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POCKET

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Data 1997-2002

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Preface

This third edition of the statistical pocketbook on the Information Society provides an overview on key data on the Information Society in the European Union.

Compared to previous editions this pocketbook contains a much more comprehensive set of statistics on the Candidate Countries, prior to the wave of membership foreseen for May 2004. It shows the differences and similarities that exist between the Member States and Candidate countries in the field of Information and Communication Technologies (ICT).

As in the two previous editions, the statistical information comes from a variety of sources: official data from statistical offices, data from research projects, from Commission surveys, from international organisations and from private sources. These have been brought together to provide a wide-ranging overview of many aspects of the Information Society.

The publication starts with general and economic overviews, followed by a presentation of the extent to which ICT has impacted on the EU business sector and on individuals.

Issues of comparability that remain are indicated in the footnotes, particularly concerning coverage. Eurostat aims to enhance the role of Information Society statistics within the European Statistical System and a programme of work is underway to harmonise data and to build up new official data sets where there are important gaps.

Data based on Eurobarometer surveys, in particular those for households, will be replaced by results of the Eurostat surveys in the next edition.

Bettina Knauth

Head of Unit
Eurostat D7 "Information society and services"

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GENERAL DATA

Table 1.1: Demographic data

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
							Population, 1st of January (thousands) (1)									
1992	**366 966**	10 022	5 162	80 275	10 295	38 965	57 111	3 548	56 757	390	15 129	7 868	9 961	5 029	8 644	57 907
1997	**373 351**	10 170	5 275	82 012	10 487	39 309	58 116	3 652	57 461	418	15 567	8 068	10 070	5 132	8 845	58 905
2001	**378 037**	10 263	5 349	82 260	10 565	40 122	59 039	3 826	57 844	440	15 987	8 121	10 263	5 181	8 883	59 894
2002	**379 613**	10 310	5 368	82 440	10 598	40 409	59 344	3 883	58 018	444	16 105	8 139	10 336	5 195	8 909	60 114
							Average household size (number of persons per household)									
2002	**:**	2.5	:	2.2	2.6	3.0	2.4	2.9	2.6	2.5	2.3	2.4	2.9	:	:	2.3

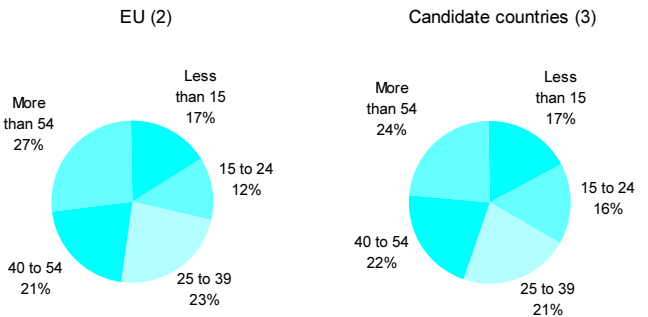
	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
							Population, 1st of January (thousands) (1)									
1992	260	4 274	6 843	8 596	700	10 313	1 562	10 337	2 657	3 747	360	38 309	22 811	5 296	1 999	:
1997	270	4 393	7 081	8 341	741	10 309	1 462	10 174	2 480	3 707	374	38 639	22 582	5 379	1 987	62 480
2001	283	4 503	7 204	7 929	759	10 267	1 367	10 200	2 364	3 480	391	38 644	22 431	5 379	1 990	68 610
2002	287	4 524	7 261	7 891	766	10 270	1 361	10 175	2 346	3 476	395	38 633	22 386	5 380	1 994	69 665
							Average household size (number of persons per household)									
2002	:	:	:	2.8	3.0	2.6	2.7	2.7	2.8	3.0	:	3.1	2.9	3.1	2.6	:

(1) 2001 and 2002 including estimates.
Source: Eurostat, demography (theme3/demo/dgen) for population and Eurostat LFS for household size; TR, Eurostat, auxiliary indicators (theme2/aux_ind/aux_pem) for population.

Demography

The population of the EU stood at 380 million inhabitants on 1st January 2002, up from 367 million ten years before, which corresponds to a total growth of 3.4 %. In relative terms, Luxembourg (+ 13.8 %) recorded the highest population increase, together with Ireland (+ 9.4 %) and the Netherlands (+ 6.5 %). Candidate countries (excluding Turkey) in contrast, saw their population shrink over the same period, sometimes to a large extent, particularly in the Baltic states and in Bulgaria. Nevertheless, Cyprus (+ 9.4 %) and Malta (+ 9.8 %) recorded strong population growth.

Figure 1.1: Breakdown of population by age group, 1st of January 2002 (1)



(1) Includes provisional and estimated data.
(2) IT, UK, 2001; EL, 2000.
(3) EE, RO, 2001; excluding CY, TR.
Source: Eurostat, demography (theme3/demo/dpop).

Table 1.2: Gross domestic product

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
GDP at current market prices (billion EUR)																
2002 (1)	**9 162**	261	183	2 108	141	694	1 521	128	1 258	22	444	217	129	140	255	1 660
Index of GDP at current market prices per head in PPS (EU-15 = 100)																
1999	**100**	107	119	106	66	82	100	112	103	192	114	111	72	101	105	101
2000	**100**	108	117	107	66	82	101	115	102	201	111	114	68	103	107	100
2001	**100**	109	115	103	65	84	103	118	103	196	115	111	69	104	102	101
2002 (1)	**100**	109	114	103	67	84	103	122	102	190	113	110	69	102	102	103
Annual rate of change of GDP at market prices at 1995 prices (%)																
1999	**2.8**	3.2	2.6	2.0	3.6	4.2	3.2	11.1	1.7	8.7	4.0	2.7	3.8	3.4	4.6	2.4
2000	**3.5**	3.7	2.9	2.9	4.2	4.2	3.8	10.0	3.1	8.9	3.3	3.5	3.7	5.5	4.4	3.1
2001	**1.6**	0.8	1.4	0.6	4.1	2.7	2.1	5.7	1.8	1.2	1.3	0.7	1.6	0.6	1.1	2.1
2002 (1)	**1.1**	0.7	1.6	0.2	4.0	2.0	1.2	6.0	0.4	1.1	0.2	1.0	0.5	1.6	1.9	1.8
Annual rate of change of labour productivity (%) (3)																
1999	**1.2**	1.9	1.4	0.8	3.6	0.6	1.3	4.9	1.1	3.5	1.6	1.5	1.6	0.8	2.4	1.2
2000	**1.5**	1.8	2.4	1.1	4.3	0.7	1.1	5.0	1.4	3.1	1.4	2.6	1.9	3.2	1.9	1.9
2001	**0.4**	-0.6	1.1	0.1	4.5	0.3	0.3	2.6	0.1	-4.1	-0.5	0.2	0.3	-0.6	-0.8	1.5
2002 (2)	**0.7**	0.9	2.3	0.8	4.2	0.7	0.5	4.6	-0.7	-1.9	-0.3	1.4	0.3	1.3	1.7	1.1

(1) EU-15, ES, IE, PT, forecasts.
(2) EU-15, ES, IE, PT, UK, forecasts.
(3) GDP at market prices at 1995 prices / total persons employed.
Source: Eurostat, national accounts aggregates (theme2/aggs/aggs_gdp) for GDP at current market prices; Eurostat, EC economic data pocketbook (theme2/pocket) for all other data.

Table 1.2: Gross domestic product

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
GDP at current market prices (billion EUR)																
2002 (1)	9	202	284	17	11	74	7	70	9	15	4	200	48	25	23	192
Index of GDP at current market prices per head in PPS (EU-15 = 100)																
1999	110	141	117	25	72	60	42	57	35	39	:	39	25	47	74	23
2000	113	143	118	25	73	59	40	53	34	38	:	40	24	47	72	22
2001	114	147	121	26	75	56	40	50	31	35	:	40	23	46	70	25
2002 (1)	116	129	124	28	82	59	38	49	28	34	55	39	24	49	68	26
Annual rate of change of GDP at market prices at 1995 prices (%)																
1999	3.9	2.1	1.5	2.3	4.8	0.5	-0.6	4.2	2.8	-1.8	4.1	4.1	-1.2	1.3	5.2	-4.7
2000	5.5	2.4	3.2	5.4	5.2	3.3	7.3	5.2	6.8	4.0	6.4	15.8	2.1	2.2	4.6	7.4
2001	2.9	1.4	0.9	4.1	4.1	3.1	6.5	3.8	7.9	6.5	-1.2	1.0	5.7	3.3	2.9	-7.5
2002 (1)	-0.5	1.5	0.1	4.8	2.2	2.0	6.0	3.3	6.1	6.7	1.2	1.6	4.9	4.4	3.2	7.8
Annual rate of change of labour productivity (%) (2)																
1999	0.9	1.3	:	4.5	3.7	2.6	3.8	1.0	3.3	-1.3	3.3	8.3	3.5	4.7	3.9	:
2000	3.2	2.0	:	9.2	2.3	4.0	8.8	4.2	6.8	8.0	5.6	17.6	-0.3	4.9	-3.8	:
2001	2.2	0.9	:	4.5	2.1	2.7	5.5	3.4	8.0	11.0	-2.6	3.2	6.5	2.3	1.9	-6.5
2002	0.2	1.5	:	3.9	1.9	1.0	4.5	2.6	3.3	16.1	1.9	4.8	14.8	4.2	3.3	7.6

(1) NO, forecast.
(2) GDP at market prices at 1995 prices / total persons employed.
Source: Eurostat, national accounts aggregates (theme2/aggs/aggs_gdp) for GDP; Eurostat, auxiliary indicators (theme2/aux_ind) for employment.

Table 1.3: Employment

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
							Total employment (thousands)									
2002	**168 653**	4 189	2 776	38 626	3 914	16 303	24 924	1 767	23 345	194	8 336	4 061	5 027	2 344	4 347	27 659
							Annual average growth rate of employment (%)									
2002	**0.4**	-0.2	-0.6	-0.6	-0.2	1.3	0.8	1.4	1.3	2.1	0.8	-0.4	0.1	0.4	0.2	-2.4
1997-2002	**1.4**	1.2	0.6	0.8	0.7	2.9	1.7	4.7	1.4	2.4	2.0	0.7	1.7	1.7	1.6	0.5
							Harmonised unemployment rate, total (%) (1)									
2000	**7.8**	6.9	4.4	7.8	11.0	11.3	9.3	4.3	10.4	2.3	2.8	3.7	4.1	9.8	5.6	5.4
2001	**7.4**	6.7	4.3	7.8	10.4	10.6	8.5	3.9	9.4	2.1	2.4	3.6	4.1	9.1	4.9	5.0
2002	**7.7**	7.3	4.5	8.6	10.0	11.3	8.7	4.4	9.0	2.8	2.7	4.3	5.1	9.1	4.9	5.1

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
							Total employment (thousands)									
2002	140	2 318	:	2 992	305	4 796	588	3 871	1 065	1 399	137	13 782	7 819	902	2 127	21 779
							Annual average growth rate of employment (%)									
2002	-0.7	0.1	:	0.8	0.3	1.0	1.4	0.7	2.7	-8.1	-0.7	-3.0	-8.7	-0.1	0.2	0.2
1997-2002	1.7	0.9	:	-1.1	1.4	-0.6	-1.1	1.4	0.5	-3.5	0.4	-1.9	-2.8	2.1	-0.6	:
							Harmonised unemployment rate, total (%) (1)									
2000	:	3.4	:	16.4	5.2	8.7	12.5	6.3	13.7	15.7	7.0	16.4	6.8	18.7	6.6	6.6
2001	:	3.6	:	19.2	4.4	8.0	11.8	5.6	12.8	16.1	6.7	18.5	6.6	19.4	5.8	8.5
2002	:	3.9	:	18.1	3.8	7.3	9.1	5.6	12.8	13.1	7.4	19.9	7.0	18.6	6.0	10.4

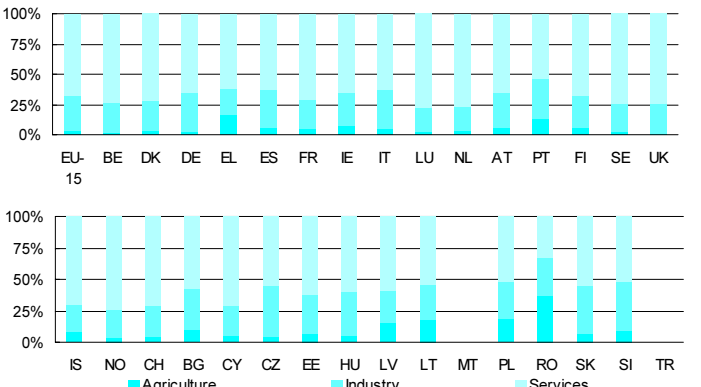
(1) According to ILO definitions: persons aged 15 to 74 years.
Source: Eurostat, auxiliary indicators (theme2/aux_ind/aux_pem) for employment; Eurostat, unemployment (theme3/unemploy/ura1f8t1) for unemployment.

Employment

In 2002, 169 million people were in employment in the EU, more than two-thirds of whom were working in services (67.8 %). Industry (including construction) accounted for 28.2 % of employment and agriculture for only 4.0 %. This pattern was rather similar in all Member States, with the exception of Greece and Portugal, where a larger share of people work in agriculture and a smaller share in services.

The common characteristic of candidate countries in comparison with the EU is the much lower importance of services in the national economies, as they generally accounted for less than 60 % of the workforce, down as low as 32.7 % in Romania. Agriculture was also relatively more important, particularly in Romania (36.8 %), Poland (19.3 %) and Lithuania (18.2 %), although Hungary (6.0 %), Cyprus (5.4 %) and the Czech republic (4.8 %) were closer to the EU average.

Figure 1.2: Employment by sectors, 2002 (1)

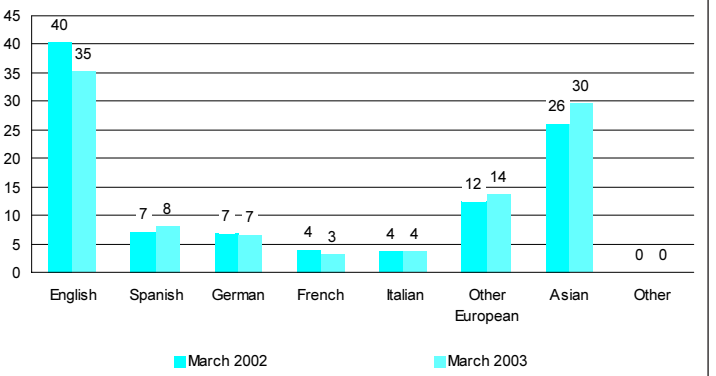


(1) Quarterly average for 2002; EU-15, DE, IE, LU, IS, CH, CY, 2nd quarter of 2002; FR, 1st quarter 2002; LT, average of 1st to 3rd quarters 2002.
Source: Eurostat, labour force survey (theme3/lfs/emp/egana).

Internet languages

English is by far the most used language on the Internet, but its importance is declining as Internet access spreads around the world, notably in developing countries. According to estimates by Global Reach, in March 2003 only 35 % of the world's on-line population was English speaking, down from 40 % one year before. Other European languages (36 % of the total) and Asian languages (30 %) made up the remaining two-thirds of the total, both language groups gaining ground. Among the other European languages, the largest share of the world's on-line population was accounted for by Spanish which is spoken by a world-wide on-line population representing 8 % of the total.

Figure 1.3: World's online population by language (%)



Source: Global Reach (www.global-reach.biz/globstats).

ICT SECTOR

Table 2.1: Number of ICT enterprises (units)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Total number of enterprises in the ICT sector																
1999 (1)	:	13 686	9 735	67 674	:	41 167	70 189	2 312	103 566	:	:	10 810	7 601	8 033	31 334	156 379
2000 (2)	:	:	:	:	:	39 851	75 378	2 855	112 416	1 560	23 290	12 253	7 490	8 403	34 525	160 717
Number of enterprises in ICT manufacturing																
1999	:	225	591	6 476	:	2 715	6 884	228	14 278	:	1 210	449	555	714	1 765	9 350
2000	**45 428**	570	589	6 531	:	2 676	6 796	213	14 592	13	1 250	496	515	696	1 840	8 615
2001	:	:	597	6 415	.	3 115	1 231	217	:	14	1 265	510	511	681	1 847	8 504
Number of enterprises in ICT services																
1999 (1)	**503 166**	13 461	9 144	61 198	:	38 452	63 305	2 084	89 288	1 375	:	10 361	7 046	7 319	29 569	147 029
2000 (2)	:	7 757	:	:	:	37 175	68 582	2 642	97 824	1 547	22 040	11 757	6 975	7 707	32 685	152 102

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
Total number of enterprises in the ICT sector																
1999	:	10 106	:	:	:	:	:	:	1 098	:	:	:	:	285	3 023	:
2000 (3) (4)	:	11 358	:	5 471	:	:	1 132	:	1 315	:	668	31 503	6 270	:	:	:
Number of enterprises in ICT manufacturing																
1999 (5)	:	187	:	625	:	3 766	:	546	123	:	37	:	:	95	983	:
2000	:	190	:	530	:	4 148	161	545	131	:	:	7 046	:	283	:	:
2001	:	:	:	564	:		162	571	115	194	:	6 336	738	310	:	:
Number of enterprises in ICT services																
1999 (4)	:	9 919	:	:	:	:	:	:	975	:	:	22 164	4 691	190	2 040	:
2000 (4)	:	11 168	:	4 941	:	:	971	:	1 184	:	622	24 457	5 550	:	:	:

(1) IE, excluding NACE 64.2. (2) IE, excluding NACE 64.2; NL, excluding NACE 51.64. (3) MT, excluding NACE 31.3 and 33.3; RO, excluding NACE 31.3.
(4) PL, excluding NACE 64.2. (5) MT, excluding NACE 33.2.
Descriptions of the NACE codes used for ICT manufacturing and ICT services for the purposes of this publication can be found on page 99.
Source: Eurostat, structural business statistics (theme4/sbs/enterpr/enter_ms and enter_cc).

Number of ICT enterprises

Most of the activity related to information and communication technologies originated in the field of services rather than industry. In fact, there were more than ten times as many enterprises in ICT services than in ICT manufacturing (see table 2.1). However, enterprises were on average smaller in services than in manufacturing, particularly in computer services.

It is estimated that in 2000 there were around 550 000 ICT enterprises in the EU, nearly 30% of which were in the United Kingdom. The next largest ICT enterprise populations were in Italy and France with 20% and 13% respectively of the estimated EU total.

Table 2.2: Size class analysis of selected ICT activities in the EU, 2000

	Enterprise size class (number of persons employed)			
Employment (thousands)	**1-9**	**10-49**	**50-249**	**250 +**
Manufacturing of office machinery & computers	13	19	33	141
Manufacturing of insulated w ire and cable	4	11	29	63
Manufacturing of radio, TV & comm. equipment	38	68	122	605
Manufacturing of instruments and appliances	25	57	98	162
Manufacturing of industrial process control equip.	9	20	20	25
Telecommunications	26	31	51	903
Computer & related services	613	404	384	603
	Enterprise size class (number of persons employed)			
Value added (EUR million)	**1-9**	**10-49**	**50-249**	**250 +**
Manufacturing of office machinery & computers	595	1 086	1 614	11 912
Manufacturing of insulated w ire and cable	164	476	1 370	3 575
Manufacturing of radio, TV & comm. equipment	1 381	2 968	5 588	51 442
Manufacturing of instruments and appliances	985	2 723	5 592	10 987
Manufacturing of industrial process control equip.	404	991	1 046	1 631
Telecommunications	1 345	955	3 099	109 990
Computer & related services	25 864	20 217	22 986	46 929

Source: Eurostat, structural business statistics (theme4/sbs/sizclass).

Table 2.3: Employment in the ICT sector (units)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Total number of persons employed in the ICT sector																
1999 (1) (2)	:	150 545	125 838	938 741	:	381 391	791 508	69 109	658 463	:	:	134 239	100 021	117 496	:	1 340 913
2000 (3)	**6 056 000**	162 912	:	:	:	422 252	845 514	72 160	710 235	:	345 670	148 291	94 421	126 393	274 322	1 409 415
Number of persons employed in ICT manufacturing																
1999	**1 529 100**	23 857	:	359 576	:	59 754	287 815	39 414	175 818	:	59 190	38 532	27 767	45 672	73 968	307 855
2000	**1 562 500**	25 413	24 519	372 270	:	61 733	298 436	41 266	179 656	:	66 023	39 173	21 718	47 465	66 430	311 545
2001	:	25 512	24 330	351 982	:	66 177	265 538	37 133	183 540	:	:	38 396	21 356	65 276	82 456	288 209
Number of persons employed in ICT services																
1999 (1)	:	126 688	104 033	579 165	:	321 637	503 693	29 695	482 645	7 941	:	95 707	72 254	71 824	:	1 033 058
2000 (3)	**4 493 500**	137 499	:	:	:	360 519	547 078	30 894	530 579	9 148	279 647	109 118	72 703	78 928	207 892	1 097 870

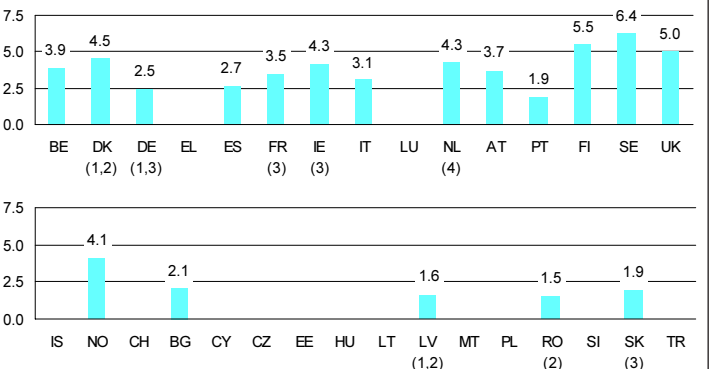
	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
Total number of persons employed in the ICT sector																
1999 (4)	:	89 562	:	:	:	:	:	:	16 960	:	:	:	:	:	:	:
2000 (5)	:	94 691	:	62 887	:	:	:	:	:	:	:	:	125 970	40 976	:	:
Number of persons employed in ICT manufacturing																
1999 (6)	:	10 885	:	16 156	:	52 066	:	54 153	2 241	:	2 670	:	:	:	:	:
2000	:	11 381	:	13 921	:	58 192	:	64 792	:	:	:	:	:	25 454	:	:
2001 (7)	:	:	:	13 545	:	:	:	67 997	1 914	10 558	:	75 405	26 055	24 429	:	:
Number of persons employed in ICT services																
1999	:	78 677	:	:	:	:	:	:	14 719	:	:	:	103 489	:	:	:
2000 (8)	:	83 310	:	48 966	:	:	6 971	:	:	:	4 154	:	100 348	15 522	:	:

(1) DE, FR and IE, excluding NACE 64.2. (2) DK, excluding NACE 31.3. (3) FR and IE, excluding NACE 64.2; NL, excluding NACE 51.64. (4) LV, excluding NACE 31.3.
(5) RO, excluding NACE 31.3; SK, excluding NACE 64.2. (6) LV, excluding NACE 31.3; MT, excluding NACE 33.2. (7) LV, excluding NACE 31.3; LT, excluding NACE 33.3.
(8) EE and SK, excluding NACE 64.2.
Source: Eurostat, structural business statistics (theme4/sbs/enterpr/enter_ms and enter_cc).

Employment in the ICT sector

In 2000, the ICT sector provided employment to some 6.1 million persons in the EU, broken down between 4.5 million in ICT services and 1.6 million in ICT manufacturing. An analysis of the breakdown of the workforce at national level reveals that only Ireland recorded higher employment in the manufacturing part of ICT than in services, although in both Germany and Finland ICT manufacturing employment was quite close to the ICT services total. In contrast, in Spain, Belgium, Denmark and the Netherlands more than 8 out of 10 persons working in ICT were in a service activity.

Figure 2.1: Share of ICT employment in total employment, 2000 (%)



(1) 1999. (2) Excluding NACE 31.3.
(3) Excluding NACE 64.2. (4) Excluding NACE 51.64.
Source: Eurostat, structural business statistics (theme4/sbs/enterpr/enter_ms and enter_cc) for ICT employment; Eurostat, auxiliary indicators (theme2/aux_ind/aux_perm/1000hab/emp) for total employment.

Table 2.4: ICT turnover (EUR million)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Turnover in the ICT sector																
1999 (1) (2)	**:**	40 893	28 578	246 424	:	79 482	185 282	26 891	117 494	:	:	32 243	16 162	33 141	:	294 731
2000 (2)	**1 536 883**	50 941	:	:	:	94 223	211 292	38 722	148 239	:	:	37 640	17 970	43 998	74 946	343 393
Turnover in ICT manufacturing																
1999 (3)	**346 631**	5 001	:	74 044	:	12 493	64 746	20 687	26 427	:	5 424	8 753	3 240	16 593	22 546	72 004
2000 (3)	**428 570**	6 825	3 405	90 287	:	14 110	77 949	27 174	37 805	:	5 894	8 723	3 403	24 805	25 286	84 923
2001 (3)	**:**	6 449	3 697	99 644	:	14 390	69 574	25 679	39 937	:	6 020	8 140	4 185	47 397	21 771	74 893
Turnover in ICT services																
1999 (2)	**:**	35 892	25 355	172 380	:	66 990	120 536	6 204	91 067	3 052	:	23 490	12 922	16 548	:	222 727
2000 (2)	**1 108 313**	44 115	:	:	:	80 113	133 343	11 548	110 433	3 309	:	28 916	14 567	19 193	49 660	258 470

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
Turnover in the ICT sector																
1999 (4)	:	25 704	:	:	:	:	:	:	843	:	:	:	:	1 769	2 074	:
2000 (5)	:	26 874	:	1 949	:	:	:	:	:	:	:	11 640	3 412	:	:	:
Turnover in ICT manufacturing																
1999 (6)	:	2 618	:	143	:	1 625	:	6 113	41	:	1 040	:	:	510	773	:
2000	:	2 815	:	200	:	2 564	:	6 600	:	:	:	4 931	:	760	:	:
2001 (7)	:	:	:	258	:	:	:	7 623	37	307	:	5 484	658	840	:	:
Turnover in ICT services																
1999 (8)	:	23 086	:	:	:	:	:	:	802	:	:	5 204	2 110	1 259	1 301	:
2000 (9)	:	24 059	:	1 750	:	:	687	:	:	:	323	6 709	2 922	:	:	:

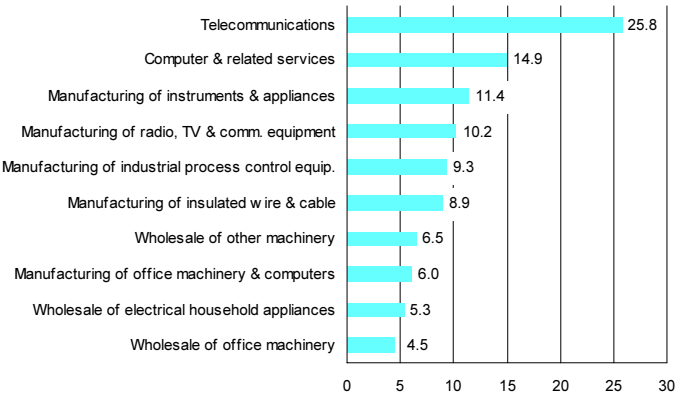
(1) DK, excluding NACE 31.3 (2) FR and IE, excluding NACE 64.2. (3) NL, excluding NACE 32. (4) LV, excluding NACE 31.3. (5) RO, excluding NACE 31.3; PL, excluding NACE 64.2. (6) LV, excluding NACE 31.3; MT, excluding NACE 33.2. (7) LV, excluding NACE 31.3; LT, excluding NACE 33.3. (8) PL, excluding NACE 64.2. (9) EE and PL, excluding NACE 64.2.
Source: Eurostat, structural business statistics (theme4/sbs/enterpr/enter_ms and enter_cc).

Turnover in the ICT sector

ICT enterprises generated a turnover of EUR 1 537 billion in the EU in 2000, of which manufacturing accounted for just over one-quarter. In the EU, all Member States displayed a higher turnover in ICT services than ICT manufacturing except for Ireland and Finland.

The gross operating rate (GOR) measures profitability by showing how much of the value added is left after the labour factor input has been compensated, as a percentage of turnover. Figure 2.2. shows that telecommunication boasted the highest profitability by this measure, with a GOR reaching 25.8 %. In contrast, wholesale activities were generally among the least profitable ICT activities by this measure, reflecting the relatively small margins on high turnover typical of distribution enterprises.

Figure 2.2: ICT gross operating rate, EU, 2000 (%)



Source: Eurostat, structural business statistics (theme4/sbs/enterpr/enter_ms).

Table 2.5: ICT value added at factor cost (EUR million)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Value added at factor cost in the ICT sector																
1999 (1) (2)	**:**	11 555	8 530	98 764	:	19 600	45 110	6 574	37 525	:	:	9 589	4 890	10 089	:	102 340
2000 (2)	**433 045**	12 939	:	:	:	24 523	49 179	9 459	44 297	:	:	9 663	4 892	11 847	18 549	113 969
Value added at factor cost in ICT manufacturing																
1999 (3)	**94 303**	1 824	:	21 941	:	2 949	16 700	4 666	7 345	:	1 348	2 728	768	5 066	5 218	19 961
2000 (3)	**107 661**	2 155	1 133	24 976	:	3 055	18 962	5 792	9 539	:	1 550	2 818	744	6 651	4 266	22 663
2001	**:**	:	:	:	:	3 484	:	:	:	:	:	:	:	:	:	:
Value added at factor cost in ICT services																
1999 (2)	**:**	9 731	7 331	76 823	:	16 650	28 411	1 908	30 180	1 080	:	6 861	4 122	5 024	:	82 379
2000 (2)	**325 384**	10 784	:	:	:	21 468	30 217	3 668	34 758	1 137	:	6 845	4 148	5 197	14 282	91 306

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
Value added at factor cost in the ICT sector																
1999 (4)	:	6 513	:	:	:	:	:	:	335	:	:	:	:	551	455	:
2000 (5) (6)	:	6 471	:	571	:	:	:	:	:	:	:	2 814	1 469	:	:	:
Value added at factor cost in ICT manufacturing																
1999 (7)	:	768	:	35	:	:	:	842	5	:	154	:	:	104	195	:
2000 (6)	:	807	:	42	:	590	:	:	:	:	:	1 207	167	149	:	:
Value added at factor cost in ICT services																
1999 (5)	:	5 745	:	:	:	:	:	:	330	:	:	1 431	896	447	260	:
2000 (5) (8)	:	5 664	:	529	:	:	101	:	:	:	189	1 607	1 302	:	:	:

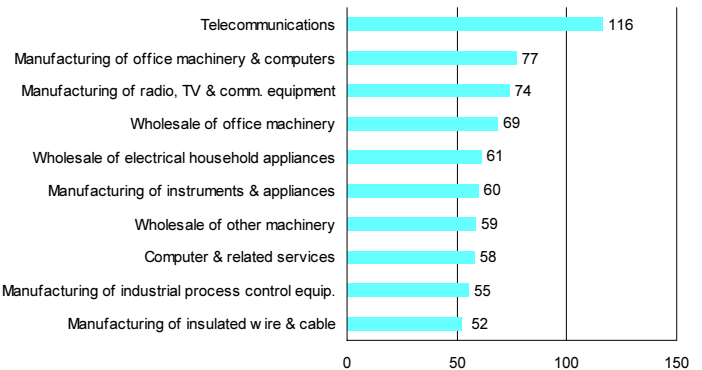
(1) DK, excluding NACE 31.3. (2) FR and IE, excluding NACE 64.2. (3) NL, excluding NACE 32. (4) LV, excluding NACE 31.3.
(5) PL, excluding NACE 64.2. (6) RO, excluding NACE 31.3. (7) MT, excluding NACE 33.2. (8) EE, excluding NACE 64.2.
Source: Eurostat, structural business statistics (theme4/sbs/enterpr/enter_ms and enter_cc).

Value added in the ICT sector

Value added at factor cost of the ICT sector amounted to EUR 433 billion in the EU in 2000, equivalent to 28.2% of the sector's turnover. ICT services value added was EUR 325 billion, three times the EUR 108 billion value added in ICT manufacturing.

Apparent labour productivity can be measured by how much value added is generated per person employed (not taking into account other factors such as wages and salaries or work duration). According to this measure, telecommunication was by far the most productive ICT sector, with each worker on average generating as much as EUR 116 000 of value added in 2000 (see figure 2.3).

Figure 2.3: ICT apparent labour productivity, EU, 2000 (EUR thousands)



Source: Eurostat, structural business statistics (theme4/sbs/enterpr/enter_ms).

ICT MARKET AND EXTERNAL TRADE

Table 3.1: ICT market value, 2002 (1)

EU-15	BE / LU	DK	DE	EL	ES	FR	IE	IT	NL	AT	PT	FI	SE	UK	
						Total ICT market value (EUR million)									
560 543	17 068	11 998	130 132	7 349	34 639	88 573	5 959	64 266	31 144	13 284	8 153	9 175	21 288	117 514	
						ICT market value at current prices per capita (EUR)									
1 477	1 587	2 235	1 578	693	857	1 493	1 535	1 108	1 934	1 632	789	1 766	2 390	1 955	
						ICT market value relative to GDP at current market prices (%)									
6.1	6.0	6.6	6.2	5.2	5.0	5.8	4.6	5.1	7.0	6.1	6.3	6.6	8.3	7.1	

IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
						Total ICT market value (EUR million)									
:	10 532	20 827	1 701	:	7 111	805	6 462	917	1 127	:	14 318	3 295	2 332	1 638	10 541
						ICT market value at current prices per capita (EUR)									
:	2 328	2 868	216	:	692	591	635	391	324	:	371	147	434	821	151
						ICT market value relative to GDP at current market prices (%)									
:	5.2	7.3	10.3	:	9.6	11.7	9.2	10.3	7.7	:	7.2	6.8	9.3	7.0	5.5

(1) Market value represents end user spending; all values have been converted to 2002 exchange rates.
Source: EITO 2003 for ICT market value data; Eurostat, demography (theme3/demo/dgen/gind) for population data, except TR, Eurostat, auxiliary indicators (theme2/aux_ind/aux_pem); Eurostat, national accounts aggregates (theme2/aggs/aggs_gdp/a_gdp_c) for GDP.

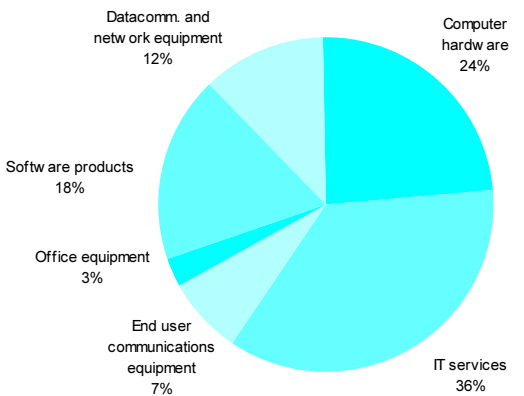
ICT market value

The market value of ICT, representing the total end user spending on ICT equipment and services, reached EUR 561 billion in the EU in 2002, equivalent to 6.1 % of GDP. This means that in 2002 on average EUR 1 477 was spent on ICT equipment and services for every EU inhabitant. Denmark (EUR 2 235 per capita) and Sweden (EUR 2 390 per capita) were noticeably above this average, while figures below a EUR 1 000 threshold were reported only for Greece (EUR 693), Portugal (EUR 789) and Spain (EUR 857).

In all candidate countries average ICT expenditure was below the lowest level recorded for any EU Member State, ranging from EUR 692 per capita in the Czech Republic to its lowest level of EUR 147 per capita in Romania.

Within the EU, IT services accounted for 36 % of total market value, ahead of computer hardware (24 %) and software (18 %).

Figure 3.1: Breakdown of ICT market value, EU, 2002 (1)



(1) Market value represents end user spending.
Source: EITO 2003. All values have been converted to 2002 exchange rates.

Table 3.2: ICT exports

	EU-15	BE (1)	DK	DE	EL	ES	FR	IE	IT	LU (2)	NL	AT	PT	FI	SE	UK
								ICT exports (EUR million)								
1997	**76 072**	8 052	3 423	40 215	289	4 640	27 565	14 579	11 274	:	31 398	4 291	1 566	6 171	11 830	41 224
1998	**81 695**	9 256	3 721	43 701	305	5 687	31 108	17 757	11 637	:	34 781	4 850	1 816	7 813	12 490	45 836
1999	**90 549**	9 891	4 116	49 160	381	5 484	32 895	22 064	11 876	1 050	41 309	5 207	1 885	8 839	14 998	49 523
2000	**124 896**	14 586	5 063	67 351	671	7 464	42 198	28 620	14 872	1 733	54 056	7 616	2 279	12 676	18 840	64 067
2001	**121 427**	14 563	5 024	67 127	563	7 562	37 633	32 158	15 337	2 868	52 715	8 411	2 548	9 181	11 272	62 414
2002	**92 334**	10 646	5 955	53 516	515	6 032	27 453	20 061	10 524	2 463	35 716	7 863	1 835	10 365	9 773	48 045
								Five yearly average annual growth rate of ICT exports (%)								
2002	**4.0**	:	11.7	5.9	12.3	5.4	-0.1	6.6	-1.4	:	2.6	12.9	3.2	10.9	-3.7	3.1
								Share of ICT in total exports (%)								
2002	**9.3**	4.7	9.9	8.3	4.7	4.8	7.8	21.5	4.0	22.8	13.8	9.5	6.8	21.7	11.4	16.2

(1) Includes LU for 1997 and 1998.
(2) Included in BE for 1997 and 1998.
Descriptions of the coverage of external trade data can be found on page 100.
Source: Comext (EEC SPECIAL TRADE SINCE 1988).

Table 3.3: ICT exports

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
								ICT exports (EUR million)								
1997	2	1 432	4 190	67	0	989	312	3 173	27	202	683	969	30	323	330	787
1998	2	1 464	4 396	50	0	1 559	445	4 474	27	150	885	1 331	58	374	347	1 165
1999	2	1 544	4 879	51	0	1 518	444	5 895	28	145	990	1 355	168	417	331	1 125
2000	5	1 762	5 867	81	1	2 665	1 149	8 906	36	228	1 681	1 826	614	542	474	1 562
2001	4	1 982	5 736	:	1	4 017	1 056	8 894	36	279	1 179	2 274	625	694	505	1 802
2002	6	1 631	4 376	:	:	5 122	708	:	47	:	:	2 536	710	642	:	2 241
								Five yearly average annual growth rate of ICT exports (%)								
2002	27.4	2.6	0.9	:	:	38.9	17.8	:	11.4	:	:	21.2	88.6	14.8	:	23.3
								Share of ICT in total exports (%)								
2002 (1)	0.2	2.5	4.7	1.5	0.1	12.7	15.4	26.1	2.0	5.4	60.0	6.0	4.8	4.2	4.9	6.0

(1) CY, HU, LT, MT, SI, 2001; BG, 2000.
Source: Comext (EFTA (HS) SINCE 1988; COMTRADE HS SINCE 1988).

Table 3.4: ICT imports

	EU-15	BE (1)	DK	DE	EL	ES	FR	IE	IT	LU (2)	NL	AT	PT	FI	SE	UK
								ICT imports (EUR million)								
1997	**102 644**	9 300	4 712	43 817	1 427	8 820	29 175	8 505	17 488	:	31 106	5 430	2 544	4 260	8 746	42 936
1998	**117 724**	10 738	4 990	51 521	2 060	11 152	33 400	11 453	19 236	:	37 806	6 521	3 300	4 897	9 967	48 873
1999	**133 335**	11 747	5 696	58 044	2 575	12 016	35 951	13 926	21 220	1 285	43 071	7 685	3 573	5 160	10 209	55 006
2000	**187 320**	16 289	6 779	77 541	3 158	16 843	47 931	19 024	26 648	1 971	55 175	9 820	4 055	7 164	13 654	75 049
2001	**171 227**	16 632	6 822	78 228	2 426	15 806	42 842	20 515	25 166	2 833	50 628	10 358	4 389	5 335	10 473	64 317
2002	**129 780**	12 442	6 895	57 252	2 229	12 704	32 568	11 654	20 058	2 228	35 266	9 308	2 916	4 736	8 323	48 319
								Five yearly average annual growth rate of ICT imports (%)								
2002	**4.8**	:	7.9	5.5	9.3	7.6	2.2	6.5	2.8	:	2.5	11.4	2.8	2.1	-1.0	2.4
								Share of ICT in total imports (%)								
2002	**13.1**	6.0	13.2	11.0	6.7	7.8	9.4	21.2	7.8	16.0	15.2	11.2	7.2	13.1	11.8	13.2

(1) Includes LU for 1997 and 1998.
(2) Included in BE for 1997 and 1998.
Source: Comext (EEC SPECIAL TRADE SINCE 1988).

Table 3.5: ICT imports

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
								ICT imports (EUR million)								
1997	160	3 213	6 682	183	182	2 574	475	3 357	196	384	677	3 311	751	976	575	3 028
1998	210	3 469	7 337	239	216	3 042	601	4 231	251	368	830	4 122	1 009	1 110	637	3 554
1999	225	3 581	8 460	357	237	3 063	615	5 411	242	313	986	4 615	943	953	745	4 574
2000	310	4 181	10 386	411	318	4 620	1 172	8 502	290	374	1 661	5 830	1 744	1 191	860	6 727
2001	229	4 211	9 643	:	303	5 815	992	9 256	332	504	1 056	5 940	1 713	1 503	826	3 682
2002	207	3 753	7 884	:	:	5 165	643	:	338	:	:	5 162	1 559	1 520	:	3 830
								Five yearly average annual growth rate of ICT imports (%)								
2002	5.2	3.2	3.4	:	:	14.9	6.2	:	11.5	:	:	9.3	15.7	9.3	:	4.8
								Share of ICT in total imports (%)								
2002 (1)	8.6	10.2	8.9	5.8	6.9	12.1	10.4	24.6	7.9	7.1	34.7	8.9	8.3	8.7	7.3	7.1

(1) CY, HU, LT, MT, SI, 2001; BG, 2000.
Source: Comext (EFTA (HS) SINCE 1988; COMTRADE HS SINCE 1988).

Table 3.6: ICT trade balance

	EU-15	BE (1)	DK	DE	EL	ES	FR	IE	IT	LU (2)	NL	AT	PT	FI	SE	UK
								ICT trade balance (EUR million)								
1997	**-26 572**	-1 248	-1 289	-3 602	-1 138	-4 180	-1 610	6 075	-6 214	:	292	-1 139	-978	1 911	3 084	-1 713
1998	**-36 029**	-1 482	-1 269	-7 820	-1 755	-5 465	-2 293	6 304	-7 599	:	-3 025	-1 671	-1 484	2 916	2 523	-3 037
1999	**-42 787**	-1 856	-1 581	-8 884	-2 194	-6 532	-3 057	8 138	-9 345	-235	-1 762	-2 478	-1 688	3 679	4 788	-5 483
2000	**-62 424**	-1 703	-1 716	-10 189	-2 487	-9 378	-5 734	9 596	-11 776	-238	-1 119	-2 204	-1 776	5 512	5 185	-10 982
2001	**-49 800**	-2 069	-1 798	-11 101	-1 863	-8 243	-5 208	11 643	-9 829	34	2 087	-1 946	-1 842	3 846	799	-1 903
2002	**-37 446**	-1 796	-939	-3 736	-1 714	-6 672	-5 115	8 407	-9 535	236	451	-1 445	-1 082	5 630	1 450	-274
								ICT trade balance relative to GDP at market prices (%)								
2002	**-0.4**	-0.7	-0.5	-0.2	-1.2	-1.0	-0.3	6.6	-0.8	1.1	0.1	-0.7	-0.8	4.0	0.6	0.0

(1) Includes LU for 1997 and 1998.
(2) Included in BE for 1997 and 1998.
Source: Comext (EEC SPECIAL TRADE SINCE 1988).

Table 3.7: ICT trade balance

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
								ICT trade balance (EUR million)								
1997	-159	-1 781	-2 491	-116	-182	-1 585	-163	-185	-169	-183	6	-2 343	-722	-653	-245	-2 242
1998	-207	-2 005	-2 941	-189	-216	-1 483	-156	242	-223	-217	55	-2 791	-951	-736	-290	-2 390
1999	-223	-2 037	-3 581	-306	-236	-1 545	-171	484	-214	-167	5	-3 259	-776	-536	-414	-3 450
2000	-305	-2 418	-4 519	-330	-317	-1 955	-23	404	-254	-146	21	-4 004	-1 129	-649	-386	-5 165
2001	-224	-2 229	-3 907	:	-303	-1 798	64	-362	-296	-225	123	-3 666	-1 087	-809	-321	-1 880
2002	-201	-2 122	-3 508	:	:	-43	65	:	-291	:	:	-2 626	-849	-878	:	-1 589
								ICT trade balance relative to GDP at market prices (%)								
2002 (1)	-2.2	-1.1	-1.2	-2.4	-3.0	-0.1	0.9	-0.6	-3.3	-1.7	3.0	-1.3	-1.8	-3.5	-1.5	-0.8

(1) CY, HU, LT, MT, SI, 2001; BG, 2000.
Source: Comext (EFTA (HS) SINCE 1988; COMTRADE HS SINCE 1988).

ICT external trade

Between 1997 and 2000, EU ICT exports rose by 18.0 % on average per year to reach EUR 125 billion. In 2001 however they fell by 2.8 % before falling further in 2002 by 24.0 % to EUR 92 billion, just above their level in 1999. Only Finland recorded an increase in ICT exports in 2002, rising by 12.9 %, but this came rather as a recovery after the 27.6 % fall recorded the year before.

In 2002, the EU's ICT exports represented about 9.3 % of total exports, although Ireland (21.5 %), Finland (21.7 %) and Luxembourg (22.8 %) showed a greater export specialisation in this field. Among candidate countries, Hungary (26.1 %) and Malta (60.0 %) noticeably displayed higher export specialisation in ICT goods.

The EU's imports of ICT goods was estimated at EUR 130 billion in 2002. Similar to the trend for exports, this represented a fall of 24.2% compared to 2001. Among the Member States, only Denmark reported a slight increase (1.1 %) in the level of imports of ICT goods, while Ireland's ICT imports almost halved from EUR 20.5 billion to EUR 11.7 billion (-43.2 %).

The EU's trade balance is structurally negative, as imports of ICT goods exceeded exports by more than EUR 30 billion EUR in each of the past 5 years. The trade deficit reached a high point of EUR 62 billion in 2000, only to decline significantly to reach EUR 37 billion in 2002. The narrower trade deficits in 2001 and 2002 were due to imports of ICT goods falling more than exports in absolute and relative terms.

In 2002 Ireland and Finland recorded the largest trade surpluses in ICT goods within the EU, amounting to 6.6 % and 4.0 % respectively of national GDP. In most other countries the ICT trade balance, whether positive or negative, represented close to or less than 1.0 % of GDP.

ICT PENETRATION

Table 4.1: PC penetration

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
								Number of PCs (millions)								
2000	**105.3**	2.3	2.7	27.6	0.8	5.8	17.9	1.4	10.3	0.2	6.3	2.3	1.1	2.1	4.5	20.2
2001	**117.0**	2.4	2.9	31.5	0.9	6.8	19.5	1.5	11.3	0.2	6.9	2.7	1.2	2.2	5.0	22.0
2002	**:**	2.5	3.1	35.9	:	:	20.7	:	:	:	:	:	:	2.3	:	:
								PCs per 100 inhabitants								
2000	**28**	22	51	34	7	14	30	36	18	46	39	28	10	40	51	34
2001	**31**	23	54	38	8	17	33	39	19	52	43	34	12	42	56	37
2002	**:**	24	58	43	:	:	35	:	:	:	:	:	:	44	:	:

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
								Number of PCs (millions)								
2000	0.1	2.2	3.6	0.3	0.2	1.3	0.2	0.9	0.3	0.2	0.1	2.7	0.7	0.7	0.5	2.5
2001	0.1	2.3	3.9	0.3	0.2	1.5	0.3	1.0	0.4	0.3	0.1	3.3	0.8	0.8	0.6	2.7
2002	0.1	:	:	0.3	:	:	0.3	1.1	0.4	:	:	:	:	1.0	0.6	:
								PCs per 100 inhabitants								
2000	39	49	50	3	22	12	15	9	14	7	21	7	3	14	28	4
2001	42	51	54	3	25	15	17	10	15	7	23	9	4	15	28	4
2002	45	:	:	3	:	:	21	11	17	:	:	:	:	18	30	:

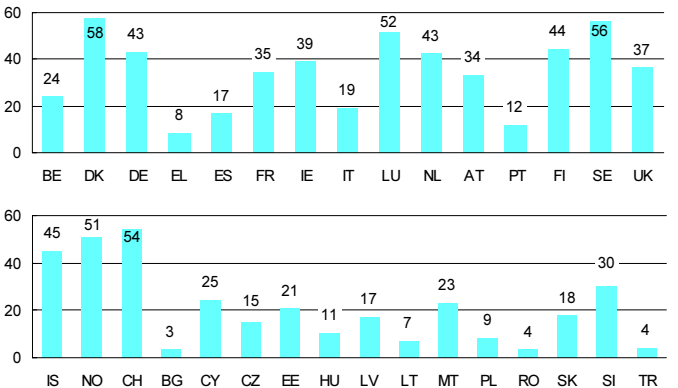
Source: ITU estimates.

Penetration of personal computers

All Member States have recorded an increase in the number of personal computers in recent years. ITU estimates there were 117 million PCs in the EU in 2001, equivalent to 31 per 100 inhabitants. Denmark, Sweden and Luxembourg came out at the top of a ranking of EU Member States in terms of the PC penetration rate, with all more than 50 PCs per 100 inhabitants, more than five time the levels recorded in Greece and Portugal, at the other end of the ranking.

Among candidate countries, Slovenia and Cyprus boasted the highest penetration rates, with respectively 30 and 25 PCs per 100 inhabitants, more than in Belgium or Italy for example.

Figure 4.1: PC penetration, 2002 (PCs per 100 inhabitants) (1)



(1) EL, ES, IE, IT, LU, NL, AT, PT, SE, UK, NO, CH, CY, CZ, LT, MT, PL, RO, TR, 2001.
Source: ITU estimates.

Table 4.2: Internet hosts (thousands) (1)

TLD	EU sum	.be	.dk	.de	.gr	.es	.fr	.ie	.it	.lu	.nl	.at	.pt	.fi	.se	.uk	.us (2)	.jp	Generic (3)
1996	**2 993**	65	107	620	17	113	239	27	148	4	271	89	24	314	238	719	865	496	7 362
1997	**4 652**	107	169	1 132	28	196	355	40	254	5	391	108	42	487	349	988	1 367	956	10 462
1998	**6 416**	209	298	1 450	50	307	511	56	387	8	626	173	56	460	379	1 449	2 661	1 352	23 079
1999	**8 489**	339	338	1 635	75	470	1 233	64	302	10	959	263	78	462	523	1 739	3 118	2 073	37 854
2000	**10 477**	300	334	2 040	111	455	1 122	111	1 020	12	1 624	483	62	529	596	1 678	4 167	3 413	64 731
2001	**12 690**	352	561	2 426	143	539	789	128	680	14	2 632	326	247	887	735	2 231	4 029	5 887	87 307
2002	**:**	337	837	2 594	161	590	1 389	136	673	:	3 137	368	165	1 220	849	2 866	3 793	8 714	109 791
2003	**16 349**	201	803	2 664	176	707	1 623	149	793	3	3 350	523	167	1 215	900	3 077	3 617	9 260	111 684

TLD	.is	.no	.ch	.bg	.cy	.cz	.ee	.hu	.lv	.lt	.mt	.pl	.ro	.sk	.si	.tr
1996	12	150	133	3	1	41	8	30	6	2	0	53	8	8	14	:
1997	19	292	189	7	3	57	16	68	7	4	1	88	14	15	20	:
1998	25	319	245	10	5	86	24	96	14	10	2	131	24	22	23	:
1999	30	439	270	17	6	122	30	120	19	14	6	171	36	28	24	79
2000	40	453	263	18	8	159	41	104	20	18	7	340	42	38	22	70
2001	55	305	528	27	2	216	51	168	25	35	9	490	46	73	30	107
2002	68	256	561	33	3	226	63	195	35	55	7	657	41	86	36	155
2003	92	427	550	41	5	253	64	263	37	62	7	743	46	91	39	224

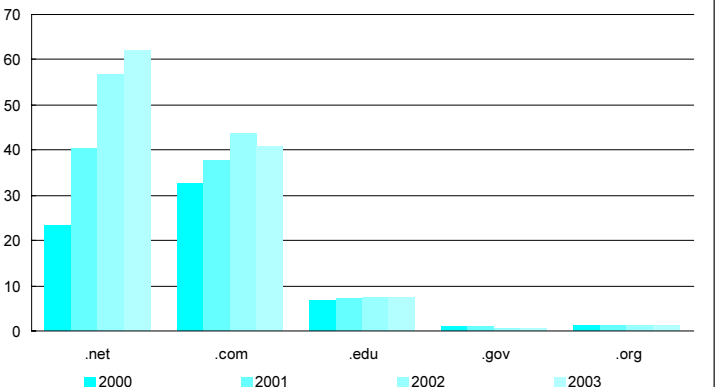
(1) Hosts account for country code Top Level Domains (TLDs) unless otherwise specified; EU sum, EU Member States and candidate countries: December for all years except 2003 which is May; US, JP and Generic: July for all years except 2003 which is January.
(2) US includes .us and .mil.
(3) Generic includes .com, .org, .net, .edu, .gov.
Source: RIPE NCC for EU sum, EU Member States and candidate countries; ISC for US, JP and Generic.

Internet hosts

Hosts are permanently interconnected computers. They are identified by their two-digit country code Top Level Domain (TLD) or by a three-digit Generic TLD (such as .com or .org). This does not necessarily entail that the host is physically located in the corresponding country, but reveals how many hosts are interested in being identified with the respective countries or generic type. For generic TLDs only estimates can be made to distribute the number of hosts geographically, although it is widely accepted that many of these are located in the USA. For this and other reasons great care therefore has to be taken when comparing between countries the absolute numbers of hosts and the number of hosts relative to population.

There were 112 million generic Internet hosts world-wide in January 2003 with TLDs such as .com, .org or .net. In May 2003 the number of hosts using TLDs of the EU Member States was estimated at 16.3 million, the largest number of which were in the Netherlands (3.4 million), the United Kingdom (3.1 million) and Germany (2.7 million).

Figure 4.2: Number of main generic hosts (millions) (1)



(1) July for all years except 2003 which is January.
Source: ISC.

Table 4.3: Internet users

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
							Number of Internet users (thousands)									
2000	**92 790**	3 000	2 090	24 800	1 000	5 486	8 460	679	13 200	100	7 000	2 700	2 500	1 927	4 048	15 800
2001	**117 981**	3 200	2 300	30 800	1 400	7 388	15 653	895	15 600	160	7 900	3 150	2 900	2 235	4 600	19 800
2002	**135 107**	3 400	2 500	35 000	2 000	7 856	18 716	1 065	17 000	165	8 590	3 340	3 700	2 650	5 125	24 000
							Internet users per 100 inhabitants									
2000	**25**	29	39	30	9	14	14	18	23	23	44	33	25	37	46	26
2001	**31**	31	43	37	13	18	26	23	27	36	49	39	28	43	52	33
2002	**36**	33	47	42	18	19	31	27	30	37	53	41	36	51	57	41

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
							Number of Internet users (thousands)									
2000	168	1 950	2 096	430	120	1 000	392	715	150	225	51	2 800	800	507	300	2 000
2001	172	2 100	2 224	605	150	1 500	430	1 480	170	250	99	3 800	1 000	674	600	4 000
2002	175	2 300	2 375	:	210	:	560	1 600	310	:	:	:	1 800	863	800	4 900
							Internet users per 100 inhabitants									
2000	60	43	29	5	18	10	27	7	6	6	13	7	4	9	15	3
2001	60	46	31	7	22	15	30	15	7	7	25	10	4	13	30	6
2002	61	50	33	:	30	:	41	16	13	:	:	:	8	16	40	7

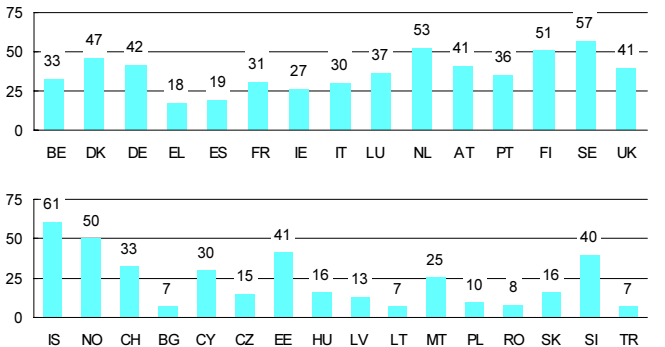
Source: ITU estimates.

Internet users

In 2002, the number of Internet users in the EU was estimated at 135 million, which means that just over one third of the population was connecting to the Internet. Among the EU Member States the highest user rates were reported in the Nordic countries, lead by Sweden (57 per 100 inhabitants), and the Netherlands (53 per 100 inhabitants). The lowest rates were reported in Greece and Spain, the only countries with a ratio below 20 users per 100 inhabitants.

A comparison with candidate countries reveals that only Estonia (41 per 100 inhabitants) and Slovenia (40 per 100 inhabitants) had a higher proportion of Internet users than the EU average although several other countries had Internet user rates close to or above the rates of Greece and Spain.

Figure 4.3: Internet users, 2002 (per 100 inhabitants) (1)



(1) BG, CZ, LT, MT, PL, 2001.
Source: ITU estimates.

Table 4.4: Mobile phone penetration

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
								Mobile phone subscriptions (thousands)								
2000	**238 384**	5 336	3 364	48 202	5 932	24 265	29 052	2 461	42 246	303	10 755	6 253	6 665	3 729	6 369	43 452
2001	**280 547**	7 697	3 960	56 245	7 962	29 656	35 922	2 970	51 246	409	12 352	6 650	7 978	4 176	7 042	46 282
2002	**298 079**	8 136	4 478	59 200	9 240	33 475	38 585	2 969	52 316	455	11 700	6 760	8 529	4 400	7 915	49 921
								Mobile phone subscriptions per 100 inhabitants								
2000	**63**	52	63	59	56	60	49	65	74	69	67	77	66	72	72	73
2001	**74**	75	74	68	75	73	61	77	88	92	77	82	77	80	79	77
2002	**79**	79	83	72	84	82	65	76	93	101	72	83	82	85	89	84

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
								Mobile phone subscriptions (thousands)								
2000	215	3 368	4 639	738	218	4 346	557	3 076	401	524	114	6 747	2 499	1 110	1 216	16 133
2001	248	3 689	5 276	1 550	314	6 947	651	4 967	657	1 018	239	10 005	3 845	2 147	1 470	19 573
2002	260	3 842	5 734	:	418	8 610	881	6 562	917	1 632	277	14 000	:	2 923	1 667	23 374
								Mobile phone subscriptions per 100 inhabitants								
2000	76	75	64	9	32	42	39	31	17	14	29	17	11	21	61	25
2001	86	81	73	19	46	68	46	50	28	28	61	26	17	40	74	30
2002	90	84	79	:	60	85	65	65	39	47	70	36	:	54	84	35

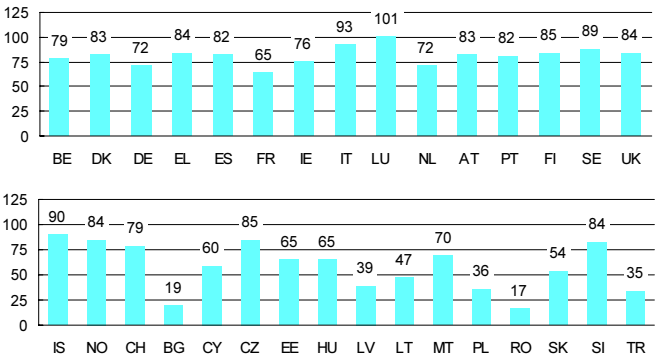
Source: ITU.

Mobile phone subscriptions

There were an estimated 298 million mobile phone subscriptions in the EU in 2002, equivalent to 79 per 100 inhabitants. The penetration of mobile phones in EU Member States has increased considerably over the last few years, but appears to be reaching saturation in some markets, notably in Italy (93 subscriptions per 100 inhabitants) and in Luxembourg (101 subscriptions per 100 inhabitants). It must be noted that these figures may in part reflect inactive subscriptions and also count users with multiple subscriptions and hence they do not reflect the proportion of the population with a subscription.

The number of subscriptions per 100 inhabitants in many candidate countries is comparable to that in Member States, with the Czech Republic, Slovenia and Malta leading the way.

Figure 4.4: Mobile phone subscriptions (per 100 inhabitants), 2002 (1)



(1) BG, RO, 2001.
Source: ITU.

Table 4.5: ISDN lines

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
								Number of ISDN subscriptions (thousands)								
1995	:	28	14	961	:	28	284	0	49	2	29	17	8	6	17	117
1996	**3 067**	55	30	1 945	1	96	444	0	110	4	96	42	20	27	53	145
1997	**9 543**	99	58	7 341	2	228	701	6	290	10	279	86	48	58	72	266
1998	**14 540**	185	113	10 254	4	295	1 540	10	653	18	574	156	90	100	122	426
1999	:	319	241	13 636	29	544	:	:	2 526	28	:	:	140	157	:	566
2000	:	430	351	17 947	:	:	:	:	4 593	:	:	:	195	208	270	776
2001	:	446	:	21 640	:	:	:	:	5 407	:	:	:	:	276	285	906
								Number of ISDN subscriptions per thousand inhabitants								
1995	:	3	3	12	:	1	5	0	1	4	2	2	1	1	2	2
1996	**8**	5	6	24	0	2	8	0	2	9	6	5	2	5	6	2
1997	**26**	10	11	90	0	6	12	2	5	25	18	11	5	11	8	5
1998	**39**	18	21	125	0	7	26	3	11	43	37	19	9	19	14	7
1999	:	31	45	166	3	14	:	:	44	64	:	:	14	30	:	10
2000	:	42	66	218	:	:	:	:	80	:	:	:	19	40	30	13
2001	:	43	:	263	:	:	:	:	93	:	:	:	:	53	32	15

Source: Eurostat, communications (theme4/coins/telecom/t_acces1) for ISDN; Eurostat, demography (theme3/demo/dgen) for population (1st January of each reference year).

Table 4.5: ISDN lines

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
Number of ISDN subscriptions (thousands)																
1995	0	12	69	:	:	:	0	:	:	:	0	:	:	:	0	:
1996	3	44	126	:	0	:	0	:	:	:	0	:	:	:	0	:
1997	12	150	208	:	1	0	16	:	:	:	0	0	:	:	6	:
1998	10	310	341	153	1	3	22	:	:	:	0	1	:	3	14	:
1999	13	532	531	229	3	11	31	123	:	:	0	99	:	4	31	2
2000	18	703	727	346	7	26	41	322	:	:	:	207	:	12	54	7
2001	18	:	861	:	14	84	46	487	:	7	:	:	:	31	76	9
Number of ISDN subscriptions per thousand inhabitants																
1995	0	3	10	:	:	:	0	:	:	:	0	:	:	:	0	:
1996	12	10	18	:	0	:	0	:	:	:	0	:	:	:	0	:
1997	46	34	29	:	1	0	11	:	:	:	0	0	:	:	3	:
1998	36	70	48	19	2	0	15	:	:	:	0	0	:	1	7	:
1999	46	120	75	28	3	1	21	12	:	:	0	3	:	1	16	0
2000	64	157	101	42	10	3	30	32	:	:	:	5	:	2	27	0
2001	64	:	119	:	19	8	34	48	:	2	:	:	:	6	38	0

Source: Eurostat, communications (theme4/coins/telecom/t_acces1) for ISDN; Eurostat, demography (theme3/demo/dgen) for population (1st January of each reference year).

Table 4.6: Internet home access technology: proportion of Internet users by different types of access (%)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Analogue dial-up connection																
June 2001	**72**	69	63	48	75	76	84	89	81	52	59	51	84	78	77	88
November 2002	**69**	51	48	56	66	66	82	92	79	44	51	51	70	62	62	85
ISDN																
June 2001	**18**	14	23	46	9	3	1	5	13	45	20	24	3	16	5	5
November 2002	**17**	8	15	47	20	4	0	6	10	50	19	16	5	12	9	4
ADSL																
June 2001	**4**	11	7	5	0	3	4	0	2	1	2	7	0	2	7	2
November 2002	**13**	35	22	21	1	17	12	0	8	6	7	13	2	9	23	4
Cable modem																
June 2001	**10**	19	6	7	3	3	9	4	7	3	19	14	10	2	7	12
November 2002	**9**	18	12	13	3	6	4	1	1	1	22	17	20	8	3	8
Wireless																
June 2001	**3**	5	0	9	2	1	2	0	0	0	1	1	1	1	1	3
November 2002	**5**	4	0	16	0	1	0	1	1	0	1	1	0	1	2	3

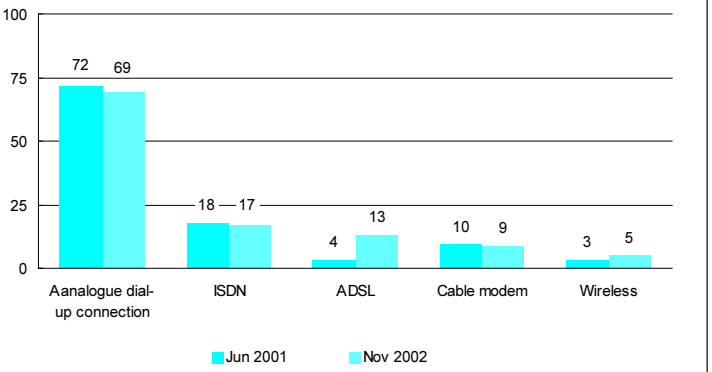
Source: Flash Eurobarometer 103 and 135.

Internet home access technologies

Different solutions are available when connecting to the Internet. Analogue dial-up connections are the traditional and slowest way of access using a modem and a standard telephone line. ISDN access is somewhat faster, up to 64 kilobits/sec. per channel and was in November 2002 the most popular digital method of access in households. It was however losing ground, notably to ADSL which also relies on a standard telephone line, but uses a technology that allows broadband connections.

Among Member States, more than half of Belgian Internet users had a broadband connection (either ADSL or cable), and broadband connections were used by more than one-third of Internet users in Denmark and Germany. In contrast, these connections were used by less than one in ten in Italy, Luxembourg, Greece and Ireland. See also table 5.6 for a comparison of Internet access cost.

Figure 4.5: Internet home access technologies: proportion of Internet users, EU (%)



Source: Flash Eurobarometer 103 and 135.

ICT USAGE IN HOUSEHOLDS

Table 5.1: PC and Internet in households (%)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Proportion of persons using a PC																
Autumn 2002 (1)	**50**	48	76	48	29	37	50	44	50	59	74	51	32	66	76	56
Proportion of households having access to Internet																
October 2000 (2)	**28**	29	52	27	12	16	19	36	24	36	55	38	18	44	54	41
June 2001 (3)	**36**	35	59	38	12	23	26	46	33	44	59	46	23	48	64	53
November 2001 (4)	**38**	36	59	38	10	25	30	48	34	43	64	47	26	50	61	49
June 2002 (5)	**40**	41	65	44	9	29	36	48	35	55	65	49	31	54	64	45
November 2002 (6)	**43**	43	67	46	14	31	36	57	35	54	68	54	31	55	66	50
Proportion of persons using Internet (regardless of where)																
November 2002 (6)	**53**	50	77	60	22	42	49	64	40	56	73	65	42	69	70	60

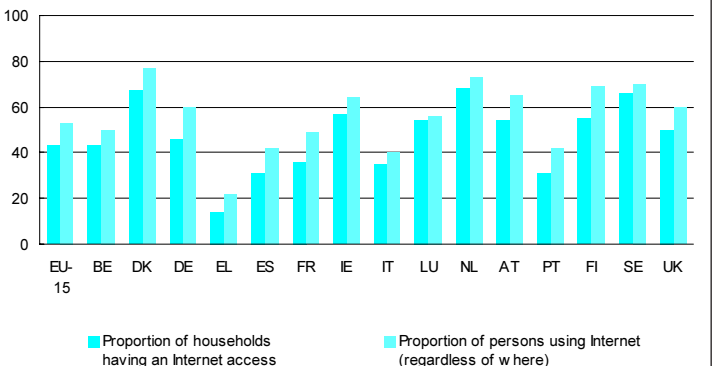
(1) Eurobarometer 58 "Information society", September-October 2002.
(2) Flash Eurobarometer 88, October 2000.
(3) Flash Eurobarometer 103, June 2001.
(4) Flash Eurobarometer 112, November 2001.
(5) Flash Eurobarometer 125, May/June 2002.
(6) Flash Eurobarometer 135, November 2002.
Source: Eurobarometer.

PC and Internet usage in households

In September 2002 half of the EU population used a PC, despite the significantly lower proportions reported by Spain (37 %), Portugal (32 %) and Greece (29 %). In the Netherlands, Sweden and Denmark, the proportion was close to three-quarters of the population.

A similar proportion of persons also connected to the Internet: indeed, according to another Eurobarometer survey in November 2002, 53 % of the EU population used the Internet. A large proportion had access from home, as 43 % of households had Internet access: alternative places of Internet access are work, educational establishment and Internet cafés (see table 5.3)

Figure 5.1: Availability and use of Internet, November 2002 (%)



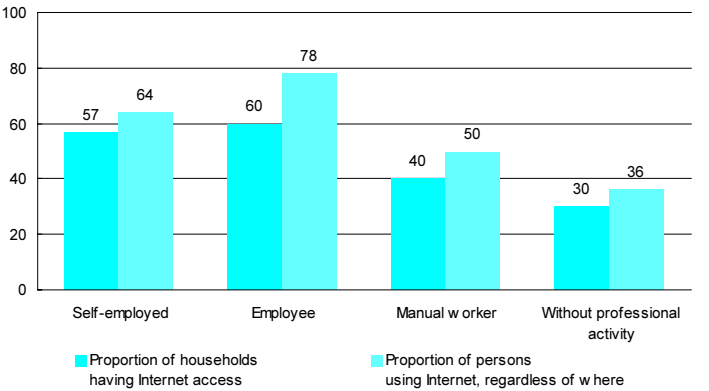
Source: Flash Eurobarometer 135, November 2002.

Table 5.2: Availability and use of the Internet, EU, 2002 (%)

		Proportion of households with Internet access	Proportion of persons using the Internet, regardless of where
Working status	Self-employed	57	64
	Employee	60	78
	Manual w orker	40	50
	Without professional activity	30	36
Age	15-24	57	85
	25-39	56	70
	40-54	50	56
	55 and over	19	20
Location	Metropolitan	46	59
	Urban zone	43	53
	Rural zone	38	48
Sex	Male	48	60
	Female	38	47

Source: Flash Eurobarometer 135, November 2002.

Figure 5.2: Internet access and use, by working status, EU, 2002 (%)



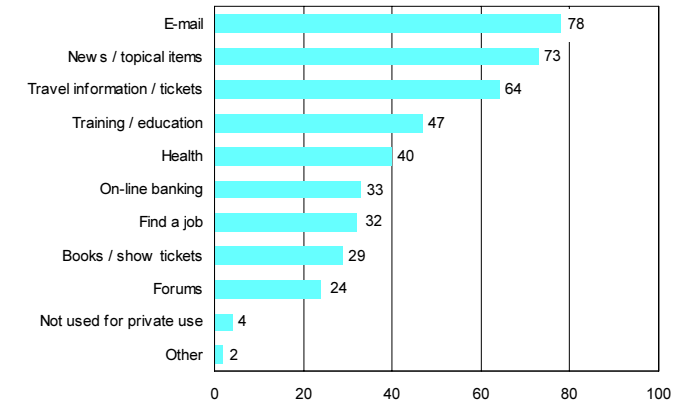
Source: Flash Eurobarometer 135, November 2002.

Proportion of Internet access by socio-economic status and by purpose

A breakdown of Internet usage by socio-demographic status reveals that the most active Internet users in the EU in 2002 were employees (78 % using the Internet) or self-employed (64 %) rather than manual workers (50 %) or without professional activity (36 %) - see figure 5.2. In addition, although younger people (aged 15 to 24) had the highest Internet usage rates, more than half of the people in all of the age groups below 55 used the Internet.

E-mail was the most popular Internet application, attracting 78 % of persons using the Internet for private purposes, closely followed by reading news (73 %) and preparing a trip (64 %).

Figure 5.3: Proportion of Internet users using the Internet for private use for selected purposes, EU, 2002 (%)



Source: Flash Eurobarometer 135, November 2002.

Table 5.3: Place of use of Internet and mobile access

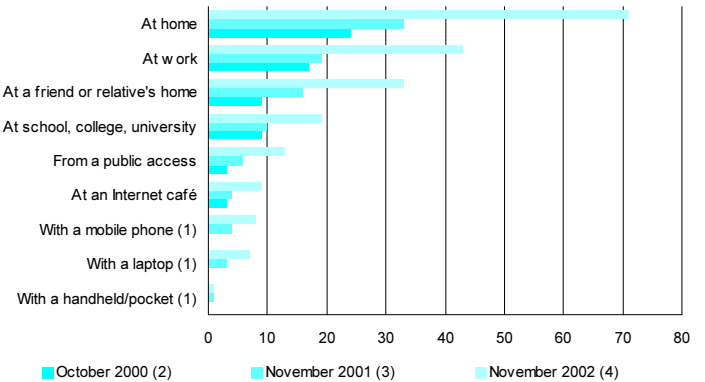
	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
								Proportion of persons using Internet (%)								
At home	**71**	71	83	72	50	61	64	74	68	84	87	77	64	74	84	74
At w ork	**43**	47	50	37	26	36	44	42	40	44	50	44	42	50	57	51
At a friend or relative's home	**33**	33	15	40	21	21	40	30	20	27	32	17	20	22	26	41
At school, college, university	**19**	25	15	17	24	21	20	23	15	17	18	13	24	23	19	24
From a public access	**13**	14	8	11	4	10	15	19	7	9	14	4	12	17	12	18
At an Internet café	**9**	6	3	11	20	16	6	14	5	8	9	4	4	4	5	9
With a mobile phone	**8**	6	1	14	1	2	5	7	2	7	7	2	4	3	6	11
With a laptop	**7**	9	2	6	2	2	10	10	4	8	6	4	4	4	10	14
With a handheld/pocket PC	**1**	1	0	1	0	0	1	2	0	1	1	1	0	0	2	3
Elsew here	**0**	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0

Source: Flash Eurobarometer 135, November 2002.

Place of use of Internet and mobile access

Home is the place from where the Internet is most used in all Member States, as on average 71 % of Internet users in the EU connect from there. Many also made use of a connection from their place of work (43 %) or from their place of education (19 %); interestingly, as many as one-third of Internet users connected from a friend's or relative's home, a high figure that was largely influenced by the results of Germany, France (both 40 %) and the United Kingdom (41 %), while most other countries reported significantly lower shares for this type of access.

Figure 5.4: Place of use of Internet and mobile access, EU, 2002 (%)



(1) No data available for October 2000.
(2) Flash Eurobarometer 88, October 2000.
(3) Flash Eurobarometer 112 , November 2001.
(4) Flash Eurobarometer 135, November 2002.
Source: Flash Eurobarometer.

Table 5.4: Proportion of Internet users buying products or services through the Internet (%)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
									November 2001 (1)							
Frequently	**4**	3	4	4	3	2	3	4	1	8	3	5	2	2	5	7
Occasionally	**16**	7	13	16	4	10	11	19	10	17	14	15	6	10	17	27
Rarely	**16**	10	21	24	7	7	13	15	8	16	14	15	5	25	22	15
Never again	**1**	1	1	1	1	1	1	0	1	1	1	2	1	0	0	1
Never	**64**	79	63	55	85	80	72	61	80	58	68	61	86	63	56	50
									November 2002 (2)							
Frequently	**5**	4	4	5	1	1	4	4	2	8	4	3	3	2	5	10
Occasionally	**18**	8	17	23	4	10	16	20	8	20	16	17	10	9	16	29
Rarely	**15**	12	19	24	6	8	13	18	5	14	16	13	8	24	23	14
Never again	**1**	1	1	1	1	1	1	1	0	1	2	2	1	1	1	1
Never	**60**	75	59	47	87	80	65	58	84	57	62	65	79	63	54	44

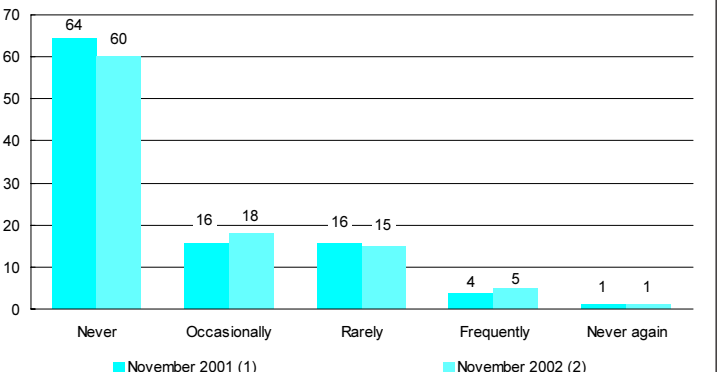
(1) Flash Eurobarometer 112, November 2001.
(2) Flash Eurobarometer 135, November 2002.
Source: Flash Eurobarometer.

E-commerce use

E-commerce still remains a relatively unpopular activity among Internet users, as 60 % of them declared never having bought anything through the Internet in November 2002. In comparison with one year before, however, e-commerce was slowly progressing as the share of persons occasionally buying on-line increased from 16 % to 18 % while the share of frequent e-shoppers increased marginally from 4 % to 5 %. Only 1 % declared being sufficiently disappointed by their e-commerce experience that they intended never to buy on-line again.

Internet users in the United Kingdom, Germany and Luxembourg were the most active e-shoppers (occasional or frequent), in contrast with their counterparts in Spain, Finland, Italy and Greece.

Figure 5.5: Proportion of Internet users buying products or services through the Internet, EU (%)



(1) Flash Eurobarometer 112, November 2001.
(2) Flash Eurobarometer 135, November 2002.
Source: Flash Eurobarometer.

Table 5.5: Access to information technology in candidate countries, 2002

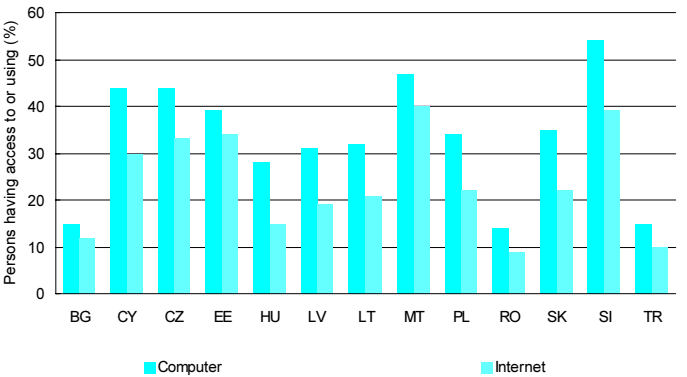
	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
	Proportion of persons having access to or using (%)												
Video player or recorder	32	63	60	44	55	49	49	78	61	15	56	57	15
Fax	5	19	20	17	11	11	11	16	11	4	16	20	7
Satellite for TV programmes	10	10	26	41	27	15	18	15	33	12	40	49	27
Decoder for pay-TV programmes	3	26	12	14	33	27	14	36	16	10	17	13	6
Television fitted w ith teletext	22	48	73	52	53	27	37	74	71	42	72	82	46
Mobile phone	21	71	70	65	62	55	54	71	46	22	60	78	48
Computer	15	44	44	39	28	31	32	47	34	14	35	54	15
CD-ROM or CDI-reader	9	30	48	25	20	17	16	37	25	10	20	46	9
Modem	7	23	25	21	12	8	12	37	17	6	13	37	6
Internet	12	30	33	34	15	19	21	40	22	9	22	39	10
None of these	49	15	9	17	16	24	26	4	14	43	13	0	29

Source: Candidate countries Eurobarometer, November 2002.

Computer and Internet in candidate countries

Candidate countries showed generally much lower usage of information technology than the EU average. While 50 % of the EU population used a PC in 2002 (see table 5.1), most candidate countries reported shares below 35 %, and even half this proportion in Bulgaria, Turkey (both 15 %) and Romania (14 %). The same conclusion could be drawn when looking at Internet access, which concerned generally less than one-third of the population, against 53 % in the EU. Overall, Slovenia, Malta, Cyprus, the Czech Republic and Estonia were nevertheless closer to the EU average.

Figure 5.6: Computers and Internet in candidate countries, 2002



Source: Candidate countries Eurobarometer, November 2002.

Table 5.6: Comparison of Internet access costs

	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Price comparison of cheapest service for each type of access (EUR/month) (1)															
ADSL	33	48	27	:	45	32	113	25	54	33	29	38	53	35	34
Cable modem	30	10	12	:	38	32	25	:	64	31	45	16	43	29	51
PSTN peak 40h	84	29	24	27	20	15	56	31	32	31	28	46	29	28	9
PSTN off-peak 40h	34	25	21	19	18	15	15	23	29	24	18	24	29	28	11
Number of dial up hours per month needed to match cost of fixed access (2)															
Peak: hours vs. ADSL	15	26	46	:	51	45	75	25	27	18	1	33	73	11	103
Peak: hours vs. cable	13	:	20	:	37	46	12	:	39	15	24	14	59	3	174
Off-peak: hours vs. ADSL	38	52	51	:	61	45	262	44	35	55	23	65	73	51	82
Off-peak: hours vs. cable	33	:	23	:	45	46	27	:	49	51	59	27	59	43	143

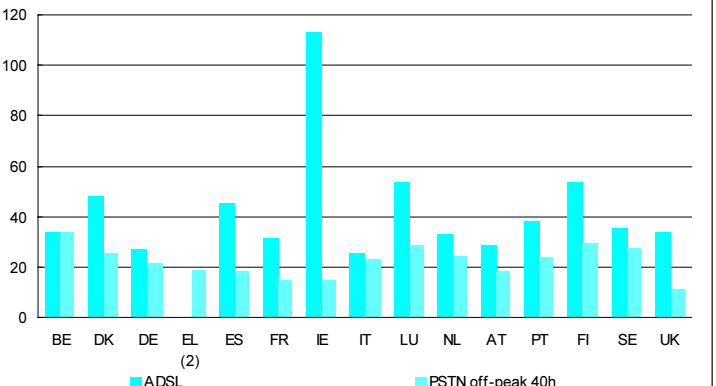
(1) Prices including VAT; for ADSL and cable modem the cheapest option in each country is selected, generally the lowest bitrate from the cheapest provider; basic line rental not included (e.g. telephone line rental).
(2) Calculations are based on the cheapest packages for each type of access, in each country; the selection of dial-up package corresponds to 40 hours usage; for DK, usage cannot be calculated compared to cable.
Source: European Commission, Teligen survey, November 2002.

Internet access cost

In November 2002, in several countries it was cheaper to have a broadband connection (ADSL or cable) than one through a standard PSTN line when surfing 40 hours a months. This was the case in Belgium, Denmark (cable), Germany (cable) and Portugal (cable).

The cost of access to the Internet may be a very important brake to its penetration in households (absolute cost) and the choice of the technology used (relative cost). The figures in this field can be compared with those in tables 4.5 (Internet home access technology) and 5.1 (Internet in households).

Figure 5.7: Price comparison of cheapest service for two types of Internet access (EUR/month), November 2002 (1)



(1) Prices including VAT; for ADSL and cable modem the cheapest option in each country is selected, i.e. generally the lowest bitrate from the cheapest provider.
(2) ADSL price not available.
Source: European Commission, Teligen survey, November 2002.

ICT USAGE IN ENTERPRISES

Table 6.1: Proportion of enterprises using ICT, (%)

	EU (1)	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	NO
Proportion of enterprises using computers, beginning 2002																	
All sizes	**94**	:	98	95	88	95	:	95	95	97	94	93	84	99	99	89	95
SME	**94**	:	98	94	88	95	:	95	95	97	94	93	84	99	99	88	95
Large	**100**	:	100	100	99	100	:	98	100	97	97	100	99	100	100	100	99
Proportion of enterprises that used the Internet during 2001																	
All sizes	**81**	:	95	84	64	83	:	83	74	79	85	85	69	96	95	54	82
SME	**81**	:	95	83	64	82	:	82	74	78	85	84	68	96	95	53	82
Large	**98**	:	100	98	96	98	:	96	95	96	95	100	98	100	100	86	96
Proportion of all employees using a computer connected to the www (Internet) at least once a week, beginning 2002 (2)																	
All sizes	**27**	:	50	27	23	19	:	26	21	26	:	29	19	51	51	:	51
SME	**26**	:	48	27	20	20	:	25	19	30	:	31	18	50	52	:	46
Large	**28**	:	52	27	27	19	:	27	23	21	:	27	21	52	51	:	56

(1) Excluding BE, FR, NL and UK.
(2) FI, excluding part of NACE Group 74.5.
Source: Eurostat e-commerce survey 2002.

E-commerce survey

The data presented on pages 58 to 70 come from the 2002 Community survey on ICT usage in enterprises (e-commerce). The target population was all enterprises with 10 or more persons employed in the following activities (see page 99 for an explanation of NACE codes): Sections D and G, Groups 55.1 and 55.2, Section I, Division 67 and Section K. The following tables indicate the main differences in the coverage of the data from this survey:

When the results claim to represent all NACE covered by the survey in fact they cover:

DK, DE, IE, IT	Excludes Divisions 67.
NL	Includes Divisions 65 and 66 and Groups 55.3 to 55.5.

Size class breakdown exceptions:

NL	The distinction between medium-sized enterprises and large enterprises is made at 200 persons employed, not 250 persons employed.

Activity breakdown exceptions:

FI	Division 67 included in Section K and aggregates thereof.

In addition there are a number of other exceptions related to specific variables, and these are indicated for each table or figure as appropriate.

Although a core list of variables was established, not all countries provided data for all variables, nor for all of the requested activity and size class breakdowns. In order to improve the comparability of the EU averages within and between tables and figures, the EU averages have been established for a fixed list of countries, rather than being based simply on whichever countries are available for a particular variable. Normally the EU averages cover all Member States except Belgium, France, the Netherlands and the United Kingdom: for the EU averages with a breakdown by NACE Ireland has also been excluded. The precise country coverage of the EU average is indicated in each table or figure. Any divergences from the standard activity, size coverage or variable definitions of the individual Member States that are used to compile EU averages are also present in the EU averages. For example, EU averages include Finland, and therefore the EU averages for NACE Section K include Finnish data for Division 67.

Table 6.2: Enterprises using or providing Internet services, EU, beginning 2002 (%)

	EU (1)	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	NO
Proportion of enterprises that used the Internet during 2001																	
	81	:	95	84	64	83	:	83	74	79	85	85	69	96	95	54	82
Enterprises using the Internet: proportion using the following Internet services																	
For market monitoring (2)	**45**	:	44	41	77	54	:	40	38	55	63	66	43	61	53	:	52
To receive digital products	**36**	:	45	42	15	21	:	30	33	62	27	26	18	60	65	:	58
To obtain after sales services	**:**	:	:	50	15	23	:	22	15	31	30	16	14	36	70	:	:
For banking and financial services (2)	**65**	:	72	65	60	78	:	69	52	54	78	68	71	85	75	:	73
	EU	**BE**	**DK**	**DE**	**EL**	**ES**	**FR**	**IE**	**IT**	**LU**	**NL**	**AT**	**PT**	**FI**	**SE**	**UK**	**NO**
Enterprises using the Internet during 2001: proportion with a web-site or home page																	
	67	:	80	78	52	46	:	64	62	65	68	75	55	72	84	100	70
Enterprises with a web-site or home page: proportion offering the following Internet services																	
Market products	**81**	:	96	82	97	54	:	90	88	69	88	88	58	86	97	:	93
Facilitate access to product catalogues & price lists (2)	**44**	:	39	40	43	60	:	45	43	51	40	47	58	42	43	:	43
Deliver digital products (3)	**8**	:	11	11	7	6	:	12	5	20	20	7	5	11	4	:	14
Provide after-sales support	**29**	:	27	45	11	18	:	18	7	23	30	12	16	31	35	:	30
Provide mobile Internet services	**5**	:	2	6	6	2	:	7	3	5	:	4	2	5	5	:	3

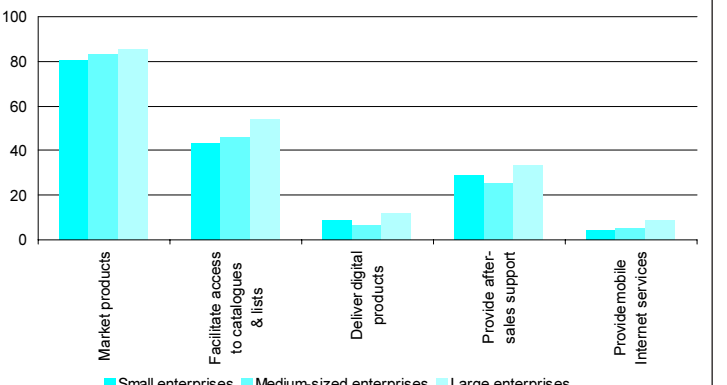
(1) Excluding BE, FR, NL and UK.
(2) SE, wording of these services was different.
(3) DK, wording of these services was different.
Source: Eurostat e-commerce survey 2002.

Enterprises using and providing Internet services

The results of the e-commerce survey show that most EU enterprises had adopted the Internet as a tool, with 81% of them having used the Internet in 2001. The most popular online application was e-banking, used by 65% of enterprises, while market monitoring, for example comparing prices, was used by close to half of Internet connected enterprises (45%). The high use of after sales services via the Internet in Germany and Sweden can also be noted.

Only two-thirds of EU enterprises that used the Internet in 2001 also had a presence on the web by the beginning of 2002. While this proportion was only just above half in Greece and Portugal, it reached or exceeded four-fifths in Denmark and Sweden. A large proportion of enterprises with a web presence used this as a marketing tool (81% to market products). In general, the offer of web based services increased with the enterprises size, although medium-sized enterprises were the least prone to deliver digital products or provide web-based after sales-support.

Figure 6.1: Enterprises with a web-site or home page: proportion offering specified Internet services, EU, beginning 2002 (%) (1)



(1) Excluding BE, FR, NL and UK.
Source: Eurostat e-commerce survey 2002.

Table 6.3: Enterprises using Internet for e-purchasing

	EU (1)	BE	DK (2)	DE	EL (3)	ES	FR	IE	IT	LU	NL (4)	AT	PT	FI	SE	UK	NO
Enterprises having used the Internet during 2001: proportion that purchased products via the Internet in 2001																	
All sizes	**30**	:	49	45	17	8	:	46	10	29	37	37	24	54	62	47	:
SME	**30**	:	48	45	16	8	:	45	10	29	37	36	24	53	62	47	:
Large	**39**	:	80	41	27	15	:	62	15	23	54	56	30	70	83	45	:
Enterprises having purchased products via the Internet in 2001: proportion that used the Internet to purchase 1% or more of all purchases																	
All sizes	**:**	:	48	97	63	35	:	52	38	80	73	78	69	54	:	:	:
SME	**:**	:	49	98	65	35	:	52	39	81	73	78	70	55	:	:	:
Large	**:**	:	35	90	22	25	:	51	21	60	69	67	55	51	:	:	:
Enterprises having purchased products via the Internet in 2001: proportion having purchased products via specialised B2B Internet market places																	
All sizes	**:**	:	:	19	25	36	:	22	7	35	20	13	27	30	22	:	:
SME	**:**	:	:	18	25	35	:	22	7	36	20	12	27	29	22	:	:
Large	**:**	:	:	37	31	37	:	35	9	7	27	27	34	36	36	:	:

(1) Excluding BE, FR, NL and UK.
(2) Limited to purchases from web-sites.
(3) Only covers enterprises that have made at least 1% of purchases via the Internet.
(4) Includes transactions by all electronic networks.
Source: Eurostat e-commerce survey 2002.

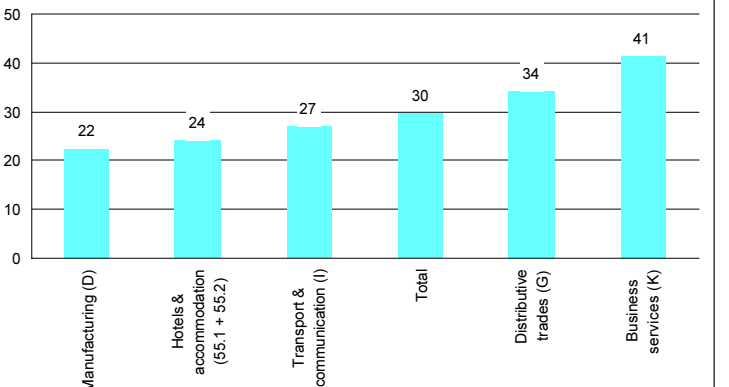
Enterprises Internet purchasing

Three in every ten enterprises using the Internet in the EU had used e-commerce in 2001 to purchase at least some of the products they needed for their activity. This average hides considerable differences among Member States, from one in ten or less in Spain and Italy up to more than one in two in Finland and Sweden. Recourse to e-procurement generally increased with enterprise size although this was not the case in Germany, Luxembourg and the United Kingdom.

B2B marketplaces consist of specialised sites that allow buyers and suppliers to meet each other virtually and to trade. They attracted more than one-fifth of the enterprises purchasing online in most countries, although they proved far less popular in Austria and Italy.

Enterprises within service sectors generally reported a higher recourse to Internet purchasing than manufacturing ones. Enterprises in business services were generally twice as likely to use the Internet for e-purchasing than manufacturing enterprises.

Figure 6.2: Proportion of enterprises using Internet for e-purchasing, EU, 2001 (%) (1)



(1) Excluding BE, FR, IE, NL and UK.
Source: Eurostat e-commerce survey 2002.

Table 6.4: Enterprises using Internet for e-sales

	EU (1)	BE	DK (2)	DE	EL (3)	ES	FR	IE	IT	LU	NL (4)	AT	PT (5)	FI	SE	UK	NO (6)
Enterprises having used the Internet during 2001: proportion that had received orders via the Internet																	
All sizes	**13**	:	25	19	14	3	:	26	5	15	40	25	11	17	14	19	27
SME	**13**	:	25	19	14	3	:	26	5	15	40	25	10	17	14	19	27
Large	**17**	:	36	18	17	7	:	33	7	13	47	29	27	27	27	22	33
Enterprises having received orders via the Internet: proportion that generated 1% or more of all turnover from Internet sales																	
All sizes	**83**	:	36	99	67	45	:	53	64	73	75	70	61	60	92	:	51
SME	**83**	:	36	99	67	45	:	53	64	74	75	70	63	60	93	:	51
Large	**71**	:	34	91	64	36	:	47	52	25	75	61	33	60	80	:	53
Enterprises having received orders via the Internet: proportion having sold products via specialised B2B Internet market places																	
All sizes	**:**	:	:	4	12	13	:	13	4	10	13	11	29	15	12	:	:
SME	**:**	:	:	4	12	13	:	12	4	9	13	11	30	14	11	:	:
Large	**:**	:	:	13	18	22	:	15	10	38	24	18	19	19	32	:	:

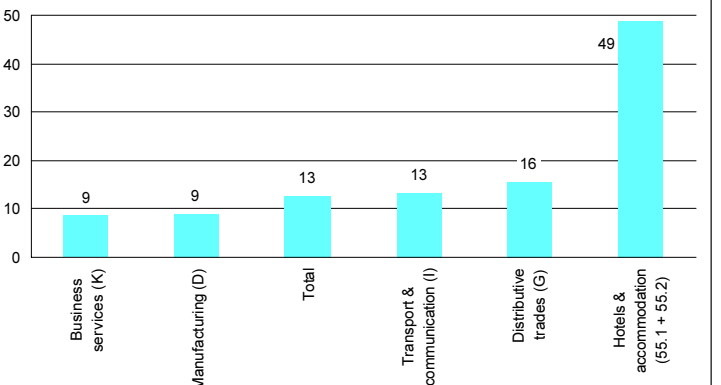
(1) Excluding BE, FR, NL and UK.
(2) Limited to own web-site.
(3) Only covers enterprises that have generated at least 1% of turnover via the Internet.
(4) Includes transactions by all electronic networks.
(5) Only covers enterprises that have generated at least 1% of turnover via the Internet; estimate.
(6) Limited to homepage.
Source: Eurostat e-commerce survey 2002.

Enterprises Internet sales

Contrary to e-purchasing, enterprises' e-commerce sales address both the business to business (B2B) and the business-to-consumer (B2C) markets. However, the e-commerce survey shows that enterprises were generally far less active in selling than in purchasing by electronic means. Indeed, only 13% of enterprises having used the Internet during 2001 declared having received orders via the Internet. Larger enterprises recorded a somewhat higher proportion of e-sales (17%) although this remained less than half the proportion using e-procurement.

One important result from the e-commerce survey is the confirmation of the tourism sector's high use of e-sales. Indeed, almost one in two enterprises providing accommodation services that used the Internet, used it to receive orders in 2001. This was more than three times the proportion recorded in any other sector (at the NACE Section level), the lowest proportion being recorded in business services and manufacturing (9% both).

Figure 6.3: Proportion of enterprises using Internet for e-sales, EU, 2001 (%) (1)



(1) Excluding BE, FR, IE, NL and UK.
Source: Eurostat e-commerce survey 2002.

Table 6.5: Proportion of enterprises regarding the specified barriers to e-commerce as being of high importance, beginning 2001 (%)

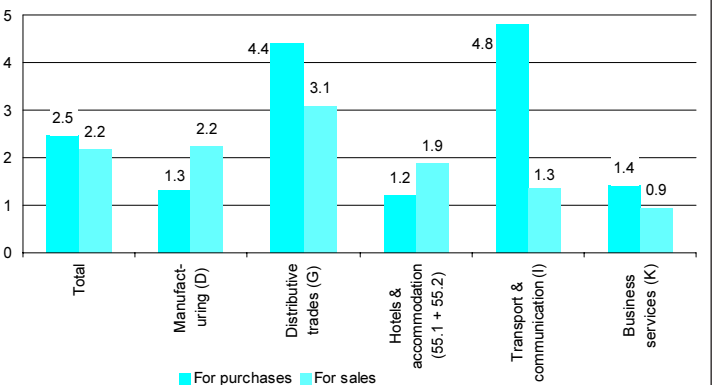
	EU (1)	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	NO
Products not suitable for Internet sales																	
Internet sellers	:	:	4	:	13	41	:	16	28	29	:	25	15	16	19	:	12
Internet non-sellers	:	:	41	:	16	60	:	31	44	10	:	25	20	32	54	:	23
Customers or other enterprises not ready to use Internet e-commerce (2)																	
Internet sellers	:	:	3	:	32	46	:	20	38	31	:	15	26	28	25	:	5
Internet non-sellers	:	:	23	:	22	39	:	18	34	8	:	16	13	26	39	:	14
Security problems concerning payments																	
Internet sellers	:	:	5	:	45	48	:	26	52	44	:	48	21	20	17	:	12
Internet non-sellers	:	:	16	:	25	36	:	17	41	10	:	40	14	14	18	:	11
Uncertainty concerning legal framework																	
Internet sellers	:	:	4	:	40	37	:	16	40	36	:	29	16	13	9	:	11
Internet non-sellers	:	:	16	:	20	32	:	13	33	9	:	29	12	14	19	:	13
Logistical problems																	
Internet sellers	:	:	2	:	17	23	:	11	17	17	:	10	20	9	8	:	4
Internet non-sellers	:	:	11	:	6	21	:	12	20	4	:	10	6	18	15	:	11
Other																	
Internet sellers	:	:	:	:	3	2	:	3	:	3	:	3	:	:	:	:	:
Internet non-sellers	:	:	:	:	1	4	:	2	:	1	:	3	:	:	:	:	:

(1) Excluding BE, FR, NL and UK.
(2) SE, wording of this barrier was different.
Source: Eurostat e-commerce survey 2002.

Barriers to e-commerce

The results of the e-commerce survey indicate that enterprises are concerned about security issues when engaging in electronic commerce. The survey investigated technical problems (regarding payments), and legal ones (e.g. contracts, terms and conditions). In contrast, logistical considerations appear to be the least important barrier to selling electronically. The emergence of Internet commercial applications in the course of the 1990s overshadows the relatively long history of e-commerce in the business community. In fact, enterprises started adopting electronic commercial relations in the early 1970s, using an industry standard called Electronic Data Interchange (EDI). The e-commerce survey reveals that 2.5% of enterprises used non-Internet networks for purchases and 2.2% for sales in 2001. Enterprises in distributive trades were the most active user of non-Internet e-commerce, alongside transport and communication enterprises in the field of e-purchasing.

Figure 6.4: Proportion of all enterprises using EDI or other non-Internet networks, EU, 2001 (%) (1)



(1) Excluding BE, FR, IE, NL and UK.
Source: Eurostat e-commerce survey 2002.

Table 6.6: Number of secure servers

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
								Number of secure servers per 1 million inhabitants								
July 1998	**8**	5	8	6	1	6	4	15	3	26	8	12	3	13	16	12
July 1999	**17**	16	21	20	5	11	11	26	8	60	19	30	6	35	46	29
July 2000	**38**	26	54	46	8	19	22	65	14	100	34	55	12	66	91	74
July 2001	**65**	42	98	78	17	30	33	123	22	155	67	109	19	127	142	132
July 2002	**79**	43	123	97	16	33	42	151	20	220	83	117	21	143	140	171
								Annual growth of the number of secure servers per 1 million inhabitants (%)								
1999	**116**	205	153	231	499	80	185	71	161	132	139	145	118	163	180	141
2000	**118**	68	157	131	81	75	104	150	84	67	76	85	96	90	99	153
2001	**73**	61	81	71	102	57	52	91	59	55	97	97	66	92	55	80
2002	**21**	2	26	24	-4	8	27	22	-8	42	25	7	11	12	-1	29

Source: OECD and Netcraft (www.netcraft.com), December 2002.

Table 6.7: Number of secure servers

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
Number of secure servers per 1 million inhabitants																
July 1998	47	12	21	:	:	2	:	2	:	:	:	1	:	3	:	0
July 1999	105	29	56	:	:	9	:	3	:	:	:	2	:	0	:	1
July 2000	238	61	119	:	:	19	:	9	:	:	:	5	:	8	:	2
July 2001	324	109	191	:	:	37	:	16	:	:	:	12	:	20	:	4
July 2002	477	117	215	:	:	18	:	8	:	:	:	10	:	7	:	6
Annual growth of the number of secure servers per 1 million inhabitants (%)																
1999	121	135	163	:	:	364	:	45	:	:	:	165	:	-100	:	603
2000	128	109	112	:	:	121	:	248	:	:	:	208	:	:	:	126
2001	36	80	60	:	:	97	:	83	:	:	:	148	:	144	:	148
2002	47	7	13	:	:	-52	:	-49	:	:	:	-20	:	-65	:	37

Source: OECD and Netcraft (www.netcraft.com), December 2002.

Secure servers in Member States

Secure servers allow users to encrypt information (for example credit card data) that facilitates e-commerce. A count of secure servers provides a rough measure of the underlying infrastructure to support e-commerce activities. There were 79 secure servers in the EU for every million inhabitants in July 2002, an increase of 21% compared to one year earlier and an eight-fold increase compared to July 1998, despite the plummeting growth rate recorded since 2000.

Within the EU, the highest density of secure servers relative to population were found in Luxembourg, the United Kingdom, Ireland, Finland and Sweden, all with more than 140 secure servers per million inhabitants. Note that several countries have recorded stability or even a contraction in the density of secure servers in 2002.

Secure servers in non-Community countries

Among the non-EU members of the EEA, Iceland boasted the highest density of secure servers, with 477 per million inhabitants, six times the EU average. Figures for Norway and Switzerland were also above the average but to a lesser extent.

Among candidate countries, only the Czech Republic had a density of secure servers (18 per million inhabitants) above that of any EU country (Greece with 16 per million inhabitants). All countries for which data are available suffered from strongly declining figures compared to July 2001, except for Turkey which continued to record a strong increase.

ICT EDUCATION, TRAINING AND SKILLS

Table 7.1: Schools with computers and Internet connections, responses from headteachers, January 2002

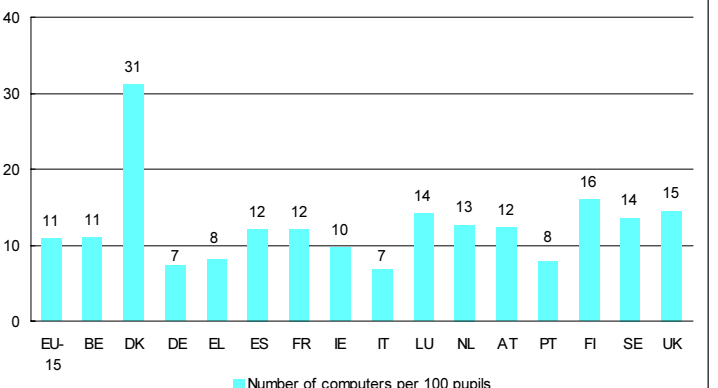
	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Computer/student ratio: number of computers per 100 pupils (1)																
January 2002	**11**	11	31	7	8	12	12	10	7	14	13	12	8	16	14	15
Computer/teacher ratio: number of computers per 100 teachers (1)																
January 2002	**134**	120	210	113	61	95	144	149	53	141	162	120	68	212	152	250
Proportion of computers used for educative purposes that are connected to the Internet (%) (1)																
January 2002	**58**	42	81	59	51	60	52	52	46	51	43	55	68	75	80	74
Proportion of schools that: (%)																
Have an Internet connection	**93**	93	100	99	59	94	89	99	88	67	92	94	92	99	99	99
Use Internet for education	**85**	81	99	87	51	74	85	97	80	60	86	70	89	99	99	97
Have an internal PC network	**51**	38	76	48	25	40	39	24	63	43	50	52	30	25	69	71

(1) In schools using computers for educational purposes.
Source: Flash Eurobarometer 118, January-February 2002.

PC and Internet penetration in schools

While virtually all schools in the EU had an Internet connections (93 % in January 2002), only half had an internal PC network (53 %), which usually means that the connection could not be shared among the various classes but restricted to individual access points or computer rooms. This is further evidenced by the number of computers in schools as a proportion of pupils. There were on average only 11 PCs per 100 pupils in EU schools that used computers for educational purposes. Denmark was significantly above this level, with 31 PCs per 100 pupils, followed by Finland (16) and the United Kingdom (15). In contrast, schools in Germany and Italy (7 PCs per 100 pupils) reported the lowest equipment rate, below Greece and Portugal (both 8).

Figure 7.1: PC penetration in schools, January 2002 (%) (1)



(1) In schools using computers for educational purposes.
Source: Flash Eurobarometer 118, January-February 2002.

Table 7.2: Mathematics, science and technology graduates

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
							Proportion of graduates that were mathematics, science and technology graduates (%)									
1998	:	20	19	29	:	22	31	32	24	21	17	33	:	26	26	26
2001 (1)	:	19	22	26	:	27	31	32	23	15	16	27	17	28	32	27
							Proportion of mathematics, science and technology graduates, in 2001, by gender (%) (1)									
Male	:	76	71	78	:	69	69	64	63	:	83	79	58	73	67	67
Female	:	24	29	22	:	31	31	36	37	:	17	21	42	27	33	33

	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
							Proportion of graduates that were mathematics, science and technology graduates (%)									
1998	19	13	:	16	:	25	11	16	19	25	:	12	25	21	24	:
2001 (2)	19	17	:	19	12	23	18	12	12	26	9	14	25	26	20	:
							Proportion of mathematics, science and technology graduates, in 2001, by gender (%) (2)									
Male	64	75	:	60	69	73	67	77	59	64	74	64	64	68	76	:
Female	36	25	:	40	31	27	33	23	41	36	26	36	36	32	24	:

(1) BE, data for Flemish community exclude second qualification; PT, ISCED level 5B excludes second qualification; DK, FR, IT, LU, FI, 2000.
(2) RO, data exclude second qualification and ISCED level 6; CY, HU, 2000.
Source: Joint UNESCO-OECD-EUROSTAT data collection (UOE) questionnaires on educational finance and on graduates.

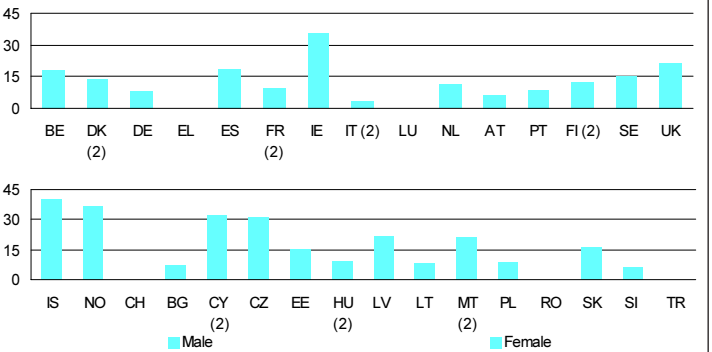
New graduates

Mathematics, science and technology studies produced in most Member States between one-fifth and one-third of graduate students in 2001. In most Member States more than two-thirds of them were men.

In candidate countries, mathematics, science and technology studies were the most common in Lithuania and the Slovak Republic (both 26 % of graduates in 2001), Romania (25 %) and he Czech republic (23 %).

Computer studies accounted generally for less than 20 % of Mathematics, science and technology graduates in EU Member States, except in Ireland where it was closer to twice that share. In candidate countries this threshold was surpassed in Cyprus, the Czech Republic, Latvia and Malta.

Figure 7.2: Proportion of mathematics, science and technology graduates that were computing graduates in 2001, by gender (%) (1)



(1) BE, data for Flemish community exclude second qualification; AT, ISCED 5B refers to previous year; PT, ISCED level 5B excludes second qualification; FI, data include those who graduated a second time at the same ISCED level; CY, data exclude tertiary students graduating abroad; EL, LU, CH, RO, TR, not available.
Source: Joint UNESCO-OECD-EUROSTAT data collection (UOE) questionnaires on educational finance and on graduates.

Table 7.3: Computer professionals as a share of total employment (%)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
1998	:	1.4	1.9	1.2	0.4	0.9	1.3	:	0.7	1.5	2.6	1.3	0.5	1.7	2.2	1.4
1999	**1.4**	1.6	2.0	1.3	0.3	1.0	1.6	1.2	0.9	1.8	2.8	1.4	0.7	2.1	2.5	1.7
2000	**1.5**	1.5	2.3	1.5	0.4	1.0	1.6	1.2	0.9	1.5	3.2	1.5	0.6	2.0	3.3	1.8
2001	**1.8**	1.7	2.2	1.7	0.4	1.1	1.8	1.3	1.1	2.0	3.2	1.7	0.8	2.2	3.4	2.3
2002	**1.7**	1.9	2.4	1.6	0.5	1.1	1.8	1.5	1.2	1.7	3.1	1.9	0.9	2.4	3.3	2.2

	IS	NO	CH	BG	CY	CZ	EE (1)	HU	LV (2)	LT	MT	PL	RO	SK	SI (3)	TR
1998	1.7	1.6	2.3	:	:	1.2	0.4	0.9	0.6	0.4	:	0.6	:	1.1	0.8	:
1999	2.2	1.9	2.3	:	0.7	1.4	0.5	0.9	0.7	0.3	:	0.6	:	1.1	1.0	:
2000	2.3	2.2	2.6	0.4	0.7	1.5	:	0.9	1.0	0.6	:	0.7	:	1.0	1.2	:
2001	2.1	2.5	2.9	0.5	0.9	1.7	:	1.2	0.7	0.4	:	0.8	:	1.1	1.0	:
2002	1.7	2.5	2.7	0.4	0.7	1.8	1.5	1.2	0.8	:	:	0.9	:	1.2	1.3	:

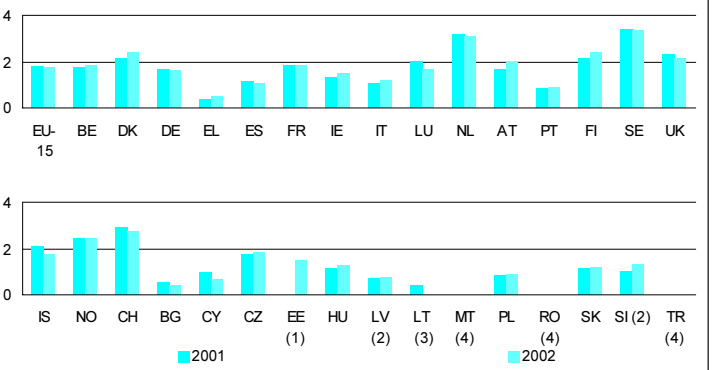
(1) 1998, 1999 and 2002, data not reliable.
(2) 2001, data not reliable.
(3) 1998 to 2001, data not reliable.
Source: Eurostat, Labour force survey.

Computer professionals

In 2002, computer professionals represented 1.7 % of total employment in the EU. Most countries reported a growing share of the workforce in this area in the previous five years although this trends seems to have slowed down or reversed in 2001 and 2002, coinciding with the burst of the e-bubble and the end of work on the millennium bug and the introduction of the euro.

Denmark, Finland (both 2.4 %), the Netherlands (3.1 %) and Sweden (3.3 %) had a particularly larger than average share of computer professionals in their workforce. In the case of Sweden and Finland, this was matched with a similarly larger than average proportion of graduates in mathematics, science and technology (see table 7.2), but this was not the case in the Netherlands or Denmark.

Figure 7.3: Computer professionals as a share of total employment (%)



(1) 2001, not available; 2002, not reliable.
(2) 2001, not reliable.
(3) 2002, not available.
(4) Not available.
Source: Eurostat, Labour force survey.

Table 7.4: Persons using a PC for their work and having received computer training (%)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Proportion of active population using a computer for professional purposes																
2001	**53**	51	73	56	36	42	45	43	58	66	65	57	27	67	71	59
2002	**53**	53	72	57	35	36	45	46	59	56	72	62	32	70	73	58
Proportion of active population using a computer for professional purposes that had computer training at the workplace																
2001	**54**	38	70	65	44	44	51	66	36	55	57	60	39	66	65	58
2002	**49**	38	71	54	44	46	51	56	30	60	53	58	37	72	64	53

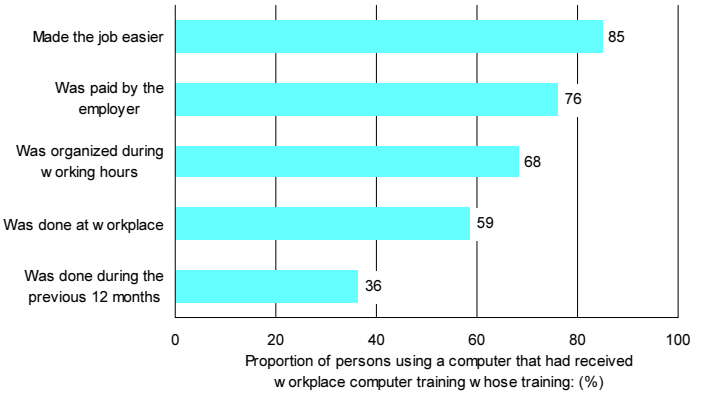
Source: Eurobarometer 56 "Information society", October-November 2001, for 2001 data; Eurobarometer 58 "Information society", September-October 2002, for 2002 data.

IT training

According to the September 2002 Eurobarometer, 49 % of the active population in the EU using a computer for professional purposes had received computer training at the workplace. Levels of training were particularly high in the Nordic Member States (over 60 %), Luxembourg (60 %) and Austria (58 %). However, most countries reported a decline of workplace IT training compared to 2001.

IT training's main perceived benefit was to make work easier, cited by 85 % of respondents.

Figure 7.4: Characteristics of computer training in the EU, September 2002 (%)



Source: Eurobarometer 58 "Information society", September-October 2002.

Table 7.5: Use of eLearning, 2002-2003 (%) (1)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
								Proportion of employed population who used electronic learning material for work-related learning								
On-line	**9**	7	12	13	2	7	3	9	8	9	9	10	5	16	14	13
Off-line	**5**	5	5	6	4	6	2	5	7	7	10	7	3	3	2	4
No eLearning	**85**	87	83	81	94	87	94	86	85	83	81	82	92	81	84	83

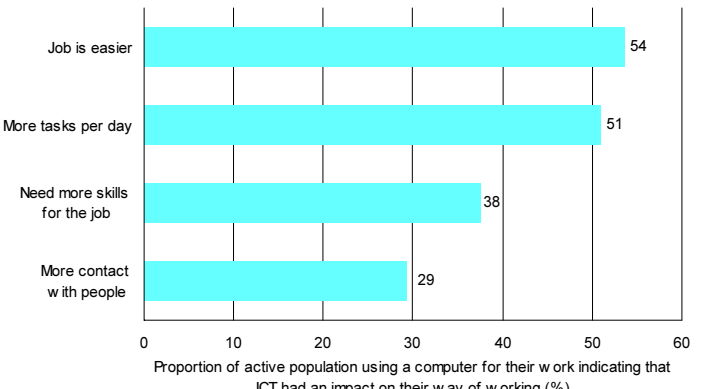
	IS	NO	CH	BG	CY	CZ	EE	HU	LV	LT	MT	PL	RO	SK	SI	TR
								Proportion of employed population who used electronic learning material for work-related learning								
On-line	:	:	10	2	:	6	8	3	5	8	:	1	4	4	4	:
Off-line	:	:	4	1	:	2	5	2	4	1	:	3	1	3	3	:
No eLearning	:	:	84	96	:	91	87	94	88	90	:	93	95	92	93	:

(1) Sources: SIBIS GPS 2002; SIBIS GPS-NAS 2003; proportion of "Do not know" is not shown.
Source: SIBIS Pocketbook 2002/03, www.sibis-eu.org. © SIBIS project and European Commission, 2003.

Effects of ICT on the way of working

New technologies have been widely adopted by enterprises often with the objective of improving productivity. This was to be attained particularly by improving communications and information exchange and automating tasks. The majority (54 %) of persons in employment in the EU in September 2002 agreed, saying that ICT has made their job easier. A majority (51 %) however also noted that this has brought them a greater workload while a large minority (38 %) indicated that ICT has increased the skills needed for their job.

Figure 7.5: Effect of using PC, e-mail or the Internet on the way of working, EU, September 2002



Source: Eurobarometer 58 "Information society", September-October 2002.

Table 7.6: Computers and ICT equipment in people's lives, 2002 (%)

	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Proportion of persons who think that the use of a computer in their personal life is (1):																
Very important	**27**	18	45	25	32	20	16	27	40	27	32	29	18	21	29	30
Quite important	**30**	28	39	32	27	25	30	23	39	27	31	28	22	27	31	25
Proportion of persons who think that they can not use (2):																
A computer	**41**	43	21	38	63	50	42	41	45	30	24	37	67	36	19	35
Scientific/technological tools/equipment	**55**	62	39	42	69	72	63	65	60	40	46	54	72	37	31	52

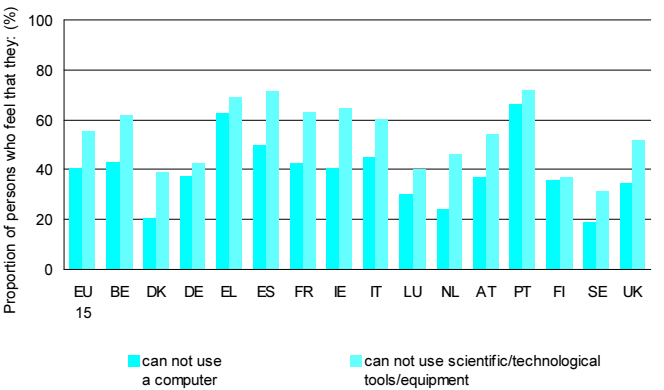
(1) Source: Eurobarometer 58 special ICT, September-October 2002.
(2) Source: CEDEFOP, January-February 2003.
Source: Eurobarometer; CEDEFOP.

ICT proficiency

About two-fifths of the EU population feel they do not have the skills to use a computer. While the proportion was only half this in Sweden and Denmark, the population least confident with a PC are in Greece and Portugal where more than 60 % do not believe that they can use a PC.

These figures reinforce the low penetration of information and communication technologies in those countries, as evidenced for example by table 5.1 (PC and Internet in households).

Figure 7.6: ICT proficiency, 2003



Source: CEDEFOP, January-February 2003.

ICT GOVERNMENT AND HEALTH

Table 8.1: eGovernment (%)

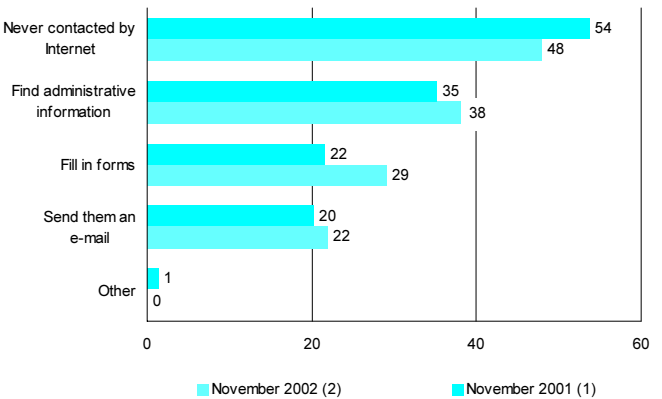
	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Proportion of persons having used the Internet to contact public services by purpose, November 2001 (1)																
Find administrative information	**35**	34	55	32	24	37	46	24	39	40	35	44	20	26	54	26
Send them an e-mail	**20**	35	33	18	23	11	26	20	17	22	17	30	8	15	47	17
Fill in forms	**22**	18	39	25	9	12	24	18	19	16	23	19	13	23	43	19
Other	**1**	1	2	1	3	1	3	1	0	0	1	1	0	2	0	2
Never contacted by Internet	**54**	46	37	55	58	57	45	63	55	56	51	45	71	64	31	62
Proportion of persons having used the Internet to contact public services by purpose, November 2002 (2)																
Find administrative information	**38**	37	50	37	37	42	48	30	38	47	44	36	32	26	57	26
Send them an e-mail	**22**	38	33	21	22	13	25	23	15	29	26	28	17	15	45	23
Fill in forms	**29**	24	40	32	16	17	31	26	19	24	34	26	24	26	49	30
Other	**0**	0	2	1	0	0	1	0	0	2	0	0	0	1	0	0
Never contacted by Internet	**48**	41	36	46	52	53	42	56	58	46	41	51	58	60	29	49

(1) Source: Flash Eurobarometer 112, November 2001.
(2) Source: Flash Eurobarometer 135, November 2002.
Source: Flash Eurobarometer.

eGovernment

With the spread of Internet connections within EU households, a larger share of the population is using this means to contact public administrations. In November 2002 52 % of persons in the EU had contacted public services using the Internet, compared to only 46% one year before. Almost two fifths (38 %) of people had used the Internet to find administrative information from public services - this was more than three-quarters (73 %) of those who had contacted public services via the Internet for any reason. The second most common reason for contacting public services via Internet was to fill-in forms - this was done by 29 % of people. The use of the Internet to send the public service an e-mail was the third most common use.

Figure 8.1: Proportion of persons having used the Internet to contact public services by purpose, EU (%)



(1) Source: Flash Eurobarometer 112, November 2001.
(2) Source: Flash Eurobarometer 135, November 2002.
Source: Flash Eurobarometer.

Table 8.2: eHealth (%)

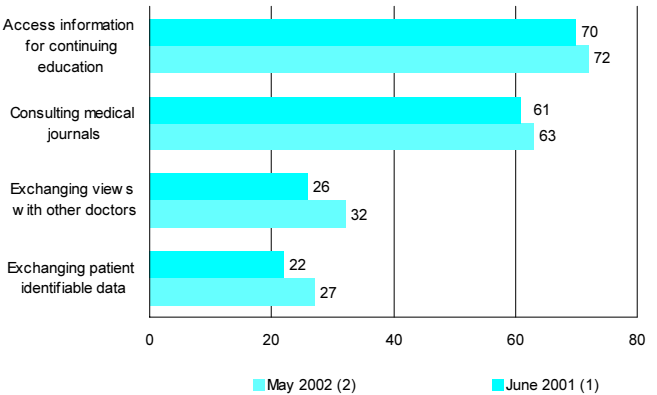
	EU-15	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
GPs with Internet or dedicated GP network using these for the following procedures, June 2001 (1)																
Access information for continuing education	**70**	72	59	79	83	85	56	83	86	78	61	72	74	76	46	78
Exchanging views with other doctors	**26**	29	27	15	32	32	19	20	42	35	34	27	26	32	23	33
Consulting medical journals	**61**	67	66	62	67	79	47	73	74	81	49	53	67	67	43	74
Exchanging patient identifiable data	**22**	47	64	13	15	32	17	13	15	24	52	42	10	11	15	23
GPs with Internet or dedicated GP network using these for the following procedures, May 2002 (2)																
Access information for continuing education	**72**	79	64	82	83	81	56	78	85	82	51	80	75	86	56	83
Exchanging views with other doctors	**32**	30	31	27	21	44	23	14	40	16	35	31	41	34	28	34
Consulting medical journals	**63**	71	48	63	81	72	51	68	66	80	42	59	70	69	42	77
Exchanging patient identifiable data	**27**	60	85	13	17	30	20	12	24	9	62	53	20	11	28	28

(1) Source: Flash Eurobarometer 104, June-July 2001.
(2) Source: Flash Eurobarometer 126, May-June 2002.
Sources: Flash Eurobarometer.

eHealth

In May/June 2002 almost three-quarters (72 %) of general practitioners (GPs) in the EU with a computer connected to the Internet or to a dedicated GP network had used this to access information for continuing education. Amongst the other reasons for using these networks that were investigated, accessing medical associations web-sites and consulting medical journals were the next most common uses, each used by just over 60 % of connected GPs.

Figure 8.2: GPs with Internet or dedicated GP network using these for the following procedures, EU (%)



(1) Source: Flash Eurobarometer 104, June-July 2001.
(2) Source: Flash Eurobarometer 126, May-June 2002.
Sources: Flash Eurobarometer.

COMPLEMENTARY INFORMATION

List of sources

The following tables present the sources used in this pocketbook.

List A: European Commission
List B: National statistical offices
List C: Inter-governmental organisations
List D: Non-governmental sources

For each statistical source the web address and/or relevant publications are mentioned if available.

A. European Commission

Directorate-General	General web address	Sources used
Eurostat	http://www.europa.eu.int/comm/dgs/eurostat/index_en.htm	NewCronos - reference database Comext - reference database e-commerce (Ecomm) - production database Labour force survey (LFS) - production database Joint UNESCO-OECD-EUROSTAT data collection (UOE) questionnaires on educational finance and on graduates - production database
Directorate-General information society	http://www.europa.eu.int/information_society/index_en.htm	DG INFSO publishes regular benchmarking reports related to the eEurope Action Plan and data has been drawn from these for this pocketbook. http://www.europa.eu.int/information_society/eeurope/benchmarking/index_en.htm Report on Internet access costs, prepared by Teligen
Directorate-General press and communication	http://www.europa.eu.int/comm/dgs/press_communication/index_en.htm	DG PRESS coordinates the Eurobarometer series of surveys. http://www.europa.eu.int/comm/public_opinion/archives_en.htm Eurobarometer 56, "Information society" October-November 2001 Eurobarometer 58, "Information society" September-October 2002 Flash Eurobarometer 88, October 2000 "Internet and the public at large" Flash Eurobarometer 103, June 2001 "Internet and the public at large" Flash Eurobarometer 104, June-July 2001 "Internet and General Practitioners" Flash Eurobarometer 112, November 2001 "Internet and the public at large" Flash Eurobarometer 118, January-February 2002 "Headteachers and the information society" Flash Eurobarometer 126, May-June 2002 "Internet and General Practitioners" Flash Eurobarometer 135, November 2002 "Internet and the public at large" Candidate countries Eurobarometer, November 2002

A. European Commission (continued)

Directorate-General	General web address	Sources used
Directorate-General for employment and social affairs	http://www.europa.eu.int/comm/dgs/employment_social/index_en.htm	DG EMPL has produced several reports related to the information society, in some cases assisted by the high level group "Employment and social dimension of the information society" (ESDIS). http://www.europa.eu.int/comm/employment_social/soc-dial/info_soc/esdis/
Directorate-General for education and culture	http://www.europa.eu.int/comm/dgs/education_culture/index_en.htm	"Lifelong learning: citizens' views", prepared by the European Centre for the Development of Vocational Training (Cedefop), the European Union's reference centre for vocational education and training

B. National statistical offices

Country	Source name	Web address
Belgium	Nationaal Instituut voor de Statistiek / Institut National de Statistique (Statistics Belgium)	http://www.statbel.fgov.be/
Denmark	Danmarks Statistik (Statistics Denmark)	http://www.dst.dk/
Germany	Statistisches Bundesamt (Federal Statistical Office)	http://www.destatis.de/
Greece	National Statistical Service of Greece	http://www.statistics.gr/
Spain	Instituto Nacional de Estadística (National Statistics Institute)	http://www.ine.es/
France	Institut National de la Statistique et des Etudes Economiques (National Institute for Statistics and Economic Studies)	http://www.insee.fr/
Ireland	Central Statistics Office	http://www.cso.ie/
Italy	Istituto nazionale di statistica (National Institute of Statistics)	http://www.istat.it/
Luxembourg	Service central de la statistique et des études économiques	http://www.statec.lu
The Netherlands	Centraal Bureau voor de Statistiek (Statistics Netherlands)	http://www.cbs.nl/
Austria	Statistik Austria	http://www.statistik.at/
Portugal	Instituto Nacional de Estatística	http://www.ine.pt/
Finland	Tilastokeskus (Statistics Finland)	http://www.stat.fi/

B. National statistical offices (continued)

Country	Source name	Web address
Sweden	Statistiska centralbyrån (Statistics Sweden)	http://www.scb.se/
The United Kingdom	Office for National Statistics	http://www.statistics.gov.uk/
Iceland	Hagstofa Íslands (Statistics Iceland)	http://www.statice.is/
Norway	Statistisk sentralbyrå (Statistics Norway)	http://www.ssb.no/
Switzerland	Statistik Schweiz	http://www.statistik.admin.ch/
Bulgaria	National Statistical Institute	http://www.nsi.bg/
Cyprus	Statistical Service of the Republic of Cyprus	http://www.mof.gov.cy/mof/cystat/statistics.nsf/
Czech Republic	Czech Statistical Office	http://www.czso.cz/
Estonia	Statistikaamet (Statistical Office of Estonia)	http://www.stat.ee/
Hungary	Központi Statisztikai Hivatal (Hungarian Central Statistical Office)	http://www.ksh.hu/
Latvia	Central Statistical Bureau of Latvia	http://www.csb.lv/
Lithuania	Statistics Lithuania	http://www.std.lt/
Malta	National Statistics Office	http://www.nso.gov.mt/
Poland	Central Statistical Office	http://www.stat.gov.pl/
Romania	Institutul National de Statistica (National Institute of Statistics)	http://www.insse.ro/
Slovakia	Štatistický úrad Slovenskej republiky (Statistical Office of the Slovak Republic)	http://www.statistics.sk/
Slovenia	Statistical Office of the Republic of Slovenia	http://www.stat.si/
Turkey	State Institute of Statistics	http://www.die.gov.tr/

C. Inter-governmental organisations

Name	General web address	Sources used in this pocketbook	Web address of source
International Telecommunications Union - ITU	http://www.itu.int/home/index.html	ICT free statistics	http://www.itu.int/ITU-D/ict/statistics/
Organisation for Economic Cooperation and Development - OECD	http://www.oecd.org/	OECD Communications outlook 2003	OECD publications on ICT: on the homepage select Statistics from the left menu, then select Information and communication technologies from the groups in the main page

D. Non-governmental sources

Name	Sources used in this pocketbook	Web address
European Information Technology Observatory - EITO	EITO 2002	EITO web site: http://www.eito.org/
Global research	Global Internet Statistics (by Language)	http://www.glreach.com/globstats/index.php3
Internet Software Consortium - ISC	Internet domain survey	http://www.isc.org/ds/
Netcraft	Secure server survey	http://www.netcraft.com/ssl/
Réseaux IP Européens, Network Coordination Centre - RIPE NCC	Internet statistics - the RIPE region hostcount	http://www.ripe.net/ripencc/pub-services/stats/hostcount/index.html
SIBIS project	SIBIS Pocket Book 2002/03	http://www.sibis-eu.org/sibis/

Signs, country abbreviations and country code Top Level Domains (TLD's)

:	not available
0	less than half the unit used

EU-15	European Union (15 countries)	
BE	Belgium	.be
DK	Denmark	.dk
DE	Germany	.de
EL	Greece	.gr
ES	Spain	.es
FR	France	.fr
IE	Ireland	.ie
IT	Italy	.it
LU	Luxembourg	.lu
NL	the Netherlands	.nl
AT	Austria	.at
PT	Portugal	.pt
FI	Finland	.fi
SE	Sweden	.se
UK	the United Kingdom	.uk
IS	Iceland	.is

NO	Norway	.no
CH	Switzerland	.ch
US	United States of America	.us
JP	Japan	.jp
BG	Bulgaria	.bg
CY	Cyprus	.cy
CZ	Czech Republic	.cz
EE	Estonia	.ee
HU	Hungary	.hu
LV	Latvia	.lv
LT	Lithuania	.lt
MT	Malta	.mt
PL	Poland	.pl
RO	Romania	.ro
SK	Slovak Republic	.sk
SI	Slovenia	.si
TR	Turkey	.tr

Abbreviations

ADSL	Asymmetric Digital Subscriber Line
B2B	Business to Business
B2C	Business to Consumer
DSL	Digital Subscriber Line
EB	Eurobarometer
EDI	Electronic Data Interchange
ESIS	European Statistical Information System
EUR	Euro (note that EUR is also used in series that were originally compiled in ECU as the exchange rate was 1 ECU to 1 EUR)
GDP	Gross Domestic Product
GP	General Practitioner
GSM	Global System for Mobile communication
HTML	HyperText Markup Language
ICT	Information and Communication Technologies
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
LFS	Labour Force Survey
PC	Personal Computer
PIAP	Public Internet Access Point
PSTN	Public Switched Telephone Network
PPP	Purchasing Power Parity
SBS	Structural Business Statistics
TLD	Top Level Domain
UMTS	Universal Mobile Telecommunications System
WWW	World Wide Web

Classifications

NACE Rev. 1 headings covered by the Information and Communication Technologies sector

ICT manufacturing (part of Subsection DL):

30: Manufacture of office machinery and computers
31.3: Manufacture of insulated wire and cable
32: Manufacture of radio, television, and communication equipment and apparatus
33.2: Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment
33.3: Manufacture of industrial process control equipment

ICT services:

Section G:

51.43: Wholesale of electrical household appliances
51.64: Wholesale of office machinery
51.65: Wholesale of other machinery used in industry, trade and navigation

Section I:

64.2: Telecommunications

Section K:

71.33 *: Renting of office machinery and equipment including computers
72: Computer and related activities

(*) SBS data is not available for this activity and hence the data presented between pages 10 and 17 of this publication do not cover this activity.

Classifications

CPA headings covered by external trade in Information and Communication Technologies products

ICT manufactured goods (part of Subsection DL):

30: Office machinery and computers

31.3: Insulated wire and cable

32: Radio, television, and communication equipment and apparatus

33.2: Instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment

Glossary

- A -

Asymmetrical digital subscriber line: ADSL is a technology that allows the use of a traditional (copper) telephone line to send voice and data in both directions (to and from a user), with a high speed of transmission in one of the directions, normally downstream to the user.

- B -

Bandwidth: the characteristic of a system (for example telephone or network) that indicates the speed at which information can be transferred, effectively the systems capacity. In analogue systems, it is measured in cycles per second (Hertz) and in digital systems in binary bits per second (bps).

Broadband: ADSL, cable, satellite and fixed-wireless (plus in the future UMTS).

B2B e-Commerce: Business to Business e-commerce is e-commerce between enterprises. It may be conducted directly between buyer and seller or through a third party online intermediary.

B2C e-Commerce: Business to Consumer e-commerce is e-commerce between an enterprise and a client who is a private consumer, rather than another enterprise.

- C -

Cable modem: a device that interfaces between coaxial cable television/voice channel and home computing equipment in order to provide Internet access over the cable television network. Holds the potential for providing high speed Internet access.

- D -

Dial-up: dial-up pertains to a telephone connection in a system of many lines shared by many users. A dial-up connection is established and maintained for a limited duration of time. Dial-up lines are sometimes called switched lines.

Digital subscriber line: a high-bandwidth (broadband), local loop technology to carry data at high speeds over traditional (copper) telephone lines.

Domain name: a domain name indicates the location of an entity on the Internet. It ends with a top level domain which is either a generic one (such as .com or .org) or a country one (such as .uk or .de). This top level domain name is preceded by another name which, together with the top level domain name, defines a second level domain name.

Domain name system: the DNS allows domain names (which are normally descriptive) to be converted into Internet Protocol addresses (which are a numeric sequence).

- E -

e-Commerce: transactions conducted over Internet Protocol-based networks and over other computer mediated networks. The goods and services are ordered over those networks, but the payment and the delivery of the good or service may be conducted on or off-line.

Electronic data interchange: EDI is a standard, structured format for exchanging electronic data. Traditionally it was used over special telecommunication networks but is now also being used over Internet.

Electronic mail or e-mail: the electronic transmission of messages from one computer to another.

E-marketplaces: specialised e-commerce sites for businesses that allow buyers and sellers to trade with each other.

Encryption: the conversion of data into a form that cannot be easily understood by unauthorised people.

Extranet: normally an extension of a company's Intranet, an Extranet allows some external users to access information, often using a password.

- F -

Flat rate: a charge levied on a client irrespective of the usage of the service provided, for example for Internet access.

- G -

Global system for mobile communication: GSM is a digital mobile telephone system. It is the most widely used wireless communication technology in Europe at the present time and is also used elsewhere in the world. GSM operates at either the 900 MHz or 1800 MHz frequency band.

- H -

Host: generally speaking any computer with an IP address connected to the Internet is a host. From the perspective of an entity with a web site, a host may be referred to as a computer with a Web server (for one or more sites).

- I -

Information and Communications Technologies: ICT covers information technology (computer hardware and software; end user, office, network and data communications equipment) and telecommunications equipment and services.

Internet: Internet protocol based networks including www, Extranet over the Internet, EDI over the Internet, Internet-enabled cellular phones.

Internet protocol: the IP is the method by which data is passed from one computer to another on the Internet.

IP address: this is a unique number used to identify each computer (host) on the Internet. When data (for example, an e-mail or a Web page) is sent it is divided into packets each of which contains both the receiver and the sender's IP address. It is this information that allows the data to be routed over the Internet.

Intranet: an Intranet is an Internet Protocol based network that that is not part of the Internet. Normally Intranets belong to businesses or administrations and permit the persons working in those organisations to share and exchange information in the same way as over the Internet but with access restricted to internal users.

Integrated service digital network: ISDN is a telecommunication service that turns a traditional (copper) telephone line into a high speed digital link. ISDN services can simultaneously transmit voice, data and video.

Internet service provider: ISPs provide access for users to the Internet and normally provide additional services. They generally have a network of servers attached to the Internet backbone, which in turn is made up of a network of internationally connected ISPs.

- M -

Metered charges: metered charges, as opposed to flat rate charges, are based on the measurement of actual usage of a service, such as Internet access.

- O -

Off-line/on-line: used to describe whether or not someone is accessing the Internet at a particular moment in time.

- P -

Purchasing power parity: data expressed in different currencies converted at market exchange rates to a common currency to ease comparison would not give a true comparison of the actual volumes of goods and services to which they correspond because of differences in price levels. Eurostat calculates purchasing power parities (PPPs) which are alternative exchange rates aimed to provide a more realistic comparison of values with respect to their purchasing power. PPPs are obtained using the price ratios between the different countries for a basket of goods and services, which are both comparable and representative. The individual price ratios are aggregated to provide PPPs for various purposes, up to the level of GDP.

Public switched telephone network: the PSTN refers to the globally inter-connected public telephone networks providing voice communication services. Apart from the local loop the greater part of it is digital.

- S -

Secure server: a secure server, in the context of the Internet, is a server that supports security protocols such as SSL (Secure Socket Layer) that are used to encrypt data to reduce the risk of non-authorised persons accessing the information. For example encryption can be seen as an important way of increasing customer confidence when providing personal or financial information over the Internet and is therefore regarded as a facilitator of e-commerce.

Server: a server is one part of a client - server relation. In the context of the Internet the term server can be used to refer to both hardware and software. Servers are a particular sort of host that provide information to clients - examples are web servers that provide web pages. Equally the term server may be used to refer to the server programme (as opposed to the host on which the program can be found).

- T -

Third generation (3G): third generation wireless telecommunication services aim to provide for the transmission of all data types permitting a full multimedia service, particularly of interest for palm top mobile devices. See universal mobile telecommunications system.

Transistor: a transistor regulates current or voltage flow and acts as a switch or gate for electronic signals. A transistor consists of three layers of a semiconductor material, each capable of carrying a current. A semiconductor is a material such as germanium and silicon that conducts electricity.

- U -

Universal mobile telecommunications system: UMTS is a third generation technology. It supports speeds of data transmission up to 2 Mbps, and can transmit voice, text and video data. UMTS is a broadband technology using packet switching.

- W -

World Wide Web: the WWW is a hypertext method for presenting information. Hypertext methods can be applied not just to text but also to images, video and sound files. The web uses the hypertext transfer protocol as its protocol to transmit and receive data.