# Telecommunications in Europe

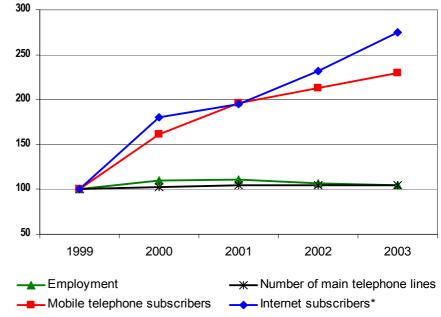
The main telephone lines are more and more subject to competition from the mobile telephone networks and broadband. The number of main telephone lines reached its peak in 2001 with 230.2 million lines at EU level. For the second consecutive year, a decrease was registered. In 2003, 229.3 million lines were operated. Between 2002 and 2003, 17 Member States registered a negative development.

In 2003, there were 50.3 main lines per 100 inhabitants at EU level, 53.7 at EU-15 level.

The number of mobile telephone subscriptions continued to increase. During the 1995-2003 period, their number has been growing by an average 42 % each year at EU level. In 2003, there were over 364 million subscriptions.

All individual Member States still registered a positive development between 2002 and 2003, growth can be expected to slow down for countries with the highest subscription density.

#### Graph 1: Recent development in the EU telecommunications sector — Index, 1999=100



\* on the basis of the following countries: BE, CZ, DK, DE, EL, ES, CY, HU, MT, AT, PT, SI, SK, SE.

Denmark, Sweden and Finland stand out with regard to the number of cellular mobile telecommunications operators: Their number is considerably higher than in other Member States.

With the rapid development of the Internet, more and more households are equipped with an access: at EU-15 level, 41 % of the households were able to link up to the web in 2003. Denmark scores highest with a rate of 64 %.

Nearly 1.3 million persons were employed in the telecommunications' sector at EU level in 2003. Since 2001, a decline in the number of jobs can be noticed. Certain Member States show a persistent loss of employment in the sector, particularly the Baltic States (Estonia, Latvia and Lithuania) and Sweden.

# Statistics in focus

### INDUSTRY, TRADE AND SERVICES

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#### Development of the number of main telephone lines

Distribution among EU

Member States

(%)

2003

100

At EU level, the total number of main telephone lines seems to have reached its peak in 2001 (230.2 million lines). The number of lines stood at 229.3 million in 2003, 0.3 % lower than a year before. Obviously, the number of main lines is increasingly vulnerable to competition from the mobile communications' networks and broadband. However, it should be noted that ISDN lines are counted directly as main telephone lines; hence, the inherent capacity improvement does not show in the figures.

Among the 25 Member States, 17 showed a decrease in the number of lines compared to 2002. Conversely, the number of main lines continued to increase mainly in Cyprus, Poland and Slovenia.

When comparing the 2003 situation with that of 1995, it appears that per 100 inhabitants, 50 main lines were counted at EU level, six lines more than eight years earlier. The densest network in 2003 was registered in Denmark and Germany.

change (%)

2003/2002

-0.3

Main telephone lines

per 100 inhabitants

2003

50.3

53.7

49.0

35 5

67.1

65.8

34.2

47.2

42.7

56.9

49.3

45 9

624

28.0

23.9

54.7

35.6

53.4

61.8

39.2

32.2

40.3

40.8

24.1

49.3

60.9

52.7

49.0

72.9

36.4

374

21.9

03

9.4

0.0

13.1

6.1

4.6

1995

44.2

Average

annual

increase (%)

2003/1995

1.9

#### EU-15 182 622.6 203 476.6 205 825.7 205 750.1 205 064.0 89.4 1.5 -0.3 49.2 ΒE 5 073.8 22 -0.9 45 7 4 632 1 5 295 4 5 131 7 5 1 2 0 4 1.1 C7 3 860 8 3 675 5 3 626 3 23.2 2 398 1 38715 16 53 -13 DK 1.5 -2.4 3 202.5 3 809.4 3 864.8 3 700.9 3 612.8 1.6 61.4 DF 42 000.0 50 220.0 52 450.0 53 780.0 54 350.0 23.7 3.3 1.1 51.5 FF 28.4 411.7 522.2 512.1 476 6 463.7 0.2 1.5 -2.7 EL 5 162.8 5 659.3 5 412.8 5 200.2 48.7 5 607.9 2.3 0.1 -3.9 ES 17 640.7 7.7 38 4 15 095.3 17 453.5 17 531.2 17 759.2 2.1 0.7 FR 32 400.0 33 987.0 34 074.0 34 124.0 33 905.4 14.8 0.6 -0.6 56.1 IΕ 36.4 1 310.0 1 590.0 1 860.0 1 975.0 1 955.0 0.9 5.1 -1.0 IT 27 303.0 27 142.0 26 596.0 -2.0 43.4 24 845 0 27 153 0 116 09 CY 347.3 440.1 435.0 427.4 446.5 02 32 45 53.8 LV 723.8 734.7 721.8 701.2 653.9 0.3 -1.3 -6.8 28.9 LT 929.6 941.0 1 180.1 1 1 4 4.5 827.8 0.4 -1.6 -11.0 25.8 LU 233.9 331.0 336.3 247.5 245.0 0.1 0.6 -1.0 57.7 HU 3 670.1 2 157.2 3 801.5 3 7 4 5.6 3 612.5 1.6 6.7 -1.6 20.9 MT 0.1 2.7 46.2 170.7 206.8 207.7 209.3 211.8 1.2 NI 52.7 8 124.0 9 879.0 10 003.0 10 004.0 10 004.0 4.4 2.6 0.0 AT 1.4 -2.3 47.8 3 796.9 3 833.0 3 3 1 6.0 3 187.0 3 159.0 -0.9 PL 11 871.9 12 303.7 10.0 5 728 5 10 946 7 11 427 4 54 36 14 8 PT 3 586.1 4 313.6 4 382.9 4 354.7 4 195.0 18 20 -3.7 35.8 SI 614.8 785.4 799.7 811.5 814.1 0.4 3.9 2.9 30.9 SK -7.7 0.6 1.8 21.0 1 125 4 1 698 0 1 556 3 1 402 7 1 294 6 FI 2 810.0 2 849.0 2 806.0 2 725.6 2 567.6 1.1 -1.1 -5.8 55 1 SE 6 013.0 5 786.0 5 667.0 5 562.0 5 441.0 2.4 -1.2 -2.2 68.2 UK 31 492.0 30 773.4 0.6 \* 29 411.0 31 317.4 13.5 50.3 IS 149.1 152.1 0.3 2.0 55.7 148.7 159.0 157.4 LI 19.6 19.9 0.2 \* • 64.1 NO -1.3 -3.8 57.0 2 476.5 2 386.4 2 337.5 2 316.9 2 228.6 CH 4 480.0 5 235.7 5 383.5 5 387.6 5 336.6 2.2 -0.9 63.8 BG 2 562.9 2 881.8 2 922.0 2 906.1 2 856.1 1.4 -1.7 30.4

2002

229 925.9

2003

229 318.8

#### Table 1: Number of main telephone lines (in 1000)

2000

227 663.5

2001

230 236.6

1995

197 241.1

EU-25

13 227.7 \* 1995-2002 ; Figures in italic: source: ITU.

2 968.0

HR

RO

TR

1721.1

3 899.2

18 395.2

1780.2

4 164.9

18 904.5

1 678.8

4 359.8

18 914.9

1 684.0

4 769.5

18 916.7



#### Mobile telephone subscriptions

Mobile telephony has experienced an enormous development since 1995. Whereas 22 million subscriptions were registered at EU-level in 1995, the number stood at 364 million in 2003. This corresponds to an average annual increase of 42 %. The ratio of subscriptions per 100 inhabitants expresses the progress in this domain even better: in 1995, 5 out of 100 inhabitants disposed of a mobile telephone subscription, in 2003, this value was 80. Four countries registered ratios of over 95 subscriptions per 100 inhabitants.

Ratios can reach more than 100 subscriptions per 100 inhabitants as one person can have more than one subscription.

Although all individual Member States registered a positive development between 2002 and 2003, growth is expected to slow down for countries with the highest subscription density.

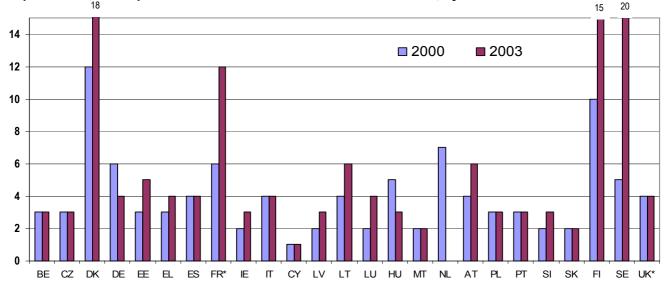
High growth rates between 2002 and 2003 are still recorded in a certain number of EU countries, especially the new Member States.

#### Table 2: Number of mobile telephone subscriptions (in 1000)

						Distribution among EU Member States (%)	Average annual increase (%)	change (%)	subscription	Mobile phone subscriptions per 100 inhabitants	
	1995	2000	2001	2002	2003	2003	1995-2003	2003/2002	1995	2003	
EU-25	22 054.5	253 416.9	308 467.7	335 352.0	364 276.1	100	42.0	8.6	4.9	79.9	
EU-15	21 511.8	235 199.4	280 375.4	297 368.7	318 394.2	87.5	40.1	7.1	5.8	83.4	
BE	235.3	5 180.8	7 697.0	8 135.5	8 712.3	2.4	57.1	7.1	2.3	84.1	
CZ	45.7	4 346.0	6 947.2	8 610.2	9 708.7	2.7	95.4	12.8	0.4	95.2	
DK	822.3	3 363.6	3 960.2	4 477.8	4 767.3	1.3	24.6	6.5	15.8	88.6	
DE	3 764.0	48 202.0	56 126.0	59 128.0	64 800.0	17.8	42.7	9.6	4.6	78.5	
EE	30.5	557.4	738.7	882.3	1 050.2	0.3	55.7	19.0	2.1	77.4	
EL	273.0	5 932.4	7 963.7	9 314.0	8 936.2	2.5	54.7	:	2.6	84.9*	
ES	944.0	24 265.1	29 655.7	33 531.0	37 219.8	10.2	58.3	11.0	2.4	89.6	
FR	1 302.0	29 681.0	36 997.4	38 592.8	41 683.1	11.4	54.2	8.0	2.3	69.9	
IE	158.0	2 398.0	2 800.0	3 000.0	3 400.0	0.9	46.8	13.3	4.4	85.8	
IT	3 923.0	42 246.0	51 246.0	53 003.0	55 918.0	15.4	39.4	5.5	6.9	96.4	
CY	44.5	218.3	314.4	418.1	551.8	0.2	37.0	32.0	6.9	77.2	
LV	15.0	401.3	625.2	917.2	1 219.6	0.3	73.3	33.0	0.6	52.3	
LT	13.5	508.9	1 018.0	1 631.6	2 152.6	0.6	88.5	31.9	0.4	62.2	
LU	26.8	303.3	409.1	473.0	539.0	0.1	45.5	14.0	6.6	120.2	
HU	267.1	3 076.3	4 967.4	6 886.1	7 944.6	2.2	52.8	15.4	2.6	78.3	
MT	10.8	113.4	220.5	276.9	290.0	0.1	50.9	4.7	2.9	73.0	
NL	539.0	10 755.0	12 352.0	10 060.0	12 500.0	3.4	48.1	24.3	3.5	77.2	
AT	383.5	6 117.0	6 541.0	6 736.0	7 095.0	1.9	44.0	5.3	4.8	87.9	
PL	75.3	6 748.2	9 604.6	13 898.5	17 401.2	4.8	97.5	25.2	0.2	45.5	
PT	340.8	6 665.0	8 355.8	8 530.4	9 354.0	2.6	51.3	9.7	3.4	89.9	
SI	27.3	1 137.8	1 509.0	1 539.2	1 884.4	0.5	69.8	22.4	1.4	94.4	
SK	13.1	1 109.9	2 147.3	2 923.4	3 678.8	1.0	102.4	25.8	0.2	68.4	
FI	1 039.1	3 672.8	4 175.6	4 516.8	4 747.1	1.3	20.9	5.1	20.4	91.2	
SE	2 025.0	6 369.0	7 177.0	7 949.0	8 801.0	2.4	20.2	10.7	23.0	98.4	
UK	5 736.0	40 048.6	44 918.9	49 921.4	:	13.7	36.2 **	:	9.8	:	
IS	30.9	214.9	248.1	260.4	279.7		31.7	7.4	11.6	96.9	
LI	:	:	:	11.4	:		:	:	:	:	
NO	981.3	3 367.8	3 766.4	3 911.1	4 163.4		19.8	6.4	22.6	91.5	
СН	447.2	4 638.5	5 275.8	5 736.3	6 188.8		38.9	7.9	6.4	84.6	
BG	16.4	738.0	1 615.4	2 500.0	3 533.5		95.8	41.3	0.2	45.0	
HR	:	1 112.3	1 730.7	2 339.6	2 550.7		:	9.0	:	56.7	
RO	0.0	2 018.7	4 594.8	5 099.1	7 040.0		:	38.1	:	32.3	
TR	251.4	15 063.5	19 572.9	23 374.4	27 925.0		80.2	19.5	:	:	

Note: Greece 2002-2003: break in series - Figures in italic: source: ITU; \* 2002; \*\* 1995-2002





#### Graph 2: Number of operators of cellular mobile telecommunications, by EU Member State

\* 2000 and 2002

In Denmark, Finland and Sweden, a considerable number of operators compete on the cellular mobile telecommunications network market with 15, 18 and 20 operators respectively. In Sweden, their number quadrupled (from 5 to 20) between 2000 and 2003. In France (between 2000 and 2002) and in Luxembourg (between 2000 and 2003), the number of operators has doubled whereas in 8 Member States, no new operators have entered the market. In Germany and Hungary, a decrease in the number of operators was registered.

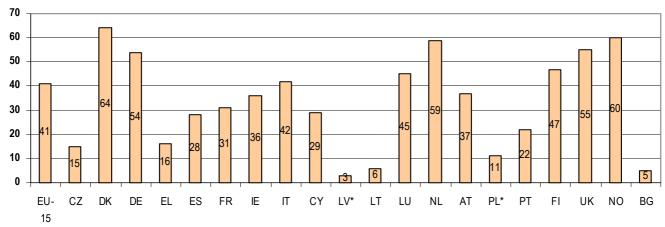
#### Internet access and service provision

As for the mobile telephony, the Internet has developed rapidly over the last years, both with regards to its content as for the access to it.

On average, 41 % of the EU-15 households had access to the Internet.

Households in Denmark arrive first with an average of 64 %, followed by the Netherlands with 59 %

Among the new Member States for which data are available, Cyprus stands out with an average of 29 %, close to a value registered in France (31 %).



Graph 3: Level of Internet access: households – percentage of households who have Internet at home, 2003 (1)

(1) All forms of Internet are included. The population considered is aged 16 to 74. — \* 2002 data.



As mentioned earlier, broadband technology is gradually being introduced and appears to be growing fast. Table 3 shows how widely broadband access to the internet has spread in the countries on the general level, by displaying the share of the population that subscribed to such an access.

In 2004, 5 countries displayed a rate of over 10 %. Denmark and the Netherlands display the highest rates with 15.6 % and 14.7 % respectively.

#### Table 3: Broadband penetration rate Number of broadband lines subscribed in % of population

	2002	2003	2004
EU-25	:		6.5
EU-15	2.3	4.5	7.6
Belgium	6.7	10.1	14.0
Czech Republic	:	:	0.7
Denmark	7.4	10.4	15.6
Germany	3.2	4.8	6.7
Estonia	:		7.6
Greece	0.0	0.0	0.2
Spain	2.0	4.3	6.7
France	1.2	4.0	8.2
Ireland	0.0	0.2	1.7
Italy	1.0	2.8	6.1
Cyprus	:	:	2.0
Latvia	:	:	1.5
Lithuania	:		2.5
Luxembourg	0.0	2.3	5.7
Hungary	:	:	2.2
Malta	:	:	3.5
Netherlands	6.3	9.8	14.7
Austria	4.7	6.6	8.7
Poland	:	:	0.5
Portugal	1.5	3.6	6.4
Slovenia	:	:	3.8
Slovakia	:	:	0.4
Finland	3.0	6.6	11.0
Sweden	4.6	8.6	12.1
United Kingdom	1.6	3.7	7.4

Source: DG INFSO/National Regulatory Authorities

The increasing degree of access to the Internet together with the privatisation in the telecommunications' sector has lead to a quick growth of the number of Internet service providers (companies that provide other companies or individuals access to, or presence on, the Internet).

In most countries their number is still growing but in others, there seems to be a consolidating phase.

#### Table 4: Number of Internet service providers

	2000	2001	2002	2003
EU-25	:	:	:	:
EU-15	:	:	:	:
BE	75	98	99	104
CZ*	320	789	1 228	1 815
DK	22	28	31	39
DE	:	:	:	800
EE	32	60	128	120
EL	170	193		173
ES	438	579	642	672
FR	246	238	:	:
IE	:	:	:	:
IT	507	507	333	:
CY	5	6	6	6
LV	:	:	11	101
LT	:	17	39	60
LU	22	33	32	31
HU	46	80	104	117
MT	15	16	14	14
NL	:	:	:	:
AT	200	200	200	220
PL	:	:	:	:
PT	29	30	32	25
SI	47	49	51	65
SK	60	51	143	131
FI	:	45	51	98
SE	120	:	:	120
UK	600	700	700	:
IS	:	12	12	12
LI	:	:	20	:
NO	:	0	117	132
СН	113	114	127	125
BG	200	200	200	200
HR	:	:	:	:
RO	:	115	269	362
TR	104	83	87	97

\* Number of licence holders.



#### **Employment in telecommunications**

Close to 1.3 million persons were employed in the telecommunications' sector at EU level in 2003. This number refers to employment in the telecommunications' services.

Overall employment has been increasing by an average 2 % between 1995 and 2003. Since 2001 however, employment has been decreasing over two consecutive years.

When comparing 2003 figures with those of the previous year, it appears that almost all Member States recorded a negative development.

It seems that while deregulation and privatisation have lead to a global growth of the sector as such, rationalisation of the activities has offset the positive effects on employment.

#### Table 5: Employment in telecommunications

	1995	2000	2001	2002	2003	Average annual increase (%) 1995-2003		change (%)
<b>EII 25</b>	4 400 005	( 050 050			1 007 101			2003/2002
EU-25 EU-15	1 102 625 933 200	1 359 076	1 364 723	1 314 075	1 287 181	2,0		-2,0
BE		1 084 590	1 094 023	1 054 682	1 038 291	1,3		-1,6
БЕ CZ	26 012	28 495	28 302	25 950	24 650	-0,7		-5,0
	28 796	28 542	24 529	24 610	:	:		0,3 (2)
DK	16 081	21 298	22 405	21 873	20 441	3,0		-6,5
DE	229 700	240 700	241 000	231 000	226 000	-0,2		-2,2
EE	4 730	4 124	3 525	3 113	2 849	-6,1		-8,5
EL	24 581	25 732	26 163	24 700	25 000	0,2		1,2
ES	70 885	91 075	94 394	89 605	85 169	2,3		-5,0
FR	151 448	173 094	168 592	157 705	:	0,6	(1)	-6,5 (2)
IE	11 707	17 450	17 000	15 600	14 700	2,9		-5,8
IT	101 900	101 136	98 001	:	:	:		:
CY	2 353	2 403	2 426	2 417	2 409	0,3		-0,3
LV	8 139	6 981	6 602	6 410	5 421	-5,0		-15,4
LT	9 855	9 147	8 517	7 223	6 485	-5,1		-10,2
LU	800	1 451	1 487	1 515	1 660	9,6		9,6
HU	21 314	20 847	20 618	20 784	19 508	-1,1		-6,1
MT	1 826	2 441	1 942	1 867	1 613	-1,5		-13,6
NL	30 548	58 500	:	:	:	:		:
AT	17 375	23 488	32 152	26 900	:	6,4	(1)	-16,3 (2)
PL	73 267	:	183 082	175 385	:	13,3	(1)	-4,2 (2)
PT	19 845	16 270	18 569	17 288	15 151	-3,3		-12,4
SI	3 235	4 159	4 470	4 826	4 712	4,8		-2,4
SK	15 910	15 842	14 989	12 758	11 393	-4,1		-10,7
FI	16 405	24 190	25 015	19 426	17 433	0,8		-10,3
SE	29 913	31 411	29 443	21 620	20 087	-4,9		-7,1
UK	186 000	230 300	231 500	239 500	:	3,7	(1)	3,5 (2)
IS	1 010	1 441	1 497	1 476	:	5,6	(1)	-1,4 (2)
LI	20	:	:	110	:	27,6		10,0 (2)
NO	18 771	12 912	14 237	13 555	:	-4,5	(1)	-4,8 (2)
СН	19 568	24 158	24 688	23 568	22 466	1,7		-4,7
BG	27 794	29 914	30 151	33 498	32 099	1,8		-4,2
HR	:	11 808	11 871	11 237	10 333	:		-8,0
RO	53 648	67 923	62 983	56 382	47 690	-1,5		-15,4
TR	74 987	72 412	69 940	63 888	64 524	-1,9		1,0

1 : period 1995 - 2002; 2 : change 2002/2001 — Figures in italic: Eurostat estimates



### > ESSENTIAL INFORMATION - METHODOLOGICAL NOTES

#### ABBREVIATIONS

**EU**: European Union, including the 25 Member States (EU-25): Belgium (BE), the Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Greece (EL), Spain (ES), France (FR), Ireland (IE), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), the Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK). **EU-15**: European Union, including 15 Member States (BE, DK, DE, EL, ES, FR, IE, IT, LU, NL, AT, PT, FI, SE, UK). **Other countries**: Iceland (IS), Liechtenstein (LI), Norway (NO), Switzerland (CH), Bulgaria (BG), Croatia (HR), Romania (RO) and Turkey (TR).

#### SYMBOLS

":" non available

#### DEFINITIONS

The **Telecommunications sector** refers to telecommunications services.

A **main telephone line** is a telephone line connecting the subscriber's terminal to the Public Switched Telephone Network (PSTN). ISDN (Integrated Services Digital Network) lines are counted as main telephone lines.

**Mobile telephone subscriptions** refer to subscriptions to an automatic public mobile telephone service which provides access to the PSTN using cellular technology.

Active pre-paid cards are counted as subscriptions.

One person may have more than one mobile telephone subscription and the number of subscriptions can therefore be higher than the population.

**Broadband lines** are defined as those with a capacity equal or higher than 144 Kbits/s. Various technologies are covered; ADSL, cable modem as well as other types of access lines.

**Internet service providers** can be defined as companies that provide other companies or individuals access to, or presence on, the Internet.

#### DATA SOURCES

#### **COINS Inquiry**

This Inquiry is the initiative of the Working Group about Statistics on **Co**mmunication and **In**formation **S**ervices (COINS). The COINS Working Group, which includes experts from statistical offices and regulatory authorities of the EU Member States, representatives of DG INFSO, ITU and OECD.

The COINS Inquiry has been modified in 2004 and is now called the Telecommunications Inquiry

It should be noted that data on employment in this publication refer to telecommunication operators and have been taken from the COINS Inquiry and may differ from employment data collected by Eurostat in the frame of the Structural Business Statistics (SBS), which refer to enterprises.

#### ICT usage in households

Survey type: : household survey Survey period: second quarter 2003 Reference period: first quarter 2003 Sampling unit: households and individuals Sample size: 60 000 households and 88 000 individuals Lower age limit for survey of individuals: 16 years Upper age limit for survey of individuals: 74 years

#### ITU

International Telecommunication Union (ITU) Place des Nations CH-1211 Genève – Switzerland www.itu.int

The figures in this publication reflect the **state of data availability** as of December 2004.

**This publication** was established with the assistance of Sigrid Fickinger and Jelle Bosch.



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**ORIGINAL TEXT: English**