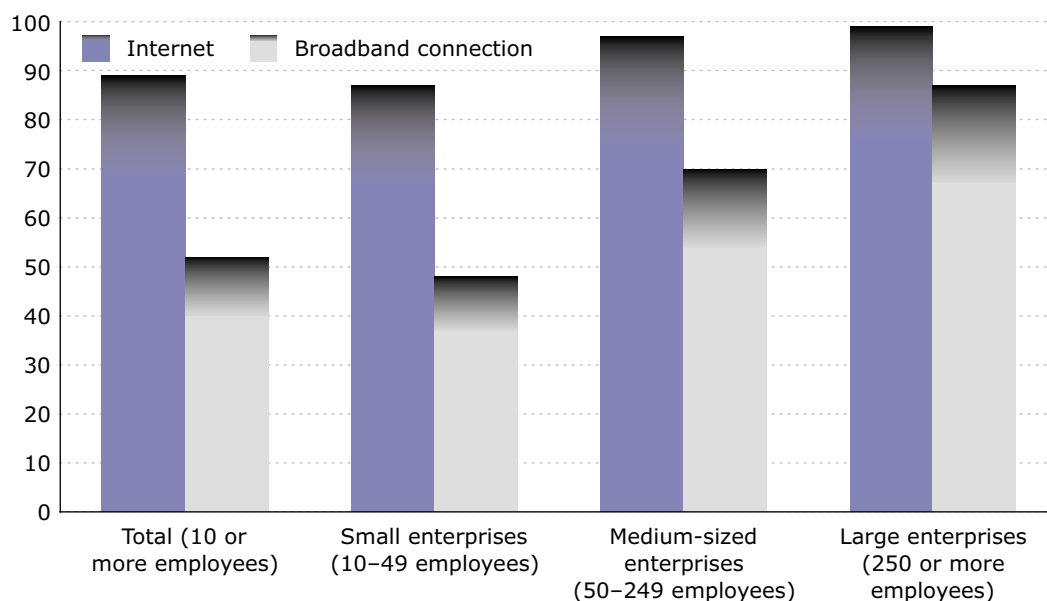
In % of total market



The market share of the leading operator is calculated on the basis of the estimates of the number of mobile subscribers. The share of the leading operator of all subscriptions in mobile telecommunications is given.

Internet access and broadband connections of enterprises by size of enterprise in 2004 in the EU-25

Share of all enterprises of the respective size group; in %

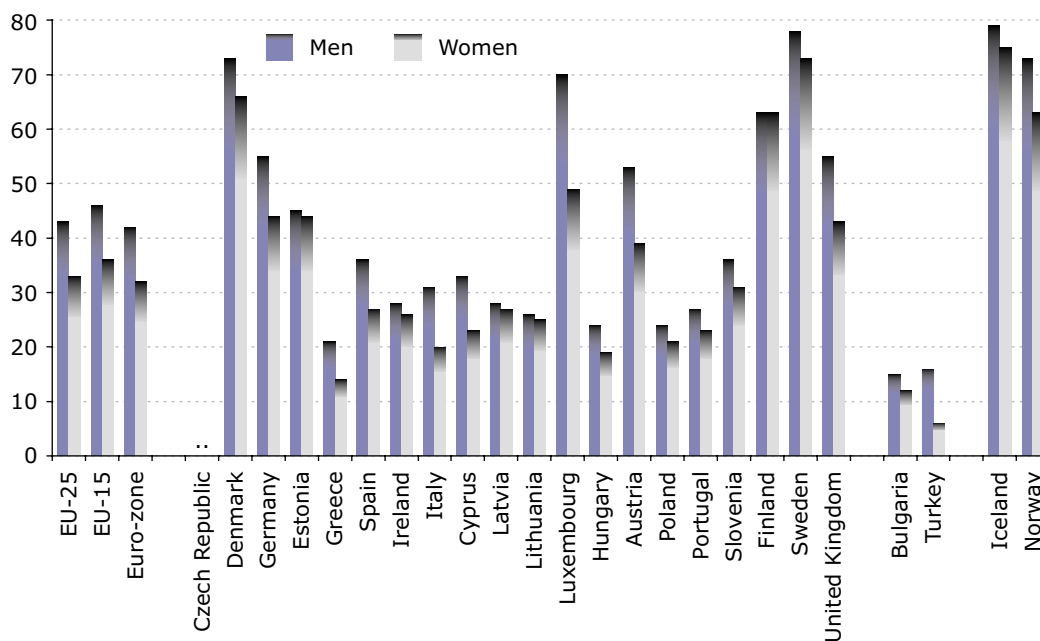


Source: Survey on information and communication technologies in enterprises, Eurostat.

This indicator refers to enterprises with 10 or more full-time employees. The enterprises have their main activity in NACE Sections D, F, G, H, I, K, O (groups 92.1 and 92.2 only).

Individuals regularly using the Internet in 2004

Share of individuals who regularly access the Internet; in %

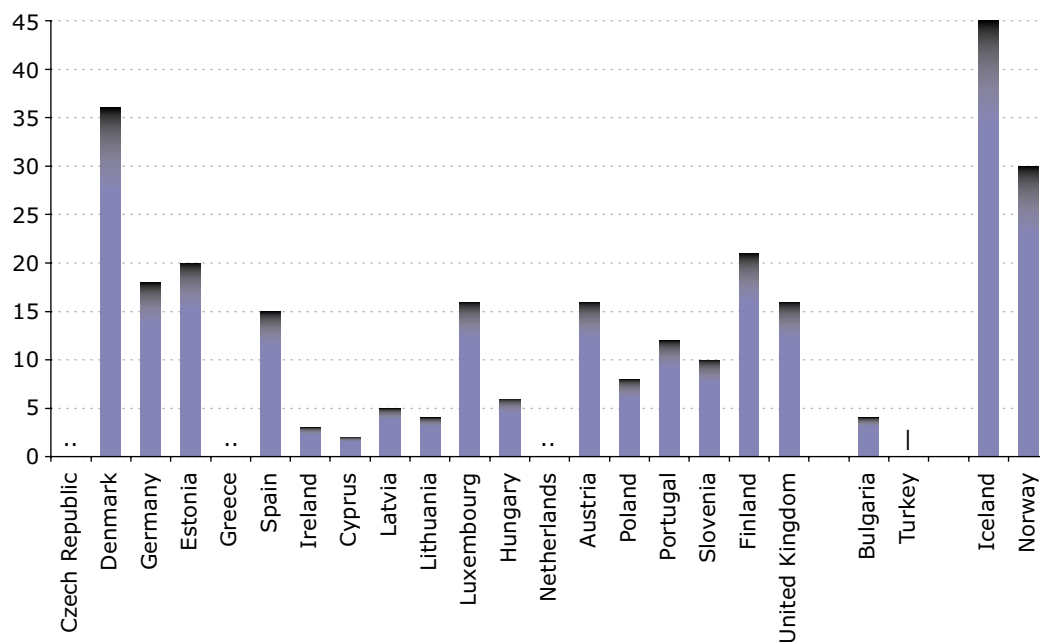


Source: Survey on information and communication technology in households, Eurostat.

This indicator relates all individuals aged 16 to 74 who access the Internet, on average, at least once a week, within the last three months before the survey

Households having a broadband connection in 2004

Share in all households; in %



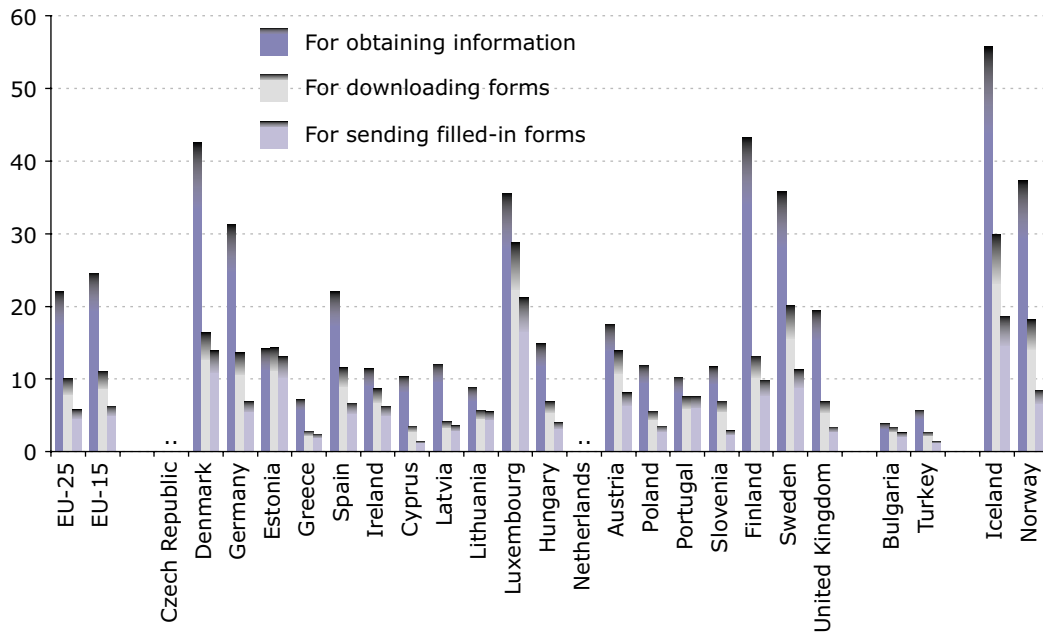
Source: Survey on information and communication technology in households, Eurostat.

The availability of broadband is measured by the percentage of households that are connectable to an exchange that has been converted to support xDSL technology, to a cable network upgraded for Internet traffic, or to other broadband technologies. It covers all households having at least one member in the age group 16-74 years.



Individuals using the Internet for interacting with public authorities in 2004

Share in the respective group; in %

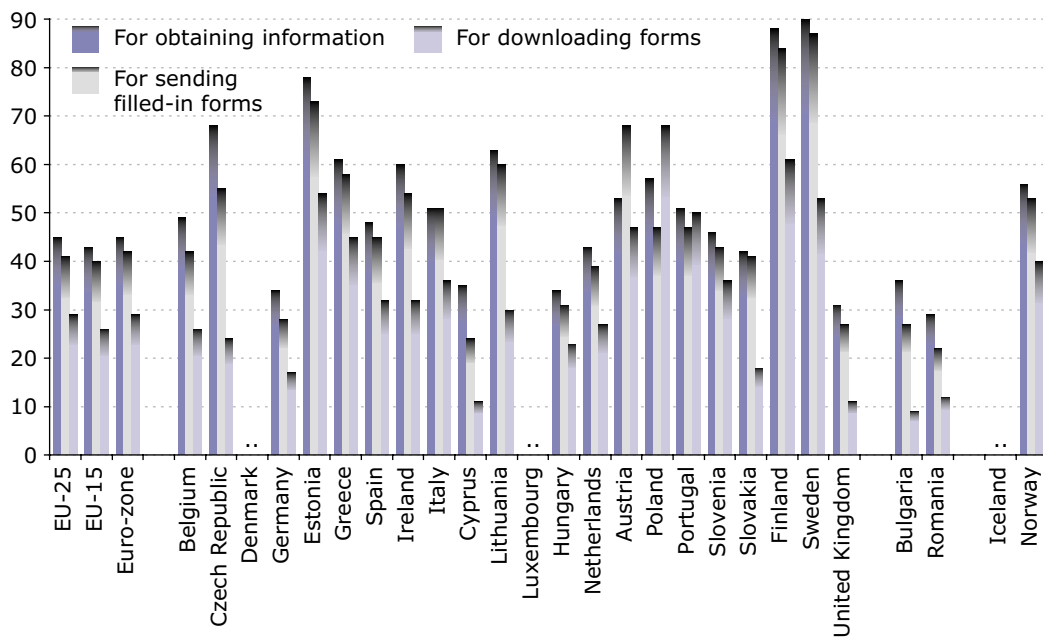


Source: Survey on information and communication technology in households, Eurostat.

This indicator is broken down by purpose (purposes: obtaining information, obtaining forms, returning filled-in forms) and covers all individuals aged 16 to 74.

Share of enterprises using the Internet for interacting with public authorities in 2004

Share of all enterprises of the respective size group; in %

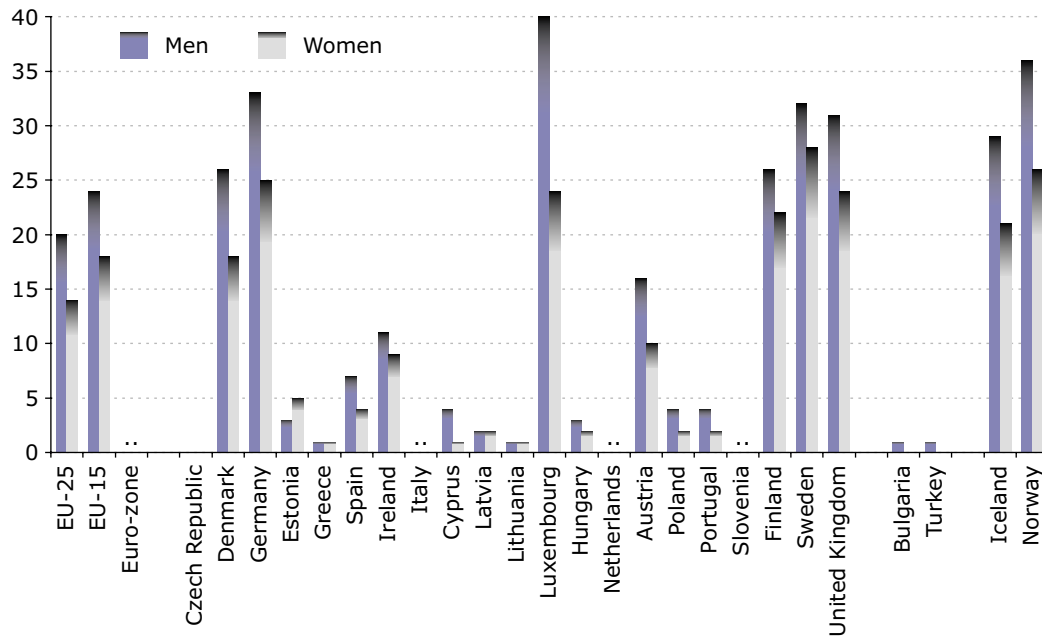


Source: Survey on information and communication technologies in enterprises, Eurostat.

This indicator is broken down by purpose (purposes: obtaining information, obtaining forms, returning filled-in forms) and covers all enterprises with 10 or more full-time employees. The enterprises have their main activity in NACE Sections D, F, G, H (groups 55.1 and 55.2 only), I, K, O (groups 92.1 and 92.2 only).

Individuals having ordered/bought goods or services for private use over the Internet in the last three months

Share in the respective group; in %

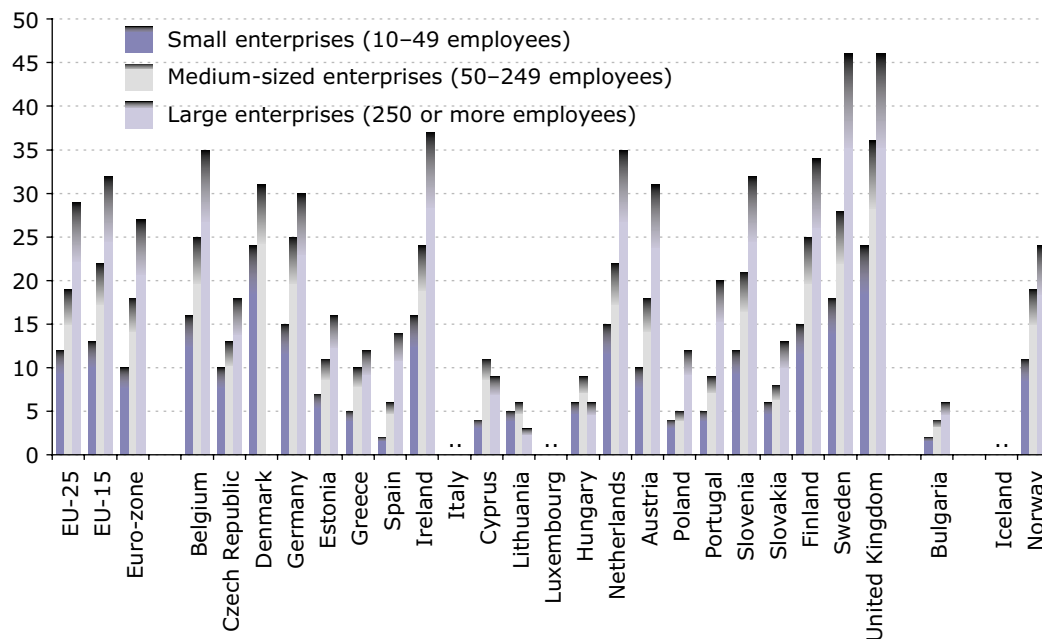


Source: Survey on information and communication technology in households, Eurostat.

This indicator covers all individuals aged 16 to 74. Financial investments are excluded.

Enterprises having received orders online in 2004

Share of all enterprises of the respective size group; in %



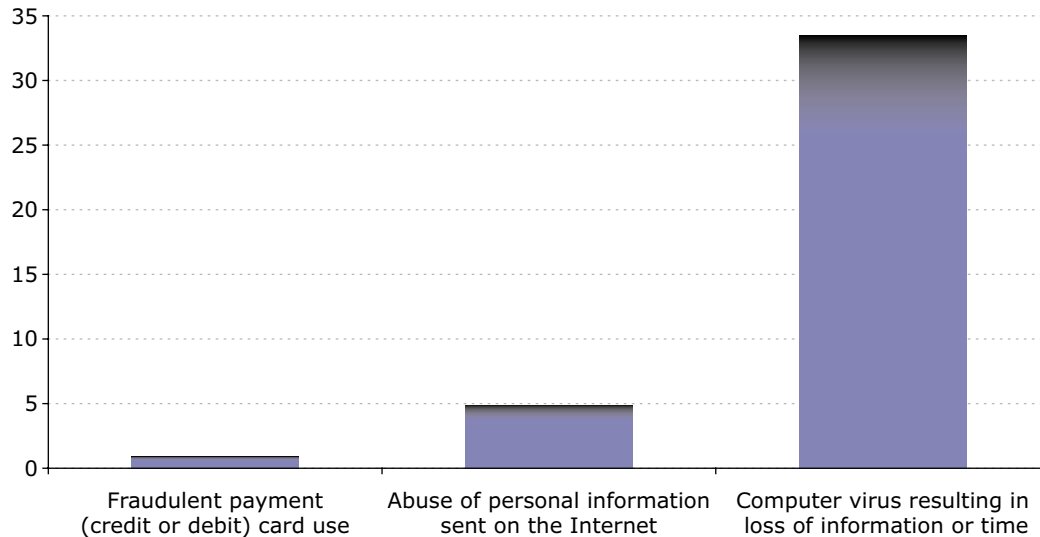
Source: Survey on information and communication technologies in enterprises, Eurostat.

This indicator covers online selling via the Internet and EDI or other networks within the previous year. Only enterprises selling more than 1 % online are included. Enterprises with 10 or more full-time employees are covered. The enterprises have their main activity in NACE Sections D, F, G, H (groups 55.1 and 55.2 only), I, K, O (groups 92.1 and 92.2 only).



Individuals with Internet access having encountered security problems in EU-25 in 2004

% of individuals who used the Internet within the last year

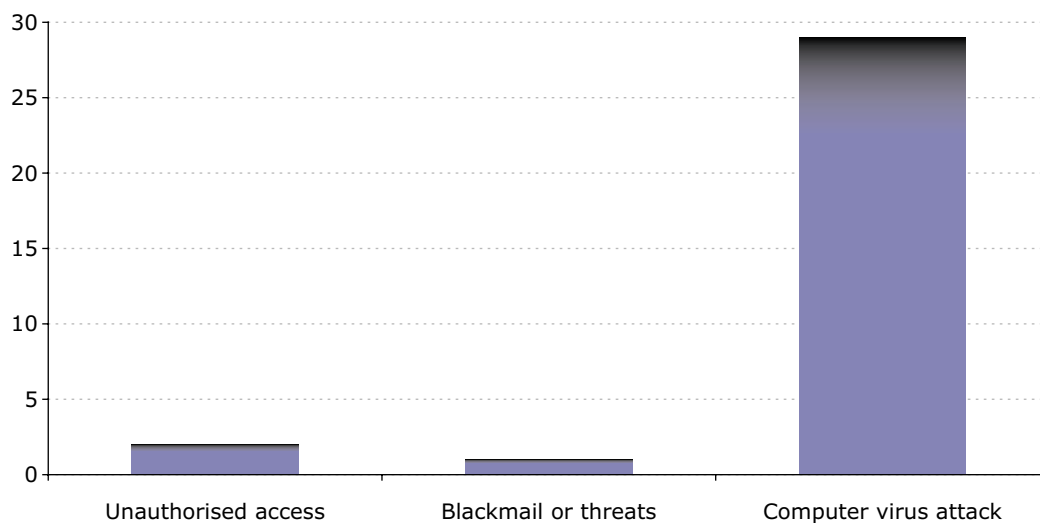


Source: Survey on information and communication technology in households, Eurostat.

This indicator is broken down by problem (fraudulent payment (credit or debit) card use, abuse of personal information sent on the Internet, computer virus resulting in loss of information or time) and covers all individuals aged 16 to 74 who have used the Internet within the last year.

Enterprises with Internet access having encountered security problems in EU-25 in 2004

Share of all enterprises of the respective size group; in %



This indicator is broken down by problem (unauthorised access, blackmail or threats, computer virus attack, any security problem listed) and covers all enterprises with Internet access with 10 or more full-time employees. The enterprises have their main activity in NACE Sections D, F, G, H (groups 55.1 and 55.2 only), I, K, O (groups 92.1 and 92.2 only).