

Statistics

in focus

INDUSTRY, TRADE AND SERVICES

THEME 4 – 37/2001

SECTORIAL PROFILES

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Information Society Statistics

Rapid growth of Internet and mobile phone usage in Candidate Countries in 2000

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Main results

- The number of PCs and Internet hosts per 100 inhabitants in Candidate countries (CC) is still relatively low compared to EU countries. In 2000 there were about 6 per 100 inhabitants or less than one fourth of the EU average.
- However the Candidate countries recorded a strong growth of the number of PCs (+ 24% in 1999) and Internet hosts (+60 % in 2001) in the recent past. The number of mobile phone subscriptions is also growing strongly (+ 87% in 2000).
- Differences between Candidate countries are considerable: while the density of PCs in Slovenia is close to the EU average, it stands at only about 1/9 of the EU level in Bulgaria and Romania. The number of Internet users per 100 inhabitants in Estonia is slightly above the EU average, but it is only 1/8 of the EU figure in Turkey

Table 1 : Information Society 1999/2001 (in million)

	CC	EU-15	USA	World	Source
Number of PCs (Dec.2000)	11	108	161	442	ITU
- per 100 inhabitants	6	25	59	8	
Internet hosts (July 2001)	1	12	79	107	RIPE, ISC
- per 100 inhabitants	1	4	29	2	
Internet users (Dec. 2000)	10	91	154	352	ITU
- per 100 inhabitants	6	24	56	6	
Mobile phone subscriptions (Dec. 2000)	38	236	100	720	ITU
- per 100 inhabitants	22	63	36	12	

Introduction

The availability and use of Information and Communication Technologies (ICT) has strongly increased in Europe in the last decade. This is also true for the Candidate countries although they are still lagging behind if compared to the EU. This report aims at providing a statistical overview on key Information

Society related parameters in Candidate countries. The report is based on data from Eurostat (NewCronos), EITO, ISPO, ITU, OECD and RIPE NCC (see sources list on page 7). The report offers information about the number of PCs, Internet hosts, Internet users, IT hardware

expenditure and number of mobile phone subscriptions in Candidate countries. The data presented in this publication represent an update and for some results a revision of the statistics published in the 'Statistics In Focus' 27/2001 published in July 2001.

Personal Computers

Table 2: Personal computers 1990-2000

	Total number of PCs (1000)				Growth (%)	Number of PCs per 100 inhabitants				Share of all PCs used (%) 1999	
	1990	1998	1999	2000		1990	1998	1999	2000	households	businesses
Bulgaria	:	200	220	361	10.0	:	2.4	2.7	4.4	7	93
Cyprus	5	94	130	:	38.3	0.7	12.6	17.3	:	48	52
Czech Republic	120	1 000	1 100	1 342	10.0	1.2	9.7	10.7	13.1	24	76
Estonia	:	165	195	:	18.2	:	11.3	13.5	:	61	39
Hungary	100	660	750	870	13.6	1.0	6.5	7.4	8.7	30	70
Latvia	:	150	200	:	33.3	:	6.1	8.2	:	14	86
Lithuania	:	200	220	:	10.0	:	5.4	5.9	:	32	68
Malta	5	60	70	80	16.7	1.4	15.9	18.1	20.6	:	:
Poland	300	1 900	2 400	2 670	26.3	0.8	4.9	6.2	6.9	23	77
Romania	10	480	600	713	25.0	0.0	2.1	2.7	3.2	32	68
Slovakia	:	350	400	:	14.3	:	6.5	7.4	:	25	75
Slovenia	:	420	500	548	19.0	:	21.2	25.3	27.6	54	46
Turkey	300	1 550	2 200	3 000	41.9	0.4	2.3	3.3	4.5	:	:
TOTAL CC	:	7 229	8 985	11 000	24.3	:	4.2	5.2	6.4	46	54
EU-15	25 400	84 725	93 200	107 830	10.0	7.0	22.6	24.8	28.6	:	:

Sources : Number of PCs 1990-99, Hungary and Poland 2000 results:ITU;

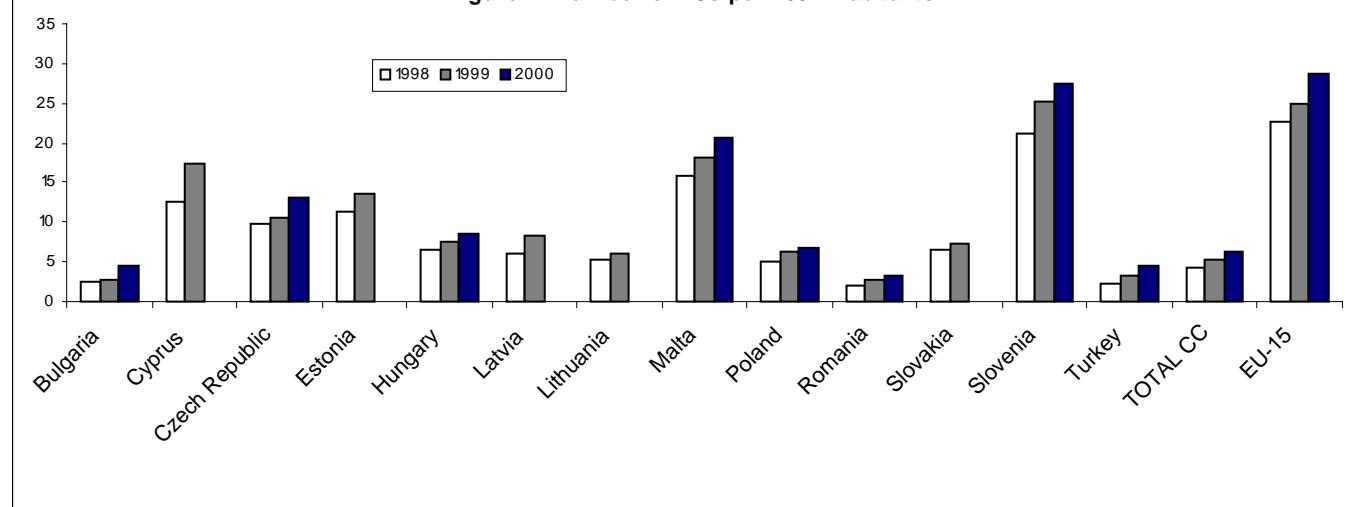
Number of PCs in 2000 and share of PCs used in 1999:ISPO

The number of PCs per 100 inhabitants in Candidate countries is low compared with the level in EU-15 (about 6 versus 29). However the number of PCs in Candidate countries is growing quickly.

The growth in 1999 was more than twice as fast as in the EU. Bulgaria, Romania and Turkey have the lowest PC density of all Candidate countries. Slovenia on the other hand records a

density close to the EU average. The number of PCs per 100 inhabitants correlates with the GDP per capita.

Figure 1 : Number of PCs per 100 inhabitants



Internet hosts

Table 3 : Number of Internet hosts 1998-2001 and Internet service providers (ISP)

Internet Service Providers 2000	Internet hosts (1 000)				Growth (%) 2001/2000	Internet hosts per 100 inhabitants			
	July 1998	July 1999	July 2000	July 2001		1998	1999	2000	2001
Bulgaria	:	9.1	15.2	18.4	24.1	31.0	0.1	0.2	0.2
Cyprus	5	5.5	6.2	6.3	7.7	22.2	0.7	0.8	0.9
Czech Republic	16	70.1	102.2	143.7	185.4	29.0	0.7	1.0	1.4
Estonia	8	20.6	27.2	33.3	44.9	34.8	1.4	1.9	2.3
Hungary	39	89.3	105.5	119.1	138.0	15.9	0.9	1.0	1.2
Latvia	40	9.6	16.0	19.7	22.9	16.2	0.4	0.7	0.8
Lithuania	25	7.4	11.9	16.3	29.1	78.5	0.2	0.3	0.4
Malta	10	1.8	6.0	6.5	6.8	4.6	0.5	1.6	1.7
Poland	500	109.6	142.1	228.7	535.0	133.9	0.3	0.4	0.6
Romania	:	18.5	28.5	36.3	47.6	31.1	0.1	0.1	0.2
Slovakia	86	18.3	26.1	29.1	63.0	116.5	0.3	0.5	0.5
Slovenia	24	20.3	22.8	21.5	28.7	33.5	1.0	1.2	1.1
Turkey	65	48.9	78.9	90.9	100.2	10.2	0.1	0.1	0.2
TOTAL CC	818	429.0	588.6	769.8	1233.4	60.2	0.2	0.3	0.4
EU-15	2 820 ¹	5 497	6 778	9 322	12 353.8	32.5	1.5	1.8	2.5

Sources : Internet Service Providers 2000: ISPO Internet hosts RIPE NCC

Data for Cyprus, Malta and Turkey 1998-99: ITU; 2000: ISC

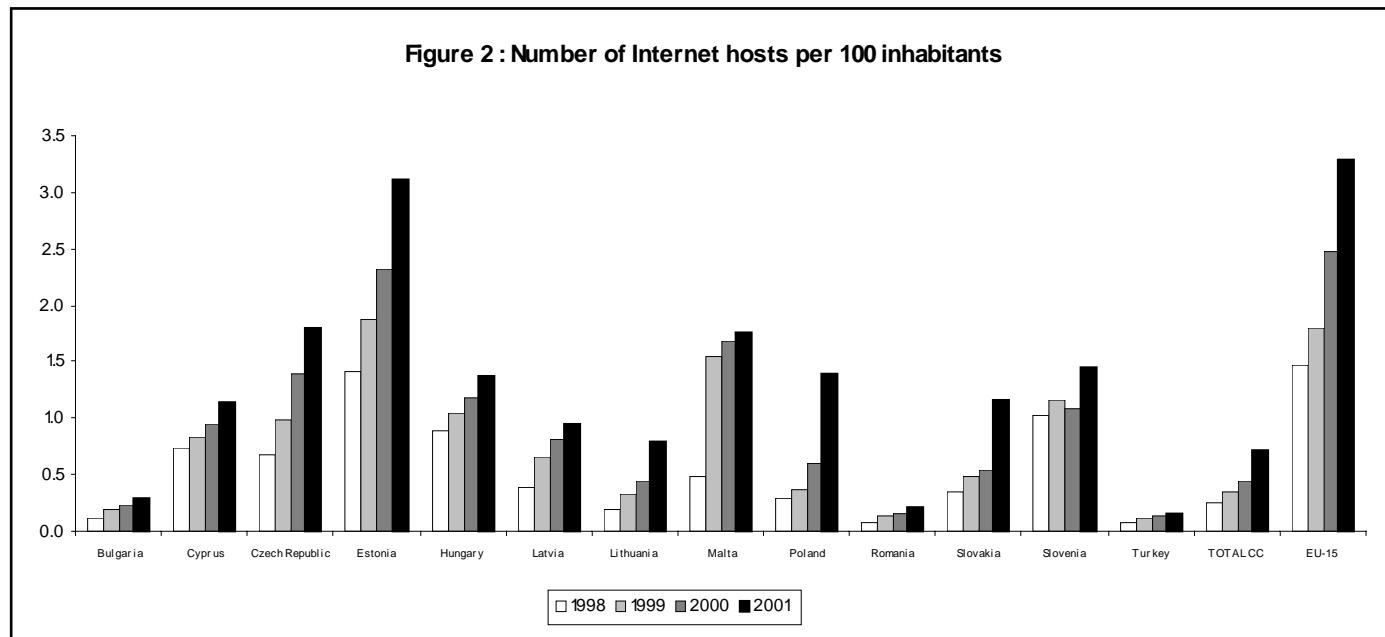
(1) Data for 1998, without Germany

The number of Internet hosts (only the number of country code top level domains considered in the table) increased in Candidate countries between 1998 and 2001 by 188%. This compares to a growth of 125%

in the EU in the same period. The liberalization of communication services contributed to the boom of the Internet. The difference between EU countries and Candidate countries regarding the density of Internet hosts is, however, still large.

There are also strong differences between Candidate countries. Turkey, Romania and Bulgaria show a very low density while Estonia has an Internet host density that is close to the EU average.

Figure 2 : Number of Internet hosts per 100 inhabitants



Internet users

Table 4 : Number of Internet users 1998-2000

	Number of Internet users (1 000)			Growth 1999/2000 (%)	Number of Internet users per 100 inhabitants		
	1998	1999	2000		1998	1999	2000
Bulgaria	150	235	430	83.0	1.8	2.9	5.2
Cyprus	68	88	120	36.4	9.1	11.7	18.0
Czech Republic	400	700	1 000	42.9	3.9	6.8	9.7
Estonia	150	200	366	83.0	10.3	13.8	25.4
Hungary	400	600	715	19.2	3.9	5.9	7.1
Latvia	80	105	150	42.9	3.3	4.3	6.2
Lithuania	70	103	150	45.6	1.9	2.8	4.1
Malta	25	30	40	33.3	6.6	7.8	10.3
Poland	1 580	2 100	2 800	33.3	4.1	5.4	7.2
Romania	500	600	800	33.3	2.2	2.7	3.6
Slovakia	500	600	650	8.3	9.3	11.1	12.0
Slovenia	200	250	300	20.0	10.1	12.6	15.1
Turkey	450	1 500	2 000	33.3	0.7	2.2	3.0
TOTAL CC	4 573	7 111	9 521	33.9	2.6	4.1	5.5
EU-15	34 506	55 942	91 285	63.2	9.2	14.9	24.2

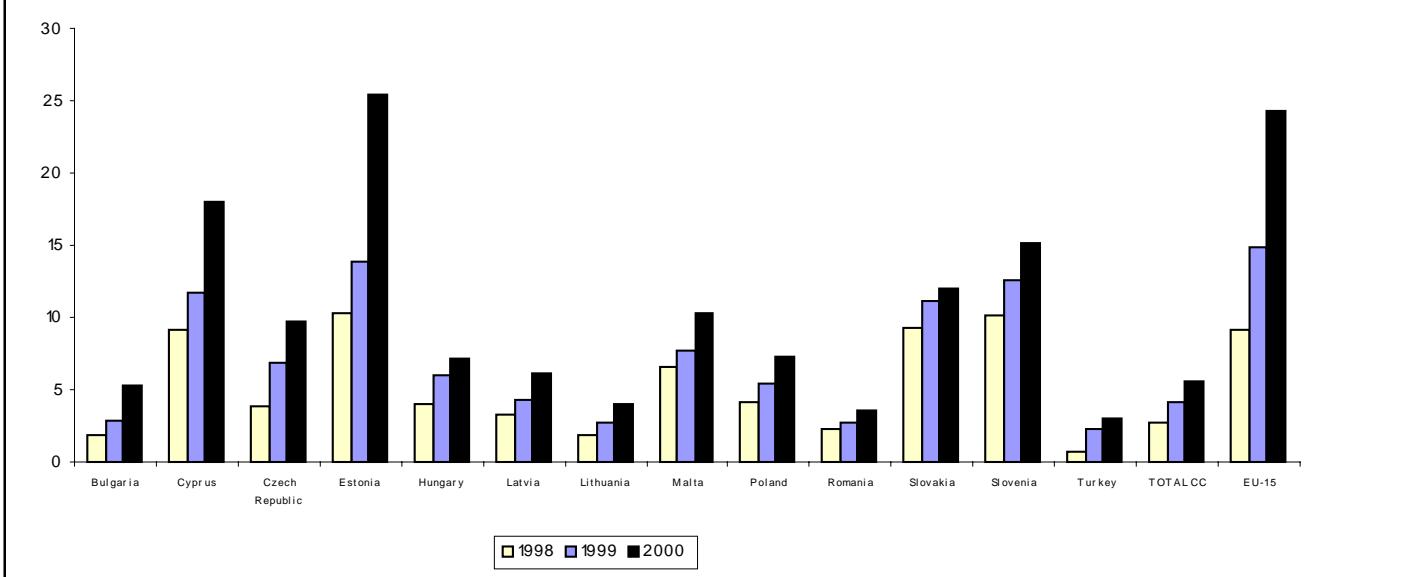
Sources :ITU; ISPO 2000 results for Bulgaria and Slovenia

The number of Internet users in Candidate countries increased by over 30% in 2000. However, in the EU it expanded by over 60% in the same year. The number of Internet users per 100 inhabitants reached

only 23% of the EU average in 2000. There was strong growth in the number of Internet users in Bulgaria and Estonia, with growth rates around 83 % in 2000. While the number of Internet users per 100

inhabitants in Estonia was slightly higher than the EU average level, the corresponding figures for Romania and Turkey were less than 15% of the EU average.

Figure 3 : Number of the Internet users per 100 inhabitants



Information Technology Expenditure

Table 5 : IT expenditure 1998-2000

	IT expenditure (Mio Euro)			Growth 1999/2000 (%)	Of which IT hardware (Mio Euro) 2000	GDP 2000 (Mio Euro)	IT expenditure 2000	
	1998	1999	2000				as a % of GDP	per capita (Euro)
Bulgaria	160	182	201	10.4	:	11600	1.7	25
Czech Republic	1 645	1 765	1 954	10.7	709	50 000	3.9	190
Hungary	1 216	1 336	1 485	11.2	519	45 000	3.3	148
Poland	2 571	2 834	3 254	14.8	1 664	145 000	2.2	84
Romania	250	279	321	15.1	:	32 000	1.0	14
Slovakia	438	465	522	12.3	188	18 000	2.9	97
Slovenia	344	375	403	7.5	204	19 000	2.1	203
Turkey	2 038	2 459	3 034	23.4	1 650	183 000	1.7	45
TOTAL	8 662	9 695	11 174	15.3	4 934	503 600	2.2	65
EU-15	188 439	208 939	233 263	11.6	88 520	851 0160	2.7	620

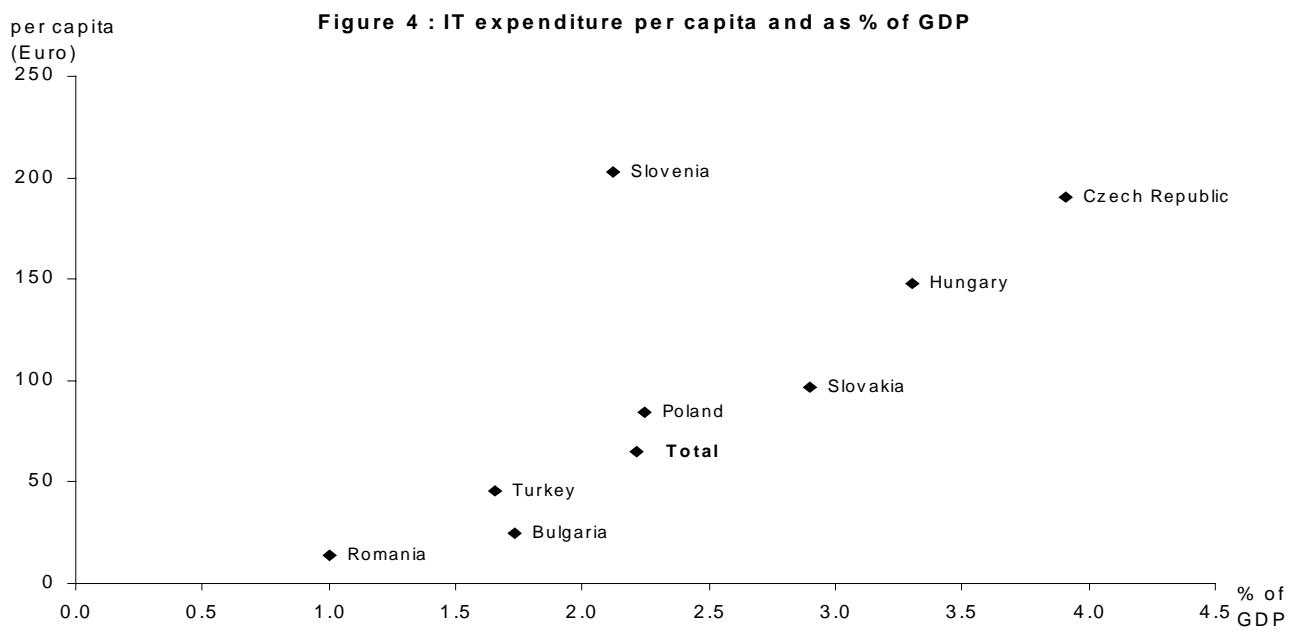
Sources : IT expenditure: EITO;

GDP and population data: Eurostat – NewCronos database;

The IT hardware market in Candidate countries (no data are available for Estonia, Latvia,

Lithuania, Cyprus, Malta) had a size of about 5 billion Euro in 2000 (compared to 89 billion Euro for EU 15). Poland and Turkey

represent more than 60% of this market. IT expenditure per capita in the Czech Republic and Slovenia is more than twice the CC average.



There are strong differences between countries in respect of IT expenditure in % of GDP. IT expenditure as a % of GDP in general increases with growing

income levels. Countries like the Czech Republic, Hungary and Slovenia have a relatively high level, while expenditure

as a % of GDP remains low in Bulgaria, Turkey and Romania.

Mobile phone subscriptions

Table 6 : Mobile phone subscriptions 1995 - 2000

	Number of mobile phone subscriptions at the end of the year (1 000)				Growth (%) 2000/1999	Number of mobile phone subscriptions per 100 inhabitants			
	1 995	1 998	1 999	2 000		1995	1998	1999	2000
	Bulgaria	20	127	350	738	110,9	0,2	1,5	4,3
Cyprus	44	116	151	218	44,6	6,0	15,5	20,1	32,7
Czech Republic	49	965	1 944	4 346	123,6	0,5	9,4	18,9	42,3
Estonia	30	247	387	557	43,9	2,0	17,0	26,8	38,7
Hungary	265	1 070	1 628	3 000	84,3	2,6	10,6	16,1	29,9
Latvia	15	168	274	401	46,5	0,6	6,8	11,2	16,6
Lithuania	14	268	332	524	57,8	0,4	7,2	9,0	14,2
Malta	11	23	37	114	209,2	3,0	6,1	9,6	29,5
Poland	75	1 928	3 956	6 747	70,6	0,2	5,0	10,2	17,5
Romania	9	643	1 400	2 499	78,5	0,0	2,9	6,2	11,1
Slovakia	12	465	918	1 294	40,9	0,2	8,6	17,0	24,0
Slovenia	27	196	614	1 086	76,9	1,4	9,9	31,0	54,6
Turkey	437	3 506	8 122	16 133	98,6	0,7	5,3	12,2	24,2
TOTAL CC	1 008	9 722	20 113	37 658	87,2	0,6	5,6	11,7	21,8
EU-15	21 160	90 145	146 579	235 745	60,8	5,7	24,1	39,1	62,6

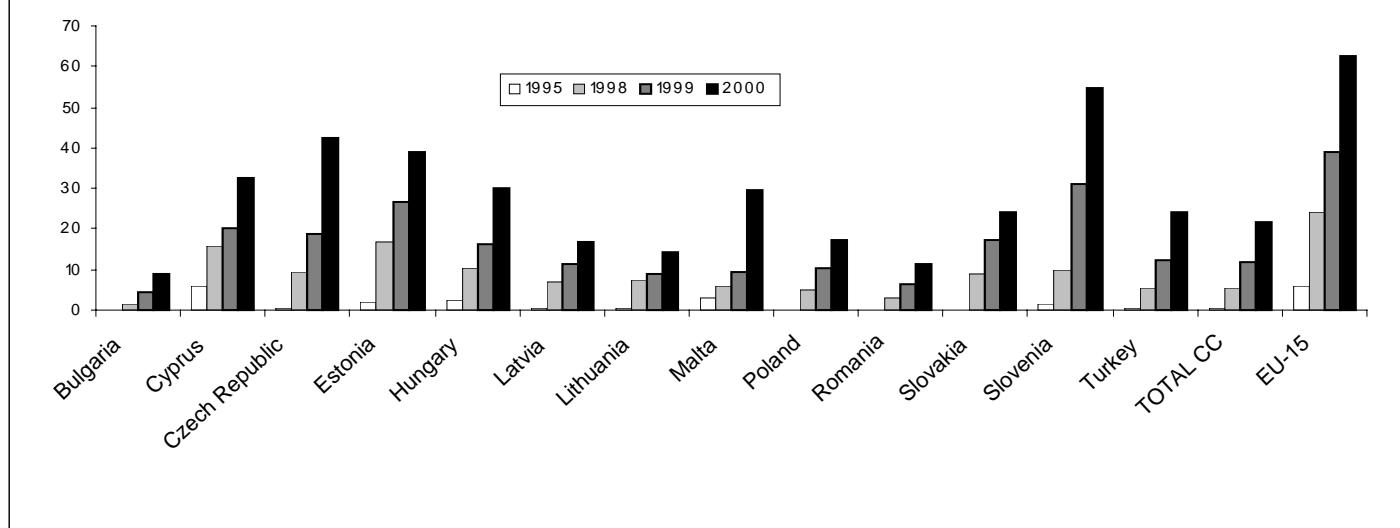
Sources : *ITU*

Data for Slovenia in 1995: Eurostat;

The number of mobile phone subscribers is expanding very rapidly in Candidate countries. In the period 1995-2000 the number grew by a factor of 37 compared to an 11-fold increase in the EU. The number of subscriptions in Bulgaria, the Czech Republic and Malta more than doubled in 2000. The expenditure on

communication in Candidate countries represents on average about 2 % of total household consumption. Hungary, Latvia and Estonia recorded the highest level. In Bulgaria, the Czech Republic and Romania the share of communication expenditure is below the average of Candidate countries.

Figure 5 : Number of mobile phone subscriptions per 100 inhabitants



➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

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Personal computers (PC): includes portables, desktops and personal workstations. Board-level products are excluded. Data on the number of PCs by country from ITU represent estimates.

Internet service providers (ISP) an organisation that lets users dial into its computers to connect to its Internet link (usually for a fee). ISPs in general provide an Internet connection and an electronic mail address.

Internet hosts are the computers that are directly connected to the Internet and have their own IP address and full two-way access to other nodes on the network. The host data in this report refer to country code Top Level Domains only for EU countries and Japan (examples: .de or .uk), generic

top level domains (examples: .com .org) are not included for these countries. There are about 15 million .com domains today. 69% of domain names have in the past been registered through the USA (1998: 75%, 2000: 50-60%).

Internet user: person using the Internet. The number is several times higher than the number of Internet hosts. Data relate to persons above a defined age limit. Data come from household surveys or represent estimates or projections (data in table 4 represent ITU estimates).

Information Technology (IT) market refers to the combined industries of hardware for office

machines, data processing equipment, data communications equipment and services. The EITO market value is expressed in Million ECU at constant 1998 exchange rates.

Mobile phone subscribers refers to users of portable telephones subscribing to an automatic public mobile telephone service which provides access to the Public Switched Telephone Network (PSTN) using cellular technology.

Web site is a location on the World Wide Web identified by a web address. A Web site consists of one or more pages of information and data (encoded with a hypertext mark-up language to make them readable by a web browser).

Abbreviations / sources

:	Data not available
Mio	Million
bn	Thousand million
PPP	Purchasing power parity
<i>Italics</i>	Estimated data appears in Italics.
EITO	European Information Technology Observatory (EITO) Address: Lyonerstr 18, D-60528 Frankfurt/Main, http://www.eito.com Publication: EITO 2001
ITU	International Telecommunication Union (ITU) Address: Place des Nations, CH-1211 Geneva Switzerland; http://www.itu.int/ ITU is a UN-Organisation. Statistical publication: ITU Yearbook
ISPO	Information Society Promotion Office, the Information Society website of the European Commission provides information on EU policy but also links to EU websites providing figures on the Information Society (Eurobarometer figures, ESIS report, etc), http://europa.eu.int/ISPO/ESIS .
ISC	Internet Software Consortium; http://www.isc.org Produces twice a year (January, July) Internet domain survey.
RIPE NCC	Réseaux IP Européens, Network Coordination Centre ftp://ftp.ripe.net/ripe/hostcount/History/ . Issues monthly hostcount statistics.

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Databases

New Cronos, Theme 1, Domain: CEC

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