



eEurope<sup>+</sup>  
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# Progress Report

February 2004

*European leaders set, at the Lisbon Summit, the ambitious objective for Europe to “become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion by 2010”. The then candidate countries committed themselves to take up this challenge.*

The EU's eEurope Action Plan launched in Feira on 19-20 June 2000 aimed at bringing Europe closer to meeting the Lisbon objectives. It provided for concrete actions and targets aimed at making Internet use cheaper and faster, providing modern public services online and progressing a dynamic, e-business environment to attain these goals. In order to meet this challenge and to help accelerate reform and modernisation of their economies, encourage capacity and institutional building, the then 13 Candidate Countries launched a collective action, mirroring this Action Plan, on the occasion of the Göteborg European Council in June 2001, known as the eEurope+ Action Plan.

A first picture of the status of implementation of the targets was subsequently provided with the presentation of the first eEurope+ Progress Report, in June 2002, at the European Ministerial Conference: “Information Society - Connecting Europe” held in Ljubljana, Slovenia.

The presentation of the Final eEurope+ Progress Report coincides with the biggest enlargement ever undertaken by the European Union, both in terms of scope and diversity. Ten countries - Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic, and Slovenia are set to join the Union on 1st May 2004. They are referred to by the term "Acceding Countries". Of the remaining three Candidate Countries, Bulgaria and Romania hope to become members by 2007, while Turkey wishes to begin negotiations of its membership at that time. The ten new member states will increase the Union's population by a further 75 million citizens and represent a diversity of cultures and histories, of experiences and skills, which will add richness to the whole of the European Union.

Important opportunities will flow from enlargement, in particular as governments and businesses collaborate to maximise win-win situations. By taking advantage of the diversities and skills of the enlarged Union competitiveness of the economies can be strengthened. Businesses can look forward to an easier access to EU markets, enhanced transparency in business practices and better access to new technologies. Major financial transfers have already been made and will undoubtedly be reinforced under the Cohesion and Structural funds.

This Final eEurope+ Progress Report is being submitted at this historic moment, not only to outline progress made by the Acceding and Candidate Countries with the overall implementation of the eEurope+ Action Plan, but also to embrace and identify new challenges for the future.

## INTRODUCTION

*The eEurope+ initiative mirrors the priority objectives and targets of the EU's eEurope Action Plan launched in Feira on the 19-20 June 2000. It had the aim to help accelerate reform and modernisation of their economies of the Acceding and Candidate countries, encourage capacity and institutional building, improve overall competitiveness, and enhance social cohesion.*

EU Acceding and Candidate Countries, with the assistance of the European Commission, have committed to the eEurope+ Action Plan in order to implement effectively the Information Society by means of specific joint actions, through benchmarking of progress in the implementation of these actions, and by aligning actions and methodologies with those undertaken by the EU Member States. Successful implementation of such actions facilitates integration of the new Member States into the eEurope 2005 Action Plan currently underway in the EU-15.

The results presented in the first eEurope+ Progress Report in June 2002 showed that the Information Society is very much present in the Acceding and Candidate Countries and is the subject of considerable political commitment.

The objective of this report is to:

- give an overview of progress made in the Acceding and Candidate Countries with the implementation of the overall eEurope+ objectives and targets,
- compare the relative position of the countries since the publication of the eEurope+ Progress report in June 2002 and with respect to the general EU situation, as far as possible, and
- draw an initial set of conclusions based on the above.

## IMPLEMENTATION OF eEurope+

*The Acceding and Candidate Countries recognise that in order to harness the benefits of the knowledge-based economy urgent action was required against tight deadlines. For this reason, these Countries, while acknowledging the marked differences in their economic, social, and industrial environments, focused on a common key date – December 2003 – by which time they aimed to meet the eEurope+ targets.*

### General

Positive action based on strong, political commitment was needed to ensure that the Acceding and Candidate Countries used the full potential offered by the Information Society and avoided a digital divide with the EU-15. Transposition and implementation of the *acquis communautaire* alone, although a pre-requisite for accession, was seen to be insufficient. The modernisation of the economy, the changes in business processes, the functioning of governments, and the changing relationships between citizens, businesses, and governments required a broader based policy approach which recognised the potential of these developments in advancing their economies and bring prosperity and new opportunities to citizens.

The governments of the Acceding and Candidate Countries recognised, with the launch of the eEurope+ Action Plan, the important role they must play in the development of a knowledge-based economy. National information society action plans were developed and specific ministries charged with the responsibility of co-ordinating the implementation of the individual actions. Information society development became a priority on many countries' political agendas. The possibilities this offered in terms of economic growth, competitiveness and public and private sector efficiency are now widely recognised.

## Funding

For the implementation of eEurope+, funding has largely been provided by the governments and national budgets of the Acceding and Candidate Countries, through special programmes or through the integration of the actions in the national economic development plans and/or through existing budgets.

The European Commission, through the Phare Programme of the Directorate General for Enlargement has put in place a funding facility amounting to 3.4 Million euro for the organisational and logistical support for the co-ordination of eEurope+ as well as carrying out the surveys of the agreed indicators in the 10 Acceding and Candidate Countries.

## Co-ordination

The overall co-ordination of the implementation of the eEurope+ Action Plan has been undertaken by the Joint High Level Committee (JHLC) composed of representatives of the Acceding and Candidate Countries and the European Commission.

A Statistical Working Group (SWG), made up of experts from the relevant national statistical institutes of the Acceding and Candidate Countries was created to facilitate the data collection, and the analysis and interpretation of data. This Group, also supported by Eurostat, reports directly to the JHLC.

## Data Collection Methodology and Analysis

For the 10 Phare Countries, the data presented in this report originates from surveys commissioned and monitored by an external consulting firm<sup>1</sup>. Three primary surveys (household, enterprises and health) and three secondary surveys (telecommunications operators, Internet service providers and ministries) were specifically developed and undertaken in these countries. Structural statistical data on the countries' population and economy were provided by each country's National Statistical Institutes.

Depending on the type of survey, a sample size was defined, which could produce results representative of the situation in each country. Face-to-face and/or computer aided telephone interviews (CATI) were then used to collect the data. Data results were then analysed and compared, as far as possible, with findings from other sources and organisations, including ITU, the SIBIS Project, the IBM 3<sup>rd</sup> and 4<sup>th</sup> Monitoring Reports of EU Candidate Countries<sup>2</sup>. However, the definition of the indicators, timing of the data collection and methodology used by the different data collection sources made comparison difficult.

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<sup>1</sup> The contract was awarded by the European Commission's Directorate General for Enlargement to a consortium led by Danish Management (DM) and including University of Sunderland and Fraunhofer University. Field work was subcontracted by DM to TNS, a global market information group.

<sup>2</sup> [http://europa.eu.int/information\\_society/topics/ecomm/all\\_about/international\\_aspects/main\\_areas\\_work/eu\\_enlargement/index\\_en.htm](http://europa.eu.int/information_society/topics/ecomm/all_about/international_aspects/main_areas_work/eu_enlargement/index_en.htm)

For Cyprus, Malta and Turkey, no eEurope+ funding has been provided to undertake parallel surveys, in terms of timing, to those of the Phare countries. Data presented in this report for these 3 countries has been made available by public institutions in the countries, supervised by the relevant national statistical institute. The governments of Cyprus and Malta, using own resources, have commissioned local data collection companies to undertake complementary surveys to collect data required for the eEurope+ indicators and in some cases, it has not been possible to attain all the data required for a few indicators. Therefore, some of the graphs in this report do not show data for these countries at this time.

Qualitative data on best practices and national activities have subsequently been provided by each country. The Statistical Working Group, with the assistance of Eurostat and the Joint High Level Committee, met to review critically the data submitted in this report. However in view of the absence of common methodologies and consistent collection methods of information society indicators worldwide, there is recognition by all concerned that there may be discrepancies in the data presented with that found in other sources as well as with subsequent conclusions which have been made.

As with the 1<sup>st</sup> eEurope+ Progress Report, the guidelines used for the data collection are as follows:

- *data should be recent* in order to be relevant and the agreed data measurement point was set at June 2003;
- *data should be consistent* and critically assessed for comparability, as far as possible;
- *data should be cross-referenced* with existing public and private sources as far as possible;
- *data should be compared with relevant EU figures*, usually a EU average, in order to allow a benchmark of the situation. Data trends, over the past three years should be shown, where possible.

## THE LEGAL AND POLICY FRAMEWORK

The eEurope+ Progress Report of June 2002 highlighted the importance given by the governments of Acceding and Candidate Countries to the legal framework for the development of the Information Society and studied the progress made in these countries in the transposition into national law of the telecommunications and e-commerce *acquis*.

As new and current Member States are to share a legal framework, then the transposition of all relevant EU directives is vital. Since the previous report, significant progress has been made in adopting regulation and in moving towards full liberalisation. Achieving liberalisation in Acceding and Candidate Countries has required major restructuring, including the separation of ownership and regulation, and creating independent regulatory authorities.

Recent changes in EU legislation include the simplification of the regulatory package for electronic communication services, which reduces the total number of directives in this area. This development has affected the transposition process, as it requires policy changes and replaces some legislation that has only recently been transposed. In addition to the new regulatory package, the EU has continued to develop legislation that addresses various aspects which have a direct or indirect impact on the Information Society, for example, in the area of distance contracts, financial services, advertising and product guarantees. Here, Acceding and Candidate Countries find themselves in a similar position to that of current EU Member States.

Most directives concerned with Information Society Services are, at least, at the stage of initial drafts of the legislative texts in Acceding and Candidate Countries, namely the harmonisation of certain aspects of copyright and related rights in the information society (2001/29/EC), the electronic commerce directive (2000/31/EC) and the definition of Information Society Services (1998/34/EC). Some countries have also transposed the Electronic Signatures Directive (1999/93/EC). Similarly, the directive on the processing of personal data and the protection of privacy in the telecommunications sector (96/66/EC) has been transposed by most Acceding and Candidate Countries but the more recent directive (2002/58/EC) remains, in general, at the drafting stage.

**Government Open Source Policy in Slovenia**

*In October 2003 the Government passed a special act to formalise its positive attitude towards open source. The policy recognizes the importance of open source; especially with regards to data exchangeability, economy, independence, code adaptability and reuse, as well as permanence of ownership. The policy is an important element of its legal and policy framework.*

The Annex provides a partial list of the EU *acquis* relevant to the Information Society.

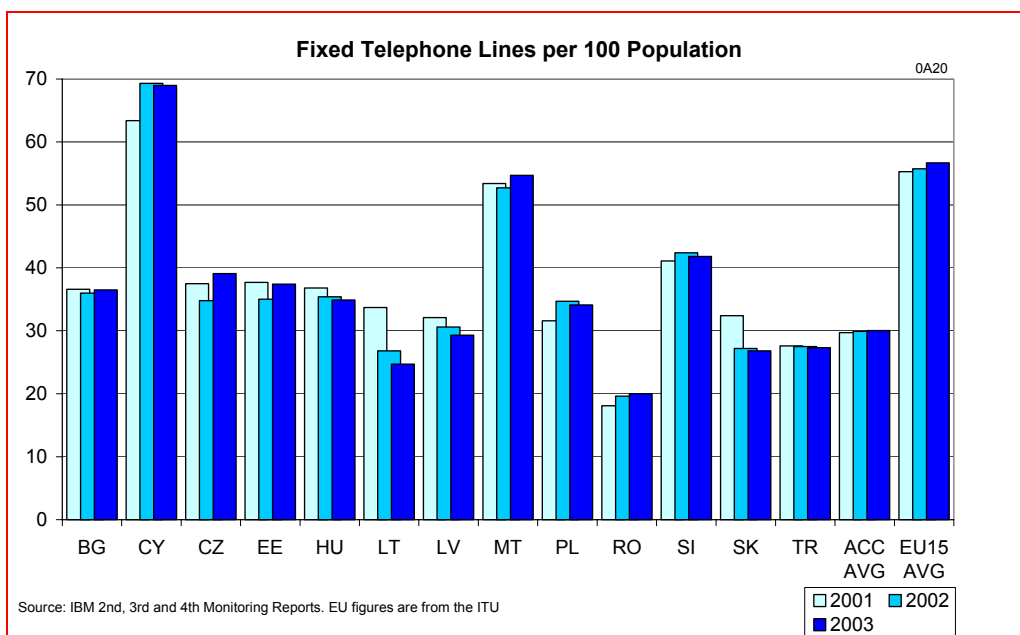
# INFRASTRUCTURE AND AFFORDABLE ACCESS

## Telecommunications Infrastructure

The most widespread technology to access the Internet in Accessing and Candidate Countries is via a dial-up fixed line connection. Although still few in number, new technologies are gaining a foothold, in particular, Cable TV networks and wireless telephony.

Significant progress has been made in all Accessing and Candidate Countries in improving fixed line networks and in some countries complete modernisation has been carried out. In Cyprus, the Czech Republic, Malta and Slovenia the networks are now completely digital. Hungary, Lithuania and Turkey have now achieved over 90% digitisation of their networks. Bulgaria has achieved 34% digitisation - the objective is to reach 48% digitisation by 2005 - and has put in place digital trunks operating over fibre optics resulting in some metropolitan centres and larger towns being almost 100% digital, but a number of rural areas are still connected via old analogue exchanges.

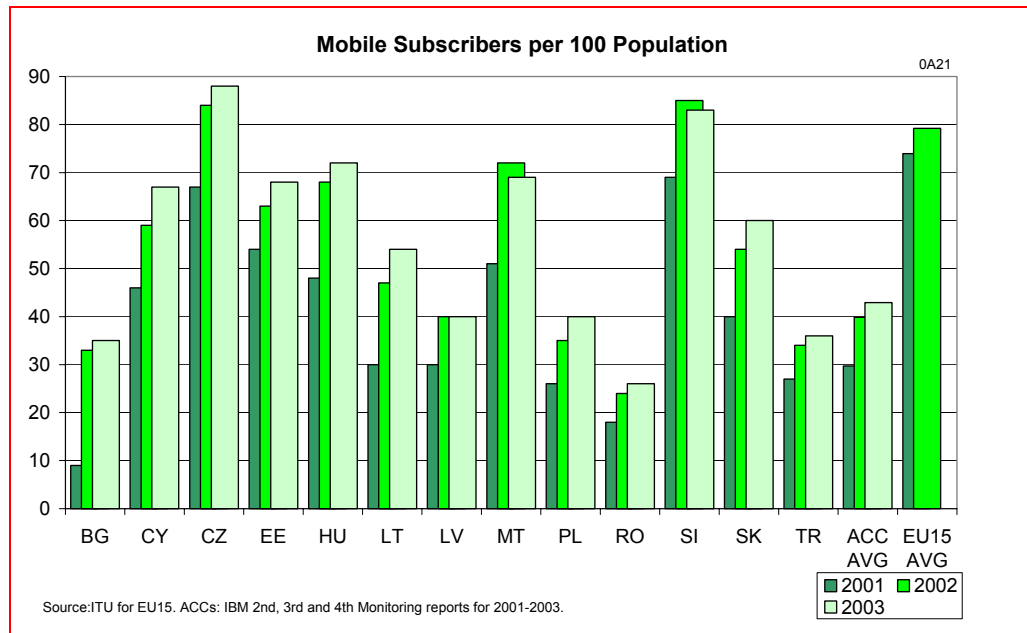
This modernising of networks requires considerable investment. It is an underlying objective for network operators that development and upgrading should be economically sustainable and, eventually, provide a return on investment. In addition to the problems of financing the development of the fixed line infrastructure, the network operators face additional challenges created by competition from alternative technologies such as wireless and mobile telephony, and cable television networks. Some Accessing and Candidate Countries and Member States have seen a net regression in fixed line penetration rates, most notably, Hungary, Latvia, Lithuania and the Slovak Republic.





Although the number of fixed telephone lines per 100 population is a commonly used statistic it does not give a reliable guide to household penetration rates. For example, in Malta the household penetration rate is 96% and these are all capable of providing xDSL services.

Take-up of mobile telephones in all countries remains high and the growth in the number of mobile subscribers may, in part, explain the recent decrease in the number of fixed lines per 100 population in many countries



However, in 2003<sup>3</sup> there are indications that this rate of growth is now slowing. It is even possible that for Slovenia and the Czech Republic a saturation point may have been reached at just over 80 subscribers per 100 population.

## Broadband

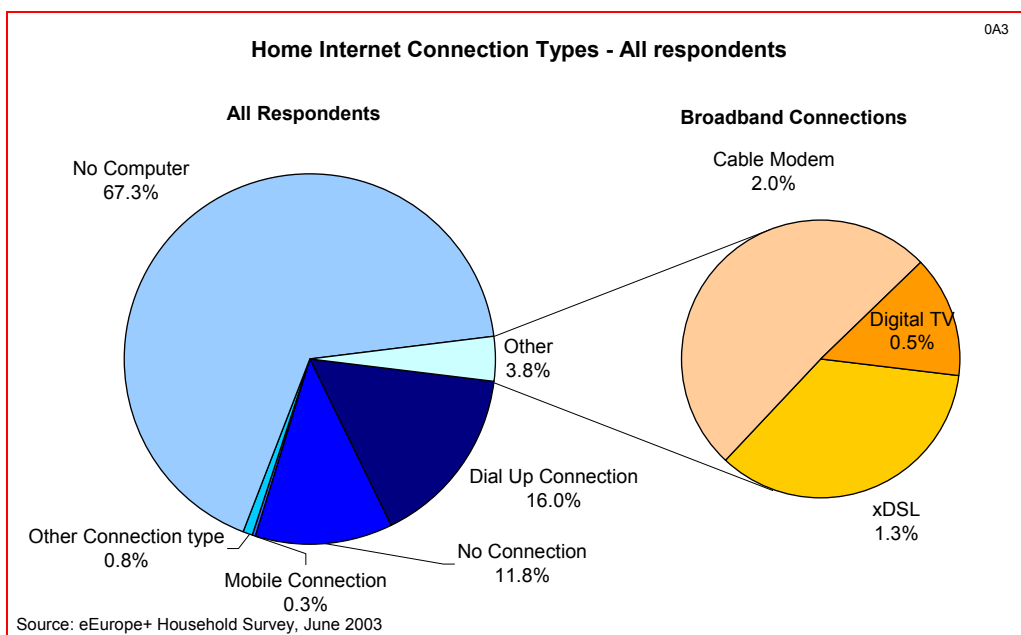
Although not specifically mentioned in the targets of the eEurope+ Action Plan, deployment of broadband across Europe, in both urban and rural areas, is a challenge faced by all Acceding and Candidate Countries and EU Member States. Take-up of broadband is essential if citizens and enterprises are to take full advantage of the Information Society and if the Lisbon target of being the most dynamic and competitive economy in the world by 2010 is to be met.

According to the eEurope+ Household Survey 2003, 13% of home computer users in the Acceding and Candidate Countries currently benefit from a broadband connection. The relatively low use of xDSL services compared to dial-up access is probably due to the fact that telecommunication operators are still at an early stage of xDSL

<sup>3</sup> Data provided by the Romanian Mobile operators indicates that by the end of 2003 the number of mobile subscribers in Romania had increased to 32 per 100 population.

implementation and these services have not been rolled out to any great extent except in a few countries e.g. Estonia, Malta and Slovenia. Cable TV is used in Bulgaria, Estonia, Malta and Romania for 28%, 25%, 14% and 14% of Internet connections respectively.

Almost 88% of telecommunications lines in Acceding and Candidate Countries are now digital and the remaining 12% are analogue lines. It is likely that the latter are consequently unsuitable for reliable communications for accessing the Internet.

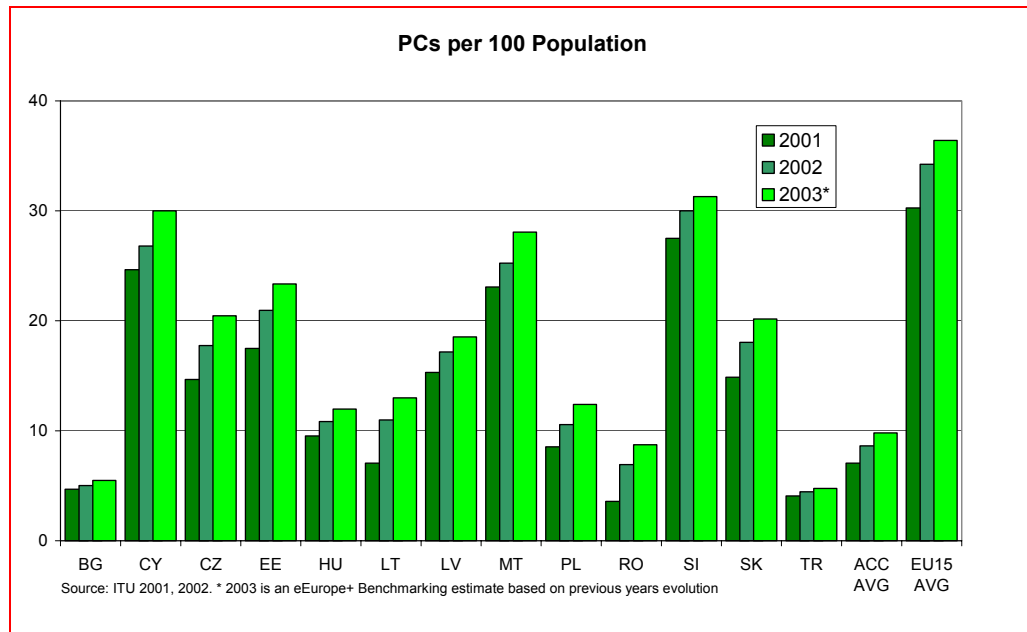


These results can be considered as disappointing in view of the importance placed upon the rollout of broadband services in support of the Information Society. In some countries, it is thought that the rollout of xDSL services would improve with increased competition in the sector. In those countries where there is no competition there is no incentive for the operator to invest in xDSL technology. It should be noted that in the EU there are regions where xDSL services are not provided until there is sufficient local demand to make it economically feasible for the operator to offer the service.

## Digital Divide

There are many aspects to the digital divide with as many policies in Europe with the aim to close it. A number of these issues include: physical access to telecommunication facilities, affordability of access to a computer, the type of access (e.g. broadband or narrowband), and the costs related to Internet access, the skills and confidence to use a computer, and finally the gender divide. All of these issues are addressed in various sections of this report. This section, however, focuses primarily on the infrastructure issues: access to the necessary telecommunications facilities and access to a PC.

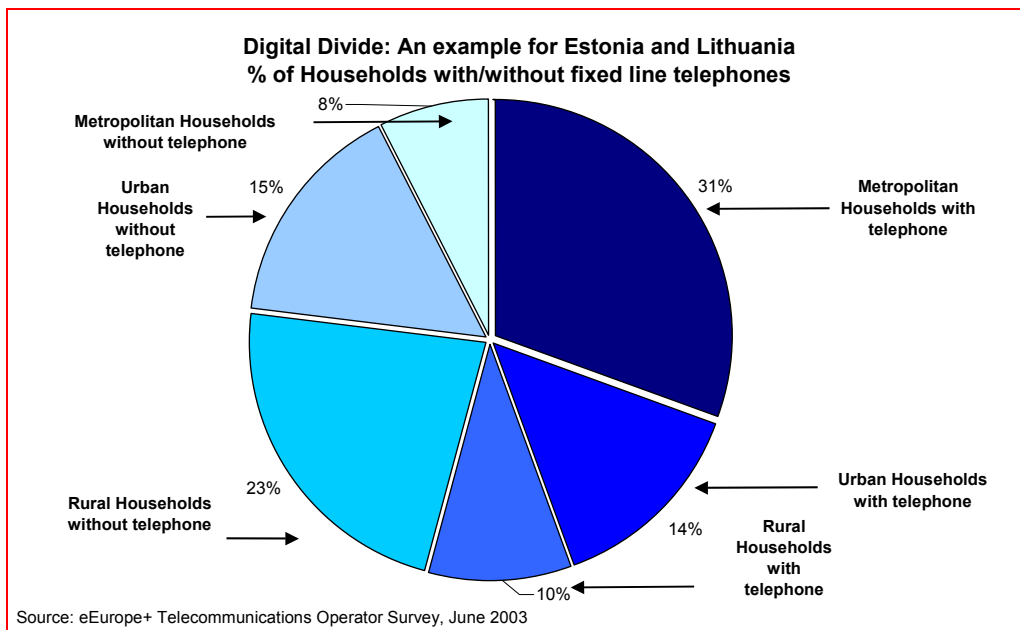
PC penetration has increased across all Acceding and Candidate Countries since the launch of eEurope+ and countries such as Cyprus, Malta and Slovenia have penetration rates close to the average rate of the EU-15. However, as shown in the graph below<sup>4</sup>, the average rate of penetration across the Acceding and Candidate Countries remains significantly below the EU-15 average.



Quantifying the telecommunications divide, as far as fixed line telephony is concerned, requires that telecommunications operators are able to identify how many residential customers they have in metropolitan, urban and rural areas and that the number of households in each of these areas are clearly identifiable. This data, regrettably, has not always been possible to attain in all countries.

<sup>4</sup> To maintain consistency and a common methodology for all data provided, figures for the year 2003 given in this graph are estimated and based on figures published by the ITU for the previous 3 years. For the year 2003 and according to surveys undertaken nationally, Bulgaria, Malta and Romania report figures of 13, 44 and 10 computers per 100 population, respectively.

Data from Estonia and Lithuania, however, reveals that 23% of rural households, 15% of urban households and 8% of metropolitan households in these two countries have no fixed line service. This indicates or opens opportunities for the use of alternative technologies such as Cable TV and wireless Internet connections to gain access to the Internet.

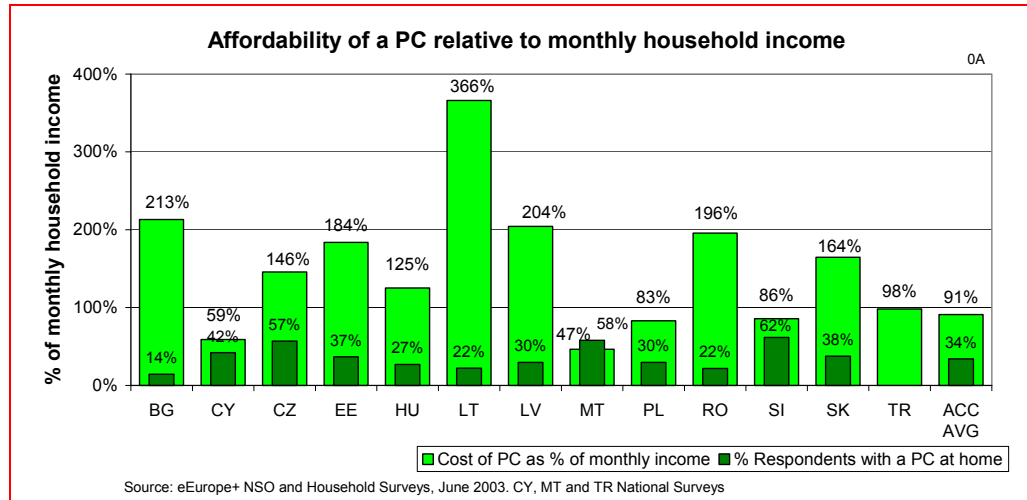


This data shows that 46% of households are without a fixed line which, at a first glance, indicates inconsistency with the data previously shown on lines per 100 population. However, further analysis explains that the latter includes lines used by businesses and administrations resulting in a lower household penetration rate.

The most recent statistic for household broadband penetration in Malta is 21%. This is the result of an investment in digital fixed lines and the fact that 85% of Malta is covered by cable television services, hence providing an alternative medium to connect to broadband. An example of the use of alternative technologies can be found in the Czech Republic where one of the mobile operators has launched a service providing a wireless Internet connection (based on GPRS technology) covering the whole country. A fixed monthly fee provides unlimited Internet access.

## Affordable Communications

The affordability of a PC is, obviously, a key factor that will inhibit the growth of PC penetration rates and therefore use of the Internet at home. The following graph indicates how expensive it can be to purchase a PC<sup>5</sup> for many people in Acceding and Candidate Countries by representing the number of gross monthly household income required to purchase a PC in each country. This can offer an explanation as to why approximately 66% of households do not possess a PC and 81% do not have access to the Internet<sup>6</sup>.

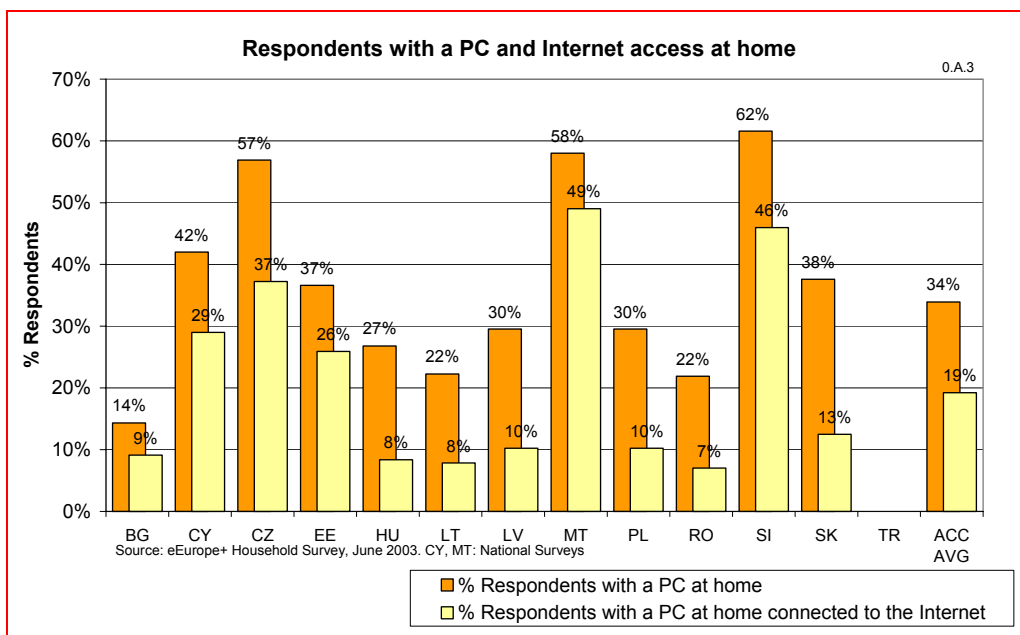


The information collected from the national statistical offices concerning the average annual household incomes and the cost of a PC with a specific configuration is expressed in this graph as being the percentage of monthly household income required in order to purchase a PC. The results are surprising in that the actual cost of a PC represents a significant investment in some countries. However, in other countries, the cost of a PC can be less than the average monthly household income.

It would seem that the decision to buy a PC in order to access the Internet in those countries where the relative cost is much higher would require significant justification in terms of 'added value' provided by the services on the Internet. The availability of 'online government services' or the ability to 'purchase goods and services online' hardly seems to justify such a major investment.

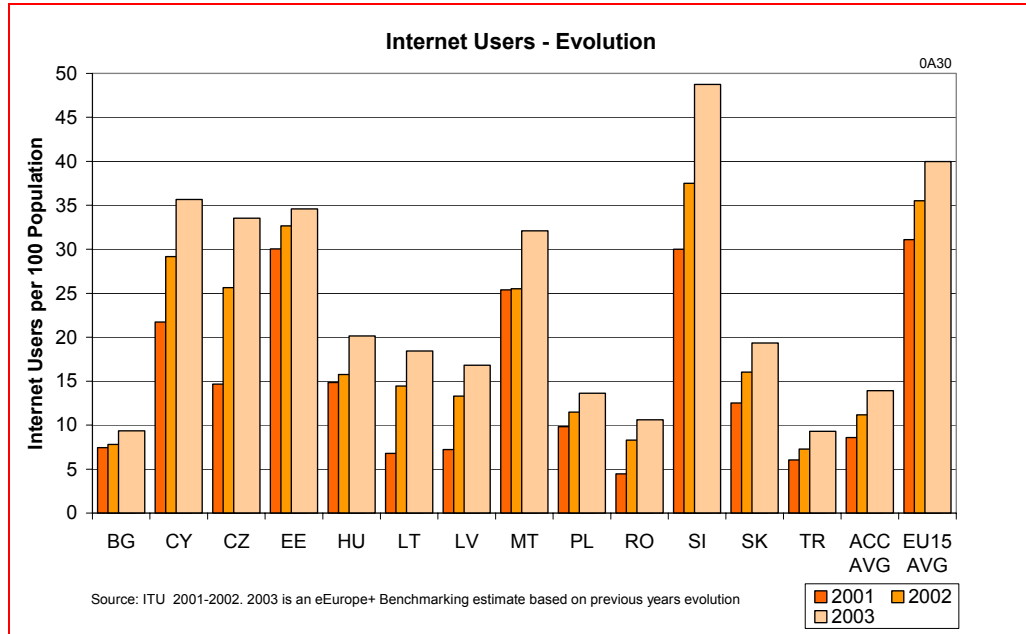
<sup>5</sup> The specification of the PC is a Pentium IV or equivalent processor, DVD/RWCD drive, 256 Mbyte memory, 15 inch Monitor, Internet adapter and telephone modem fitted as standard, USB connector.

<sup>6</sup> eEurope+ Household Survey, June 2003

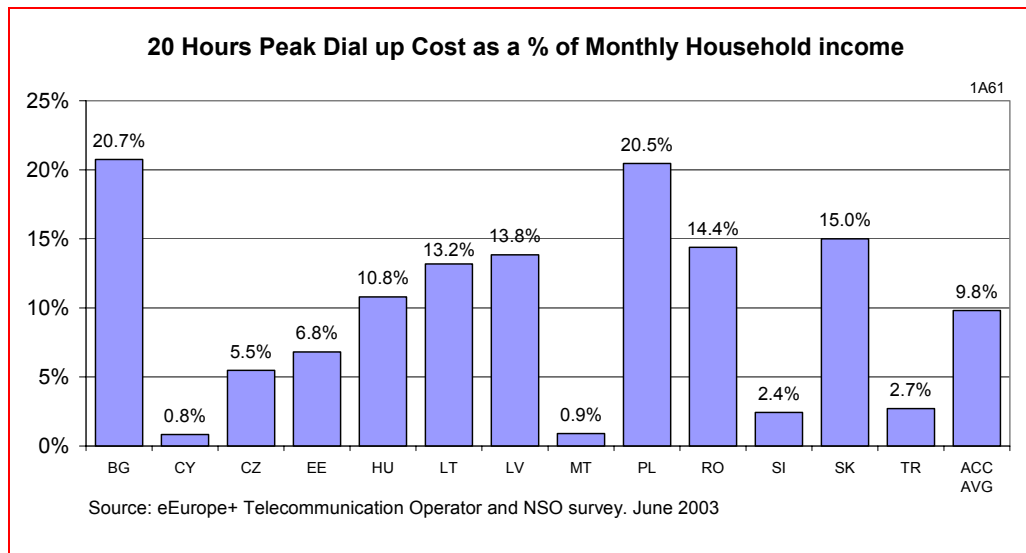


Obtaining precise figures on the number of Internet users is not a simple matter. The ITU has published data on the number of Internet users based on nationally reported data. In some cases, surveys have been carried out that give a more precise figure for the number of Internet users. However, surveys differ across countries in the age and frequency of use they cover. The figures reported by the ITU for Internet users — which may refer to only users above a certain age — is divided by the total population to obtain users per 100 inhabitants. Countries that do not have surveys generally base their estimates on derivations from reported Internet Service Provider subscriber counts, calculated by multiplying the number of subscribers by a multiplier. Actual usage of the Internet is also difficult to measure.

The ITU statistics indicate that, on average, over all the Acceding and Candidate Countries, the number of Internet users has grown by almost 60% since the year 2001, from 8.6 users to 13.9 users per 100 population, while in the EU the average growth was only 29%. Although the growth rates in some countries have been considerable — with increases in the order of 140% — other countries have made more modest progress. Overall though, it is estimated that the average number of Internet users per 100 population is significantly less than that in the EU.



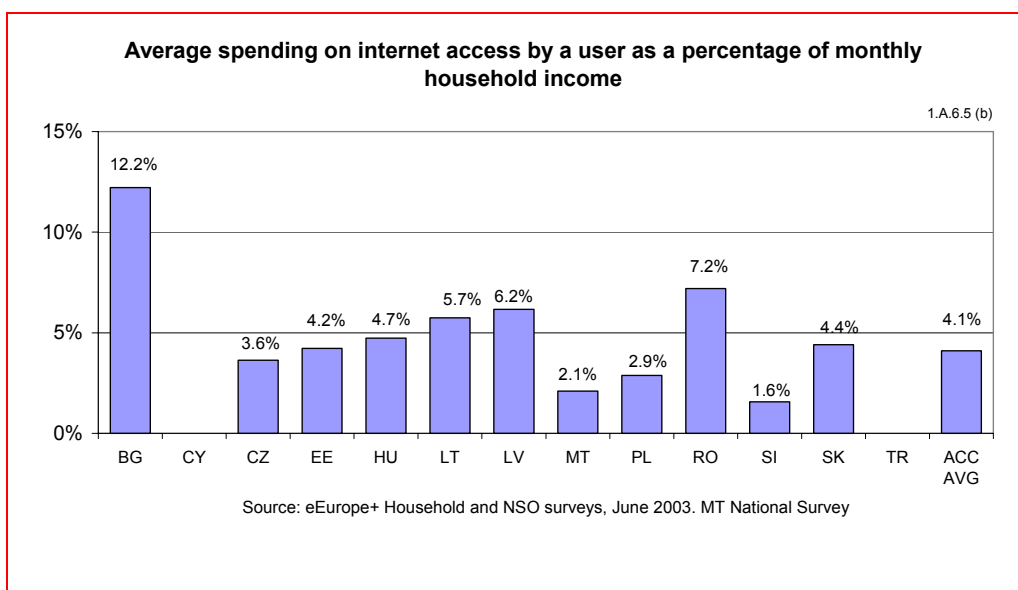
The above graph, based on ITU data, is representative of the whole population (i.e. age group from 1 to 74). Subsequent graphs, prepared with data collected through the eEurope+ surveys, only target a subset of the whole population (i.e. age group from 16 to 74). Although some countries<sup>7</sup> report higher Internet user penetration rates for the year 2003, this graph has been added to show the positive evolution and trend of the Internet penetration in the Acceding and Candidate Countries. In order to maintain consistency with the methodology and analysis, figures shown for 2003, are based on a calculated estimate based on data provided by ITU for the years 2000, 2001, and 2002.



<sup>7</sup> Estimates for Internet users per 100 population for 2003 are reported to be as follows: Bulgaria, 11.6 per 100, Estonia, 45 per 100; Malta, 50 per 100, Poland, 23 per 100; and Romania, 16 per 100.

Establishing comparable costs for accessing and using the Internet is extremely difficult. Each Internet Service Provider has a seemingly 'unique' offering in terms of the number of hours of access, the times during which the Internet can be accessed, the number of e-mail identities allocated, different quantities of web space, different access speeds offered, free hours' usage. Telecommunications operators also have different price packages for different numbers of hours' usage and none of these are directly usable for the eEurope+ Indicators (20, 30 and 40 hours access a month).

The only comparable figures appear to be the number of peak rate or off peak rate minutes expressed as a percentage of monthly household income. Looking at the costs involved in accessing the Internet from home using a fixed line dial up connection and comparing the cost, for 20 hours usage a month during peak hours, to average household income, Cyprus and Malta have the cheapest costs in the Acceding and Candidate Countries.



The graph above shows what Internet users have claimed to spend on Internet access per month, expressed as a percentage of monthly household income. In Slovenia, Internet users need to spend proportionately less of their income on Internet access than users in other Acceding or Candidate Countries.

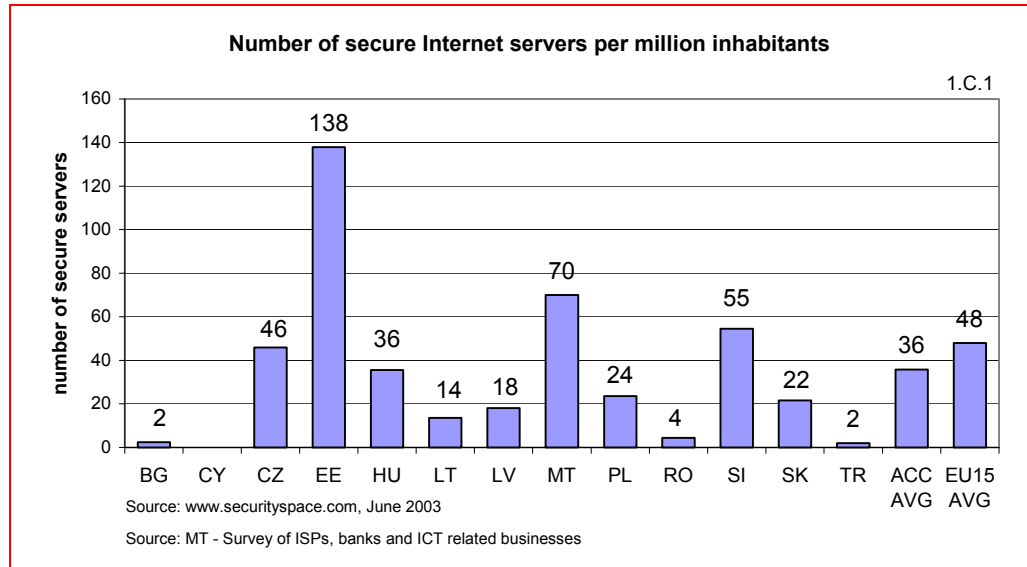
## Security

As more and more daily activities involve some form of usage of electronic communication networks, the level of security of these networks against various types of intrusion or disruption has become a major concern. At stake are not only significant economic and financial interests but also public confidence in using communications networks for important transactions or for the exchange of sensitive information. If an acceptable level of security cannot be guaranteed, the Information Society will be unlikely to develop its full potential.



It is essential that users feel they can trust the Internet if an increase in e-commerce activity and higher take-up of services in e-government, e-health and e-learning is expected.

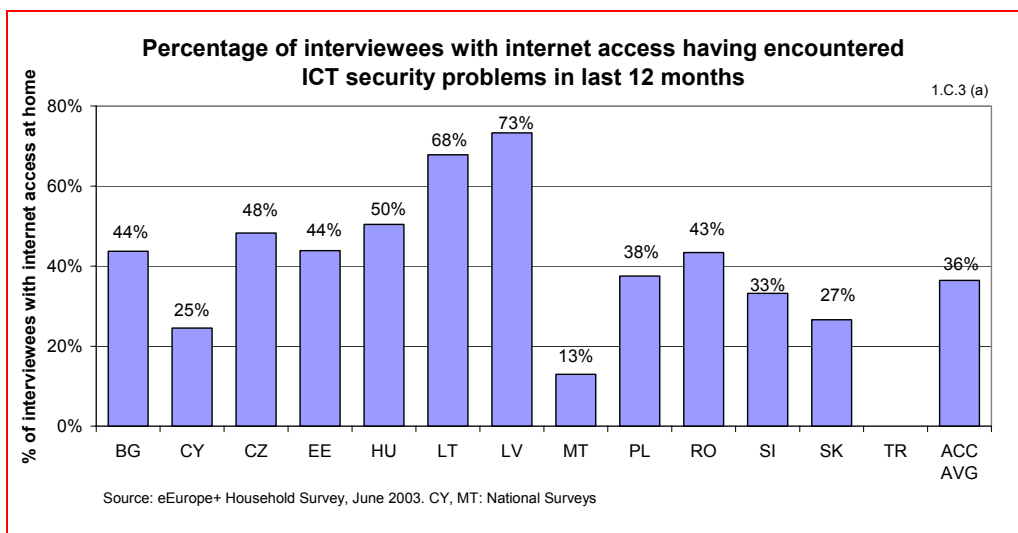
The provision of secure Internet servers seems to parallel the growth of e-commerce: as more enterprises require secure online transaction mechanisms, the greater the number of secure servers one could expect to be available. This correlation appears in the graph below. It should be noted however, that the data only reflects those servers that have specific country codes and so the .com or .org servers, for example, are not included<sup>8</sup>.



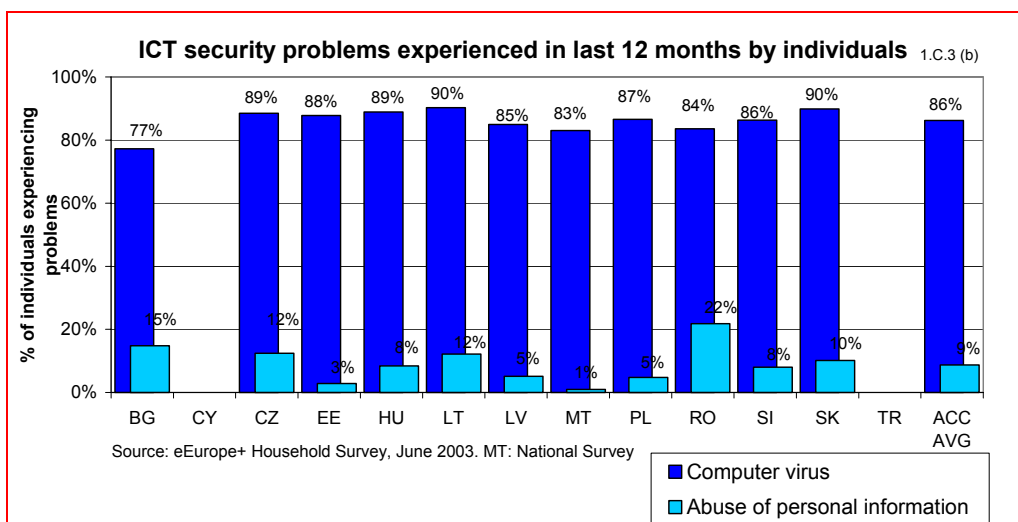
The eEurope+ survey identified an ICT security problem as being: a) a computer virus that results in a loss of information or time; b) a fraudulent payment using a credit or debit card; or c) an abuse of personal information sent on the Internet.

The results of the survey show how much of an issue security is, as almost half of those interviewed who had Internet access had encountered a security problem during the preceding twelve months. In addition, the vast majority of security problems experienced relate to computer viruses. Interestingly, credit card abuse was not cited as posing a significant problem, although this could be related to a relatively low use of credit cards in many Acceding and Candidate Countries.

<sup>8</sup> According to a survey by the Romanian Ministry of Communications and Information Technology, if the secure servers in the .com and .org domains were included then there would be 28 secure servers per million inhabitants in Romania.



At the time the eEurope+ benchmarking surveys were defined the issue of ‘spam’ was less prominent than it is today and no specific indicators were defined to quantify the extent of the problem. Spam is now a significant and growing problem for users, networks and the Internet as a whole.

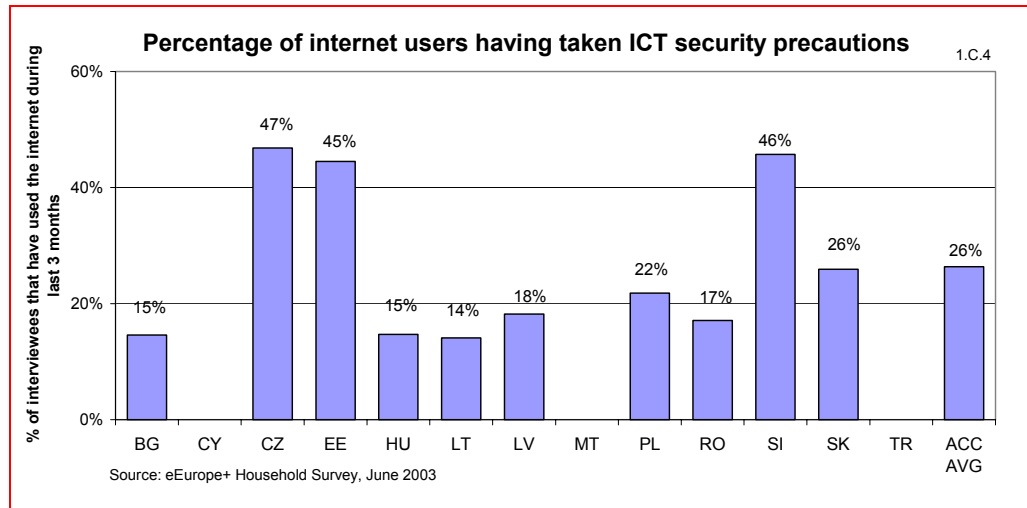


It is surprising that, notwithstanding the high number of users who have experienced virus problems, the percentage of individuals having used the Internet over the three months prior to the survey who have taken ICT security precautions is so low, on average 26%.

**SPAM**

The Ministry for Information Technology and Investments in Malta is leading a national effort to aggressively tackle the spam problem. The Ministry is implementing a multi-faceted programme of action to minimise the negative impact of spam. This includes legislative measures, enforcement initiatives, ring-fencing of all Government systems and an intensive educational campaign aimed at educating Internet users on spam.

The OECD's Committee on Consumer Policy has indicated that there are important differences in the laws and business practices within the OECD countries that impact on the need for consumers to be cautious when providing personal data and credit card information online.



In the near future, security requirements will rapidly change as networking and computing develop further and electronic communications become more ubiquitous. Broadband connections offer people the possibility to be connected to the Internet at all times which will multiply the potential risks of cyber-attacks, and new wireless applications enable users to access the Internet from anywhere.

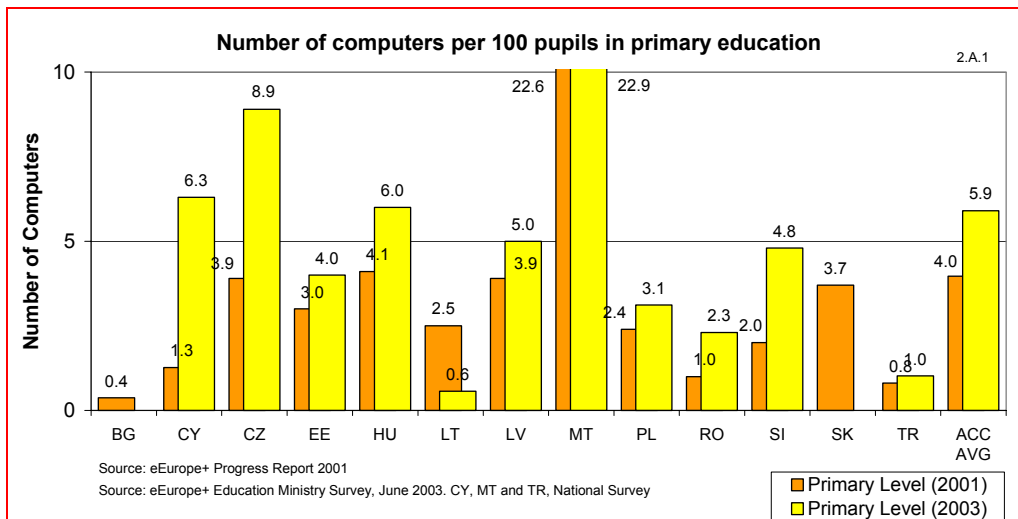
Although a range of activities are being undertaken at the European and Member State level to focus on improving the robustness of networks and information systems, against both accidents and criminal attacks, security consists to a large extent on human behaviour and knowledge of threats and remedies.

# CAPABILITIES AND SKILLS

## Education

Education is the key to an inclusive Information Society, as it assists in the dispersal of, and confidence in, ICTs while increasing the human capital of a state, which facilitates further development. As the level of education increases so will the rate of ICT use regardless of citizens' level of income or social standing. The incorporation of ICTs into education systems coinciding with developments in the provision of telecommunications services provides the most definite solution to the digital divide.

Even before the eEurope+ initiative was conceived some countries had recognised the importance of endowing younger generations with digital skills and had initiated programmes to introduce computers into schools, such as Estonia, with the Tiger Leap Foundation.



Approximately half of the countries concerned have achieved, and several other countries are approaching, the eEurope+ target of 5-15 computers per 100 pupils.

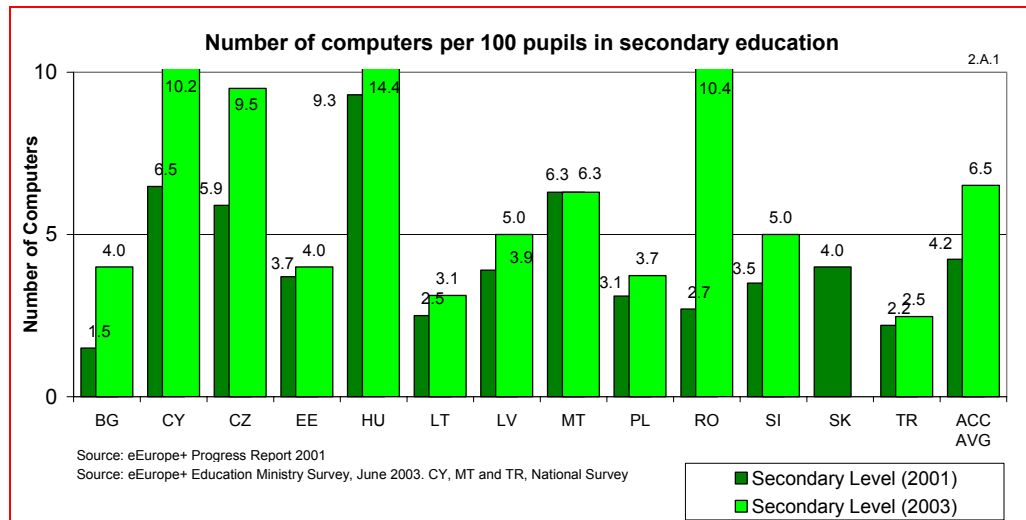
ICT training in primary schools is not part of the compulsory curriculum in Bulgaria, Czech Republic, Hungary, Latvia, and Lithuania.

### **Student Information and Resource Centre**

*In Hungary, a new, high-tech service centre has been opened for Hungarian higher education. The Centre offers the possibility of acquiring the skills and competencies in ICT so that it becomes an integral part of the daily life of students, professors and researchers.*

### **Schoolnet**

*The national SchoolNet program in Malta connects all primary, secondary and tertiary schools to one educational network through which each student and teacher has access to the Internet via broadband. Students and teachers also have their own e-mail and web space for their own personal website;*



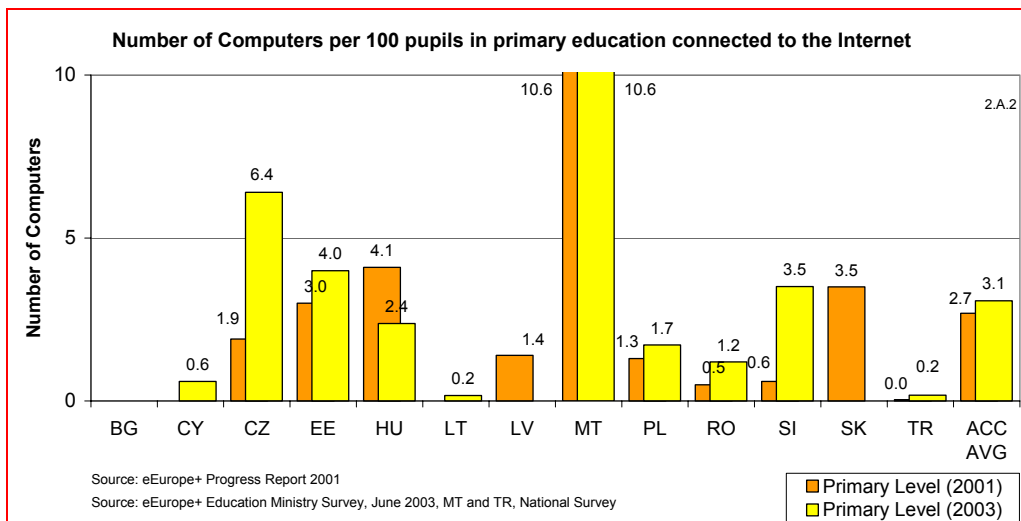
There has been significant progress in the provision of computers for students in secondary level education. Bulgaria and Romania have more than doubled the number of computers available and Cyprus, Czech Republic and Hungary have increased by fifty percent. In this area approximately half of the countries have achieved, and several others are approaching, the eEurope+ targets.

At the secondary education level, ICT is on the whole a compulsory subject. In most cases, national curricula combine the two approaches to ICT (as a separate subject and its use as a tool for other subjects). This trend is slightly more pronounced at upper secondary than at lower secondary level.

Information concerning the provision of computers to tertiary level students does not permit an overall picture of the situation in the Acceding and Candidate Countries to be obtained. This is because responsibility for tertiary level educational institutes is not the direct responsibility of the Ministries of Education in many countries. It is noted that Cyprus, Czech Republic, Hungary and Malta have achieved the eEurope+ targets for the provision of computers to tertiary level students. Since December 2001, Hungary has almost tripled the number of computers available (7.2 to 20.5 PCs per 100 students) and Malta has almost quadrupled the number (6.0 to 22.8 PCs per 100 students).

**Educational IT-Based System (SEI)**

*In November 2001, SEI was started in Romanian schools. To date, results achieved include: the installation and use of computerised platforms in 1,220 high schools, with approximately 30,000 teachers and 800,000 students using computers and 232 multi-media educational packages were delivered. The ADLIC project was also initiated to support national admission and distribution of elementary school graduates in high schools and vocational schools. This project was awarded the "Very Best Practice" label at the e-Government Ministerial Conference held in Brussels in 2001.*



Progress in connecting PCs to the Internet in primary level schools has continued in all countries with the greatest increases occurring in the Czech Republic and Slovenia.

Similar progress has been made in connecting PCs in secondary level education to the Internet. Cyprus, Czech Republic, Hungary, Malta and Romania have achieved the eEurope+ targets in this area. The Czech Republic and Slovenia have doubled the number of PCs in schools connected to the Internet and in Romania a ten-fold increase has been achieved.

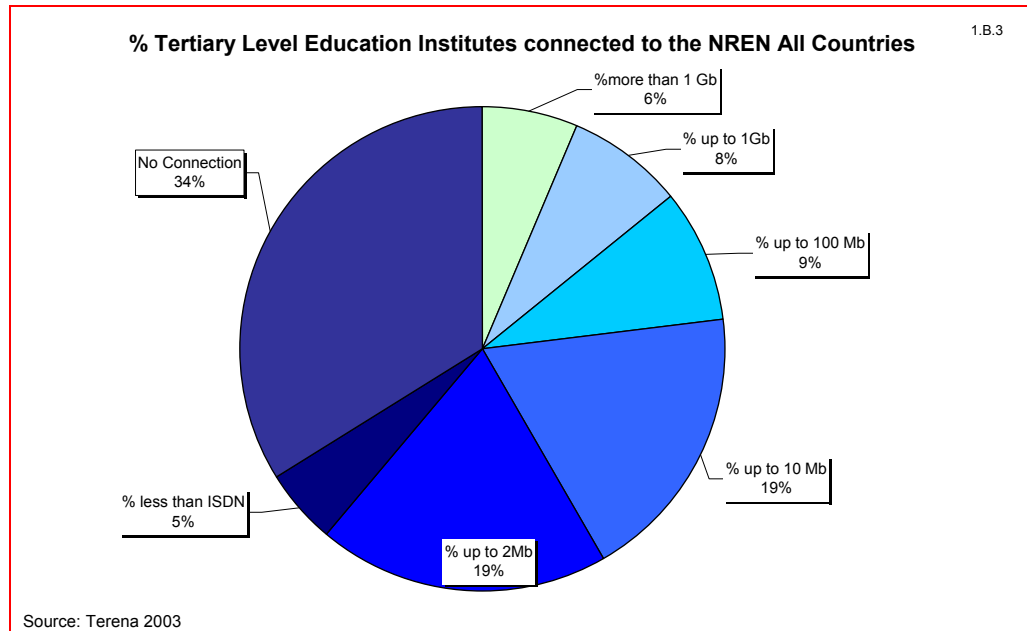
In tertiary level educational institutes, significant progress has been made in the Czech Republic, Hungary and Malta in connecting PCs to the Internet. The number of PCs connected to the Internet are now 15, 19 and 22 per 100 students respectively. It should be noted that all of the Maltese educational institutes' Internet connections use high speed broadband connections.

While the provision of Internet connections is vital, the type of connection is very important. Those countries that have much faster connections will have an advantage over those that do not.

## Research Networks

National Research and Education Networks (NRENs) are responsible for providing data communications networking facilities to the research and education community on a national basis.

The ability of Europe's universities and research institutions to exchange information, and to collaborate together in world-leading research, relies on their ability to communicate effectively using the most powerful computer and communications technologies available. At a national level, this infrastructure is provided by National Research and Education Networks. In all Acceding and Candidate countries, the percentage of tertiary level educational establishments connected to the National Research and Education Networks is encouraging.



The GÉANT network is a pan-European research network which is a backbone network operating at gigabit speeds and is a collaboration between 26 European NRENs<sup>9</sup>, the European Commission, and DANTE.

### ClusterGrid

*In the framework of the Hungarian "National Information Infrastructure Development Programme" (NIIF) for the research and education (R&E) communities and the community of public collections (over 700 institutions and more than half a million users), R&E networking is a driver for broadband. International access speeds to 10 Gbit/sec were implemented in 2003. Within the wide range of development results, the ClusterGrid subproject has built a high performance grid infrastructure which has become fully operational in 2003, it provides several hundred nodes and teraflop computing power.*

<sup>9</sup> The Acceding and Candidate Countries that have connected their NREN to the GÉANT network: are: ARNES Slovenia, CESNET Czech Republic, CYNET Cyprus, EENet Estonia, HUNGARNET Hungary, ISTF Bulgaria, LATNET Latvia, LITNET Lithuania, PSNC/POL Poland, RoEduNet Romania, SANET Slovak Republic, ULAKBIM Turkey, and the University of Malta.

## The Educational Gender Divide

There has been much concern that access to the Internet should not create a gender divide. The eEurope+ 2003 benchmark survey did not reveal that there is any marked gender divide amongst the Internet users surveyed. Of those saying they used the Internet, 47% were women and 53% were men. This does not seem to indicate that there is a real gender divide as far as using the Internet is concerned.

The survey did, however, reveal a very marked gender divide in the area of ICT related education. The percentage of males and females in ICT-related tertiary level education is 87% and 13% respectively.

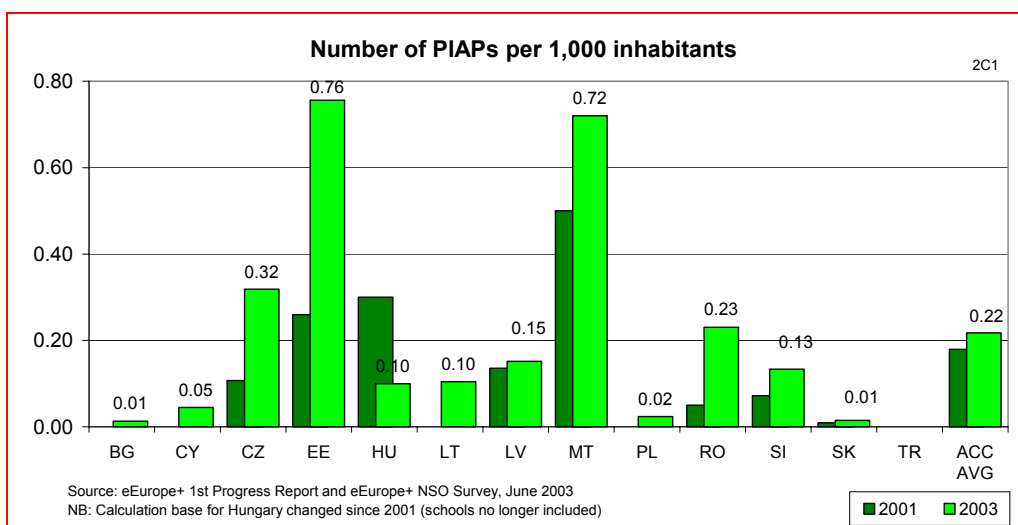
With such a significant inequality, consideration could be given to undertaking a targeted action to promote, and encourage women to consider, careers in ICT and related areas.

## Public Internet Access Points

In recognition of the digital divide, whether it is created by the lack of a computer or suitable telecommunications facilities, many Acceding and Candidate Countries have undertaken specific actions to put in place Public Internet Access Points. A PIAP is a publicly provided centre enabling access to the Internet regardless of it being a public and/or private provider and whether access is free or not. Fully private Internet cafés are excluded. A PIAP does not have to provide hardware (i.e. computers) needed to connect to the Internet and include WLAN access points. A PIAP is counted as only one PIAP irrespective of the number of computers available at that same location.

### **Etclass**

*A broad base network of 30 public telecentres has been deployed in Bulgaria and another 30 will be established to provide services to the widest possible range of users in small or economically underdeveloped communities. A goal is to encourage citizens to use more up-to-date information services, among them online contact with administrative authorities and administrative services.*





The progress made in increasing the availability of PIAPs has been achieved by providing access points in public libraries and by opening up Internet facilities in schools for access by the public after school hours<sup>10</sup>. The latter has also been accompanied, in some cases, by teachers providing basic ICT training skills.

It is also becoming increasingly important to differentiate between public Internet access in open spaces and those in public buildings which are not accessible on a 24x7 basis. In Malta, for example, the Ministry for Information

Technology installed web-phones in open public spaces in the core of each village and town, making public Internet access a 24x7 reality and web-phones have been equipped with filtering software to prevent children from accessing illegal or harmful content.

**"Ikonka" Project**

*The aim of this Polish Project is to open PIAPs in local libraries and community centres across Poland, especially in small towns and villages and provide free Internet access and computer training.*

*For many areas, it provides the only public access. The "Icon" has already been started in 8 provinces and the take-up has been successful - almost 1,000 libraries have already applied. It is planned to extend the program to the whole of Poland by the end of 2004 (about 2,500 libraries in total).*

**Public Internet Access Point**

*The Estonian Public Information Act states that everybody must have free access to public information. By adopting this act the Government assumed a specific obligation to establish Public Internet Access Points (PIAPs) in all public libraries, where people can access information via the Internet free of charge. This is supported by the Look@World Foundation's mission to increase the quality of life in Estonia and improve the country's competitiveness by supporting Internet usage. Thus, around 550 PIAPs have been established in public libraries to provide citizens with free access. The Look@World Foundation has also organised free basic computer and Internet training for at least 100,000 people.*

**Web Access Initiative**

Accessibility to ICT and online information and services, taking particularly into account the needs of people with disabilities, is a precondition for ensuring an Information Society open to all. Governments, in the Acceding and Candidate Countries have recognised that there is a need to ensure equal opportunities of access to all.

With this in mind, specific actions were identified in the eEurope+ Action Plan to support the active role and participation of disadvantaged groups. It was therefore foreseen that the percentage of central national government websites that conformed to the WAI guidelines at the higher level AA and AAA ratings would provide an indication of progress in this area. Unfortunately, during the course of the eEurope+ Benchmarking when approximately 5 government websites per country were verified, conformance to the lower level "A" rating was not available.

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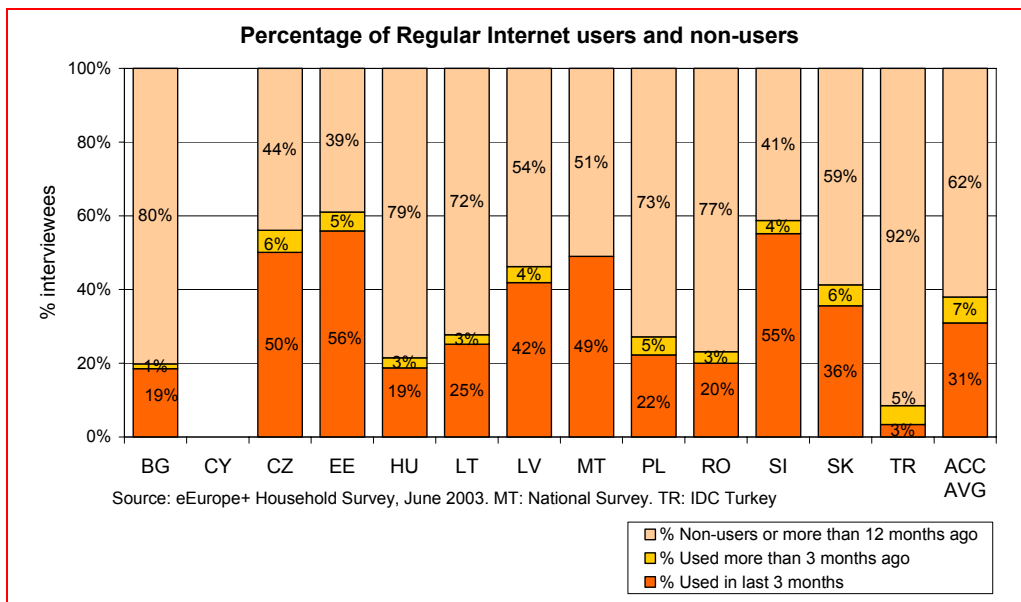
<sup>10</sup> In the case of Hungary, the access to Internet by the public after school hours has not been measured (as it was in 2001) and is not included in this data. If schools were included there would be 0.5 PIAPs per 1,000 inhabitants.

## STIMULATING USAGE

Although the present number of users and the frequency with which the population in the Acceding and Candidate Countries use the Internet is, in general, not as developed as in the EU, this situation is rapidly improving.

### Usage and frequency

The eEurope+ survey findings indicate that significant increases in the numbers of regular users of the Internet can be found in the Czech Republic, Estonia and Slovenia, possibly due to economic conditions and the lower relative costs of a PC and Internet access. When studying these figures, it is important to consider also in which countries the costs of “getting connected” represents a significant proportion of disposable income.



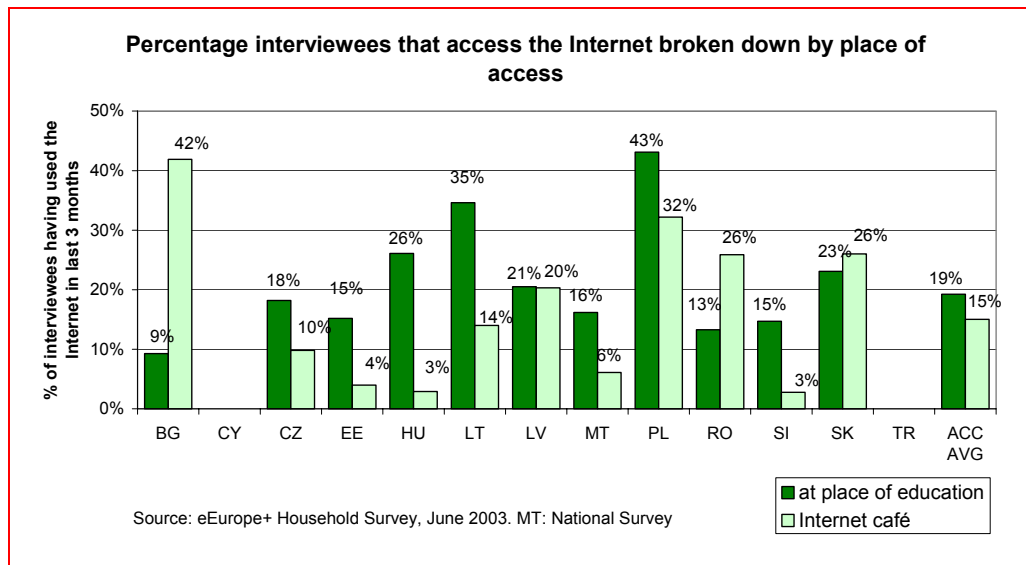
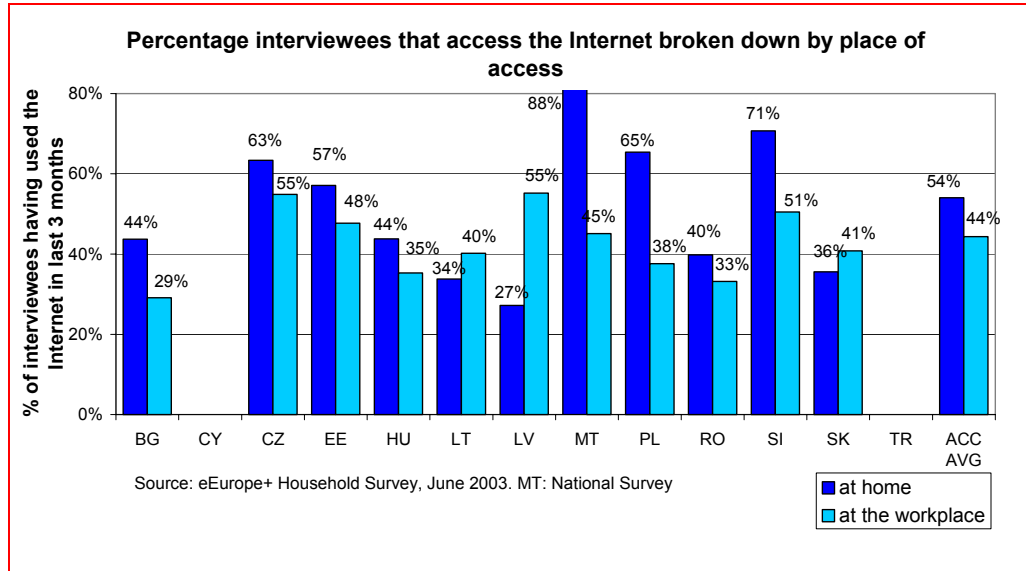
This graph shows the percentage of regular users, irregular users and non-users for the population in the age range from 16 to 74.

#### myWeb

*In Malta, a widespread digital literacy and ICT awareness programme – myWeb - was launched in 2003 mainly targeted at the 45+ age groups with no ICT-background. It provided 20 hours of training in basic computing operations, the use of the Internet and e-mail. Each graduate was given – free of charge – an Internet connection, 20 hours of Internet and a personal e-mail facility. It is estimated that by the end of 2004, 10% of the adult population will be trained under this initiative. The myWeb programme is also available via a basic e-learning site: [myweb.gov.mt](http://myweb.gov.mt)*

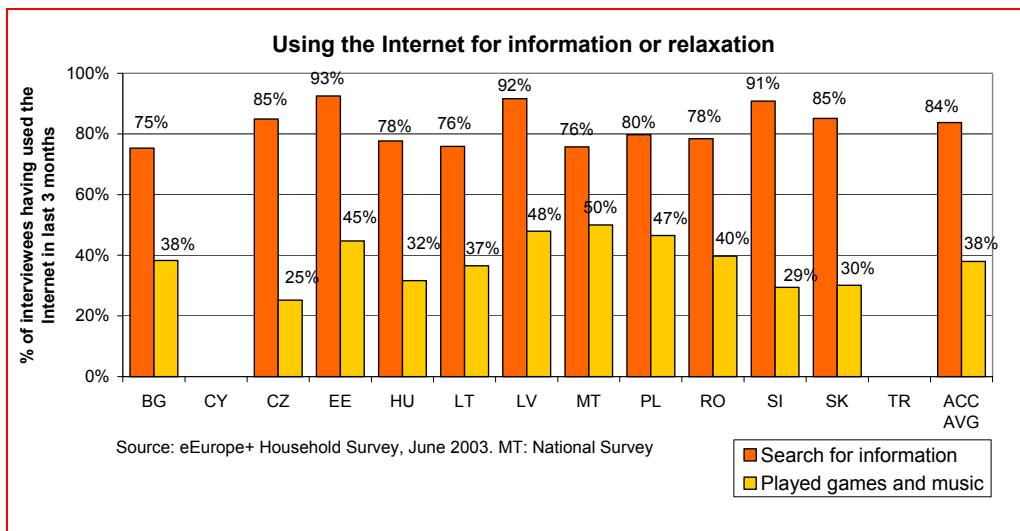
## Location of Access

The preferred locations for accessing the Internet in the Acceding and Candidate Countries are the home, the workplace and educational institutions. In Bulgaria, Poland, Romania and the Slovak Republic, Internet cafés are used quite frequently as well. This is probably due to the lower levels of PC penetration in these countries. In this context, the strategy of opening schools to the public after school hours undertaken by some governments provides considerable value to local communities and goes a long way in tackling the digital divide.

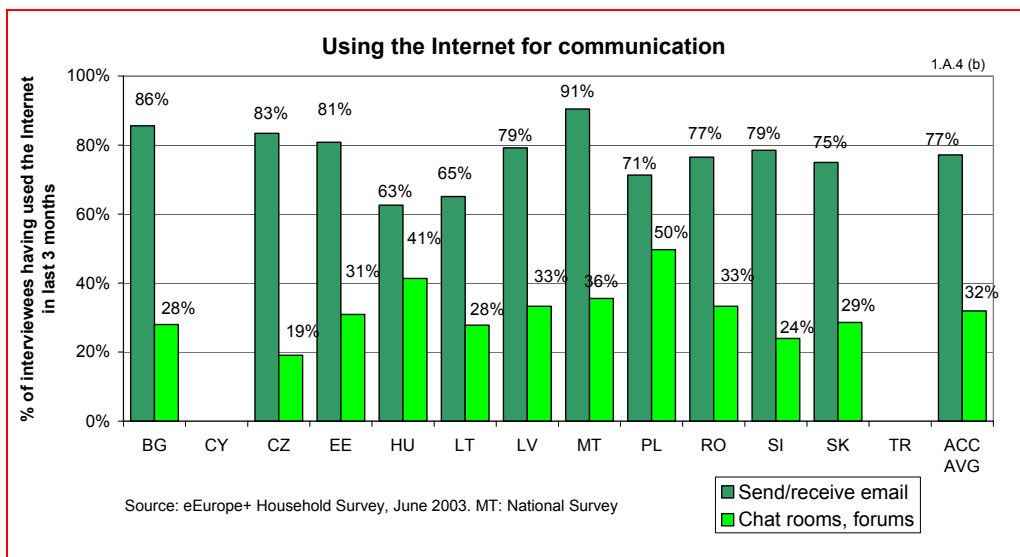


## Purpose for Use

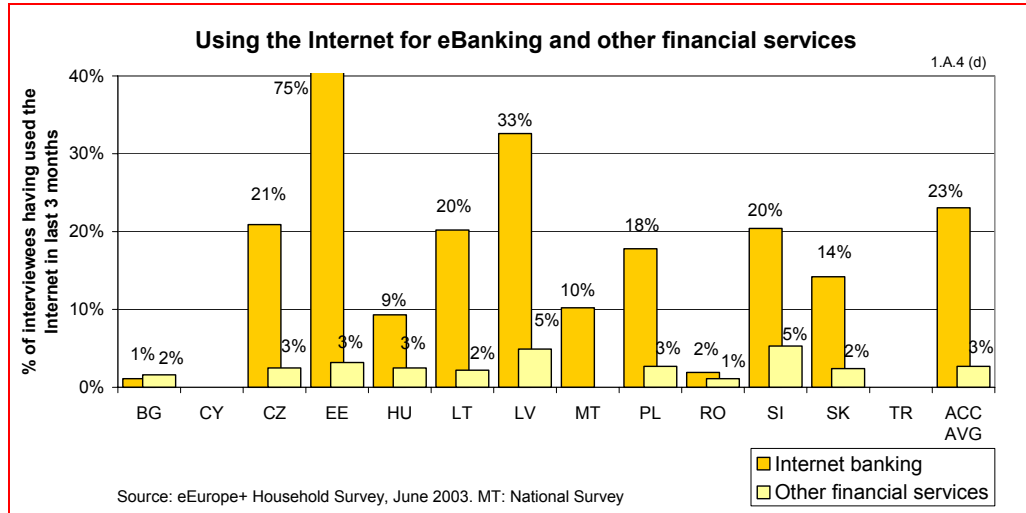
Usage of the Internet has been classified within the eEurope+ surveys into a few categories including: disseminating and obtaining information; communicating with others (e-mail and chat room services); entertainment (games, music and films); selling and purchasing goods and services; undertaking electronic banking and accessing other services.



In general, the most widespread usage of the Internet in the Accessing and Candidate Countries is to search for information with over 80% of regular users making this claim. Obtaining games and music is an activity pursued by almost 40% of users.



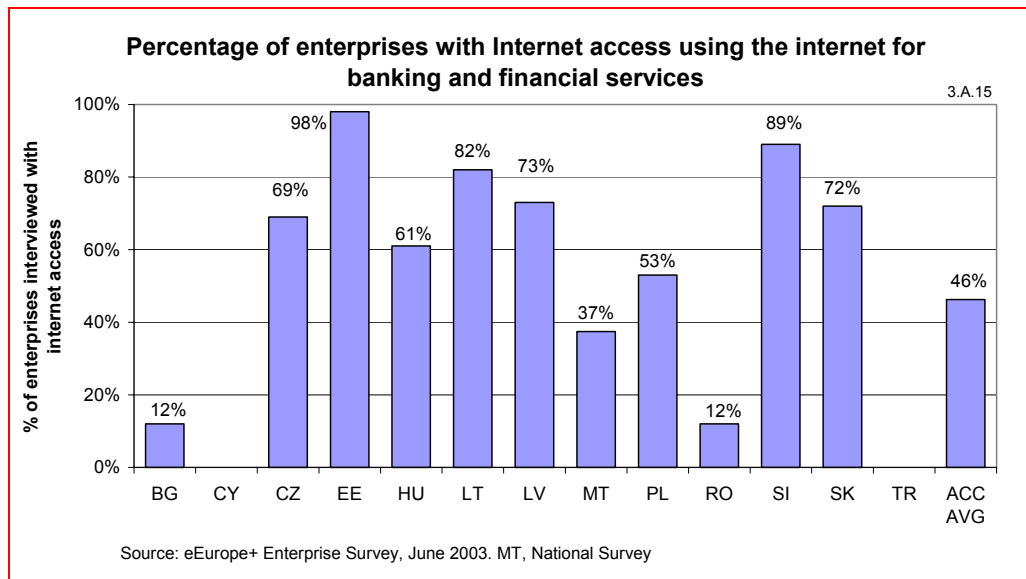
The usage of the Internet for communication purposes is also one of the main activities performed with just over 75% of users claiming that they send and receive e-mail. On average 32% of users claim that they use the Internet to participate in chat rooms and discussion forums.



Internet banking appears to be developing in a number of Acceding and Candidate Countries, namely in Estonia and Latvia. The usage of Internet banking in Latvia has increased significantly recently as a result of a leading Estonian bank, which offers electronic banking services, expanding its operations into the neighbouring country. Internet banking is used by about 20% of the population in the other countries with the exception of Bulgaria and Romania, where the sector has not yet developed.

**Internet banking**

*In Estonia, 95% of bank transactions are conducted via electronic channels and 5% on the spot at bank offices. The four major banks have over 740,000 Internet banking clients, the whole population being 1.37 million.*



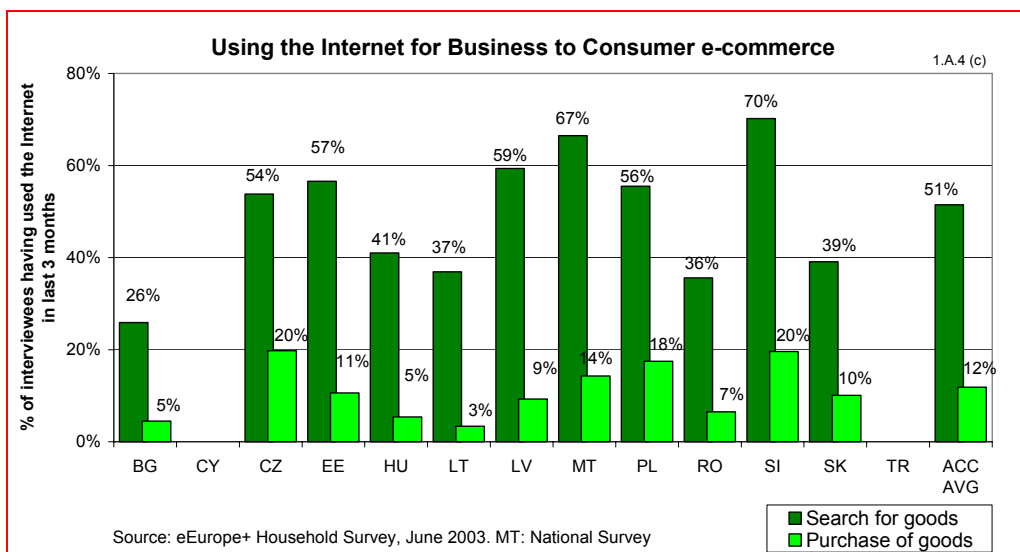
Usage of Internet banking services by enterprises is very similar to the usage distribution witnessed in this sector for individuals with services being most used in Slovenia and the Baltic countries.

## e-Business

The take-up of e-business has gained momentum in the Accessing and Candidate Countries, not only in the business to consumer sector but also within the business to business sector.

### Users

In the business to consumer sector most countries are displaying signs of strong consumer interest in using the Internet to find goods and services.



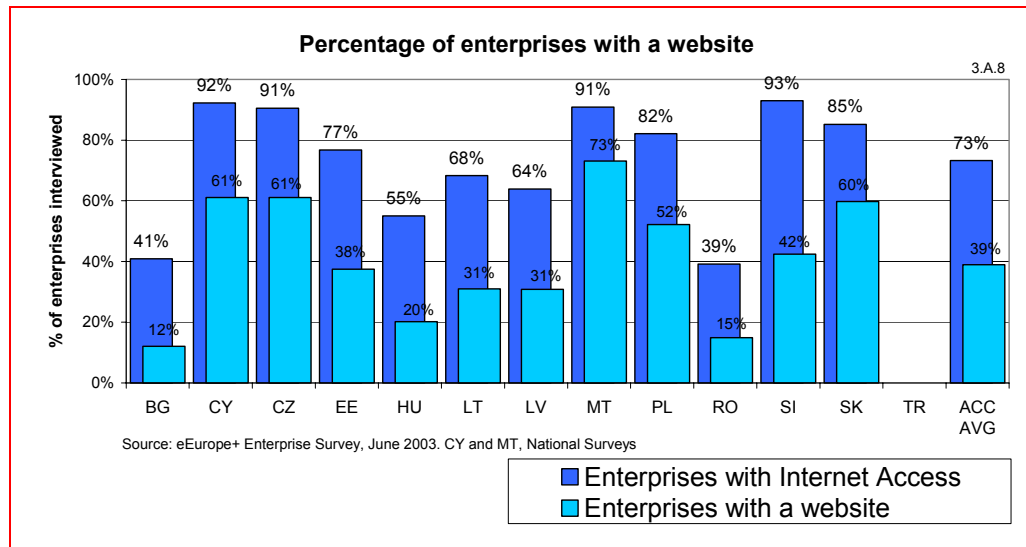
It appears that, although many users access the Internet to search for goods and services only a fifth of these actually proceed with an "online purchase".

### Enterprises

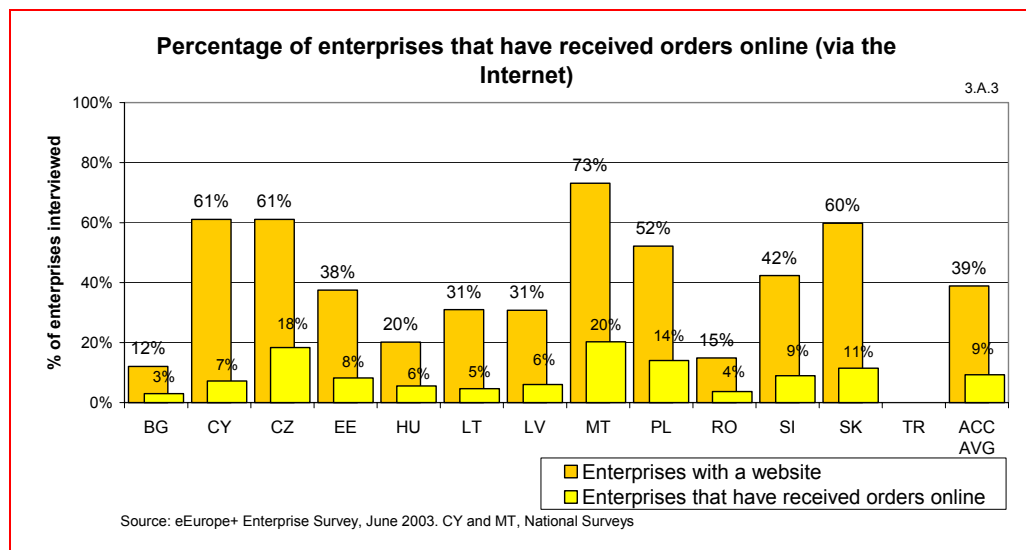
The eEurope+ Benchmarking surveyed companies in the following sectors: manufacturing, construction, wholesale and retail trade, hotels and restaurants, transport, storage, communication, and other activities such as consultancy, R&D, testing, and advertising. All sizes of companies were surveyed (from micro-enterprises to large establishments).

The survey results indicated that the percentage of enterprises connected to the Internet follows a similar pattern as shown for individuals. Use is most developed in Cyprus, the Czech Republic, Malta and Slovenia where more than 90% of enterprises have an Internet connection.

Even though more than 70% of the companies surveyed actually have connections to and use the Internet, only 39% actually have a presence on the web. This situation affects the number of enterprises that can sell their goods and services directly over the Internet.



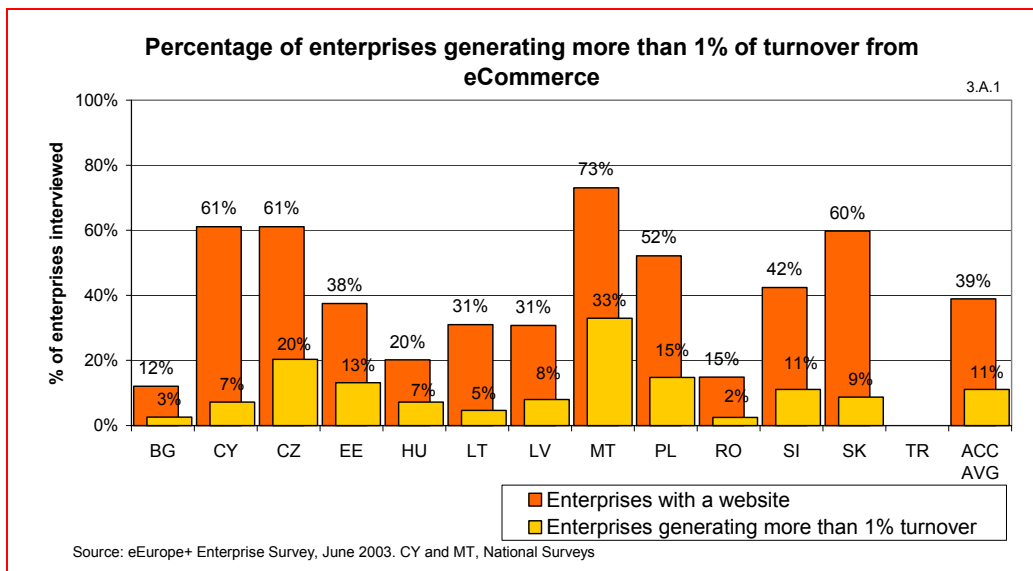
The proportion of enterprises that have access to the Internet to those that have a website drops to a third or less in Bulgaria, Hungary and Romania<sup>11</sup>.



A close correlation exists in the proportion between the number of enterprises that have websites and those that actually receive orders online. In general, it would seem that only one in four companies with a website actually makes online sales.

<sup>11</sup> A national survey undertaken in 2003 in Romania indicates that approximately 74% of all SME's have access to the Internet

The following graph shows the percentage of enterprises with 10 or more employees that have generated more than 1% of their turnover from web based sales. These sales include online orders and orders that have been received by other means of communication, for example, via the post or by telephone, as a result of the goods or services being advertised on the web.

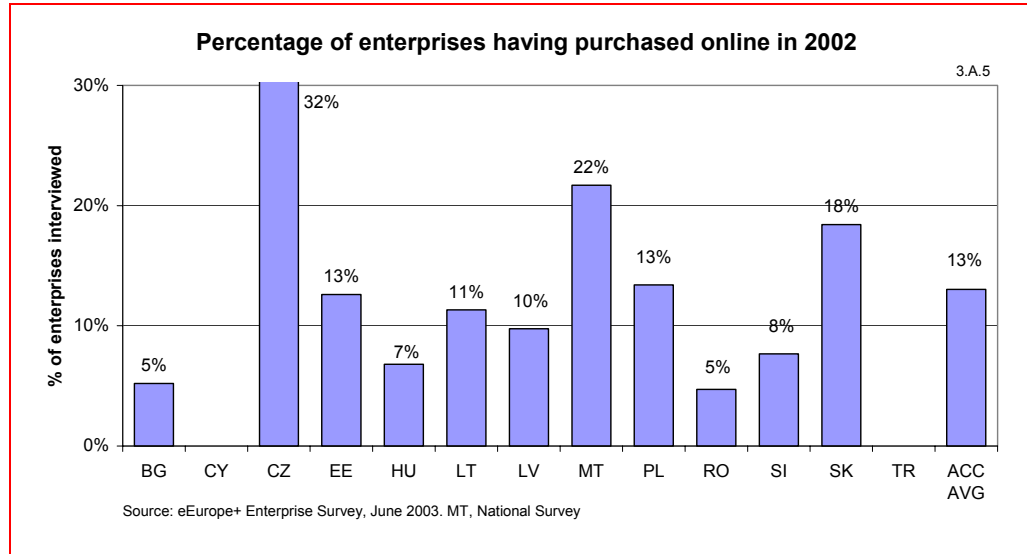


The percentage of enterprises that have generated more than 1% of their sales from e-commerce seems low especially when compared to the number of enterprises that have a website. It would seem that only one company in seven that has access to the Internet is actually generating more than one percent of their turnover by using e-commerce. This would seem to be an area where particular action, for example public-private partnerships, may help to promote the usage of e-commerce. Such promotional activity should address both the client and supplier sides of an e-commerce transaction.

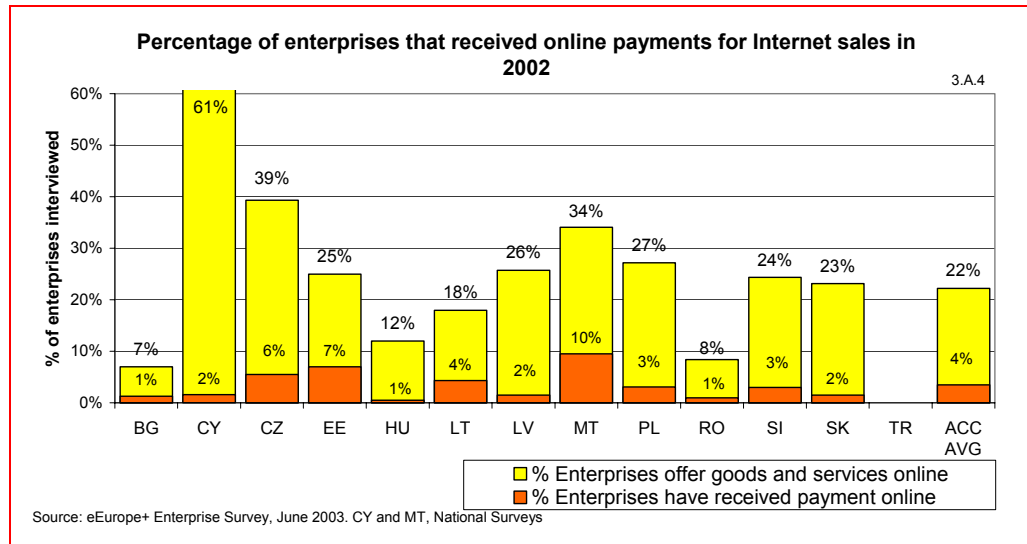
**ESlog**

*The Slovenian Chamber of Commerce along with a group of major Slovene companies is undertaking a project called ESlog in order to introduce e-business to Slovene companies. Since e-business interoperability is a key issue, the project delivered XML documents for payment order, payment cancellation, credit advice, debit advice, banking status and financial statement to enable companies to use e-commerce not only with other companies, but with the public administration and financial institutions as well. Tax Office and Bank of Slovenia also cooperate in this project, the results of which are freely accessible and are already in use by a number of large companies.*





The number of enterprises that have purchased online is about 50% more on average than those companies that have sold online but even so is still only half of the equivalent figure in the EU.



The percentage of enterprises that have received online payments for goods or services is represented as a percentage of those that have sold goods or services online. The result is that only a small percentage of enterprises have received online payment. There may be several reasons for this. Firstly, the companies involved may be selling goods or services that cannot be paid online or, secondly, the transaction requires the use of a credit card, and such cards are not as widely used in the Acceding and Candidate Countries as they are in the EU-15.

## Government online

Development of the Information Society is dependent upon the two tightly inter-related issues of the availability of a rich and highly developed set of services that will motivate adoption by the public and a sufficiently large user population that will motivate the business sector to invest in the provision of Internet based services.

Governments of the Acceding and Candidate Countries took the lead putting in place a set of e-government services for the public as well as enterprises. In 2001, just over 80% of the online government services for citizens identified in the eEurope+ Action Plan were either unavailable or still in the planning stage. By June 2003 this proportion had been reduced to 34% while the number of pilot projects remained at more or less the same level. The number of services where information is posted online increased significantly from 2% to 24% and those providing one-way interaction have almost doubled. There has also been a significant increase in the implementation of services providing two-way interactions or full online transactions. Whereas in 2001 only 1% of the services available were in this category, the percentage is now almost 20%.

The development of e-government in Malta has been proceeding at a very rapid pace. In fact today the Government already offers 13 of the 20 basic public services in a fully transaction-based fashion.

### Online Services for Citizens

The implementation of e-government services is progressing at varying rates according to national priorities and development capacities. For example, some of the Acceding and Candidate Countries have well-developed online fiscal systems for the submission of income tax returns whilst others have focused their attention on customer-oriented services such as unemployment benefits.

Effort is still required in ensuring a full complement of two-way transaction capabilities. It appears that most of the e-government services that are currently available are limited to simple one-way interaction where information is posted online and forms can be downloaded. In some cases, the forms can be downloaded however these then need to be completed by hand and returned via the postal service. Examples of full two-way interactions can be found in Estonia for the income tax declaration and passport request as well as in the Czech Republic for family allowance.

#### **Passport e-government Service**

*The Ministry for Information Technology in Malta has recently rolled out a fully transaction-based Passport e-government service . Applicants for a passport simply log on to this site, apply for a new/renewal of their passport and pay online using a debit/credit card. The back-end system retrieves the ID card portrait and details of the applicant and integrates them into the production process of the new passport. When the passport is produced an automated system triggers an SMS-notification to the client to collect the passport from the passport office.*

All Acceding and Candidate Countries have established public administration portals that serve as a one-stop-shop for citizens' and businesses' communication with the public administration.

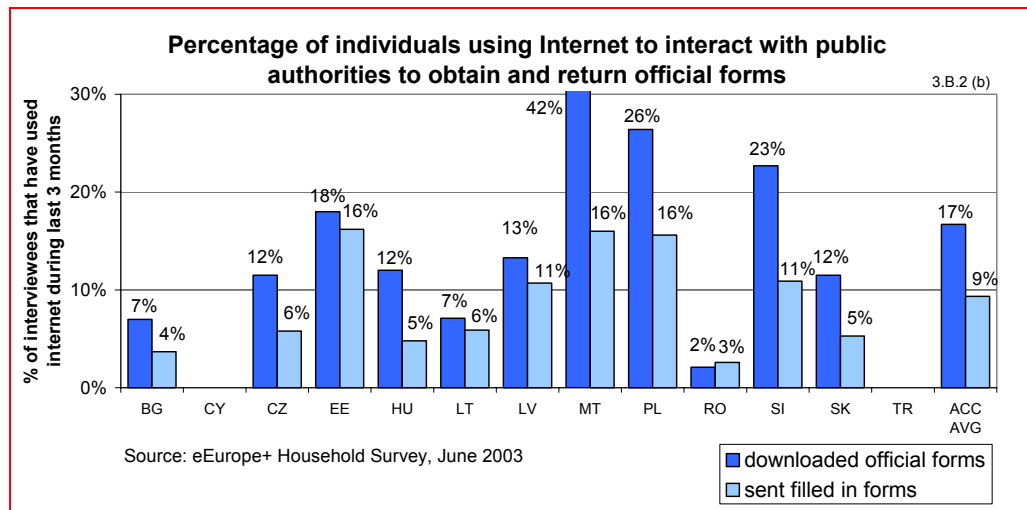
The Portals contain necessary information about all of the state administration's offices and ensures remote access to verified up-to-date information and public administration services, including specific electronic transactions.

**Romanian National Electronic System (SEN)**

The Romanian National Electronic System (SEN) is a governmental one-stop-shop that provides citizens 160 administrative forms available for download and 5 online services for companies: deduction regarding VAT, declaration regarding the payment obligations to the state budget, quarterly and annual balance sheet for the most important contributors, declaration regarding nominal record of insured employees and payment obligations towards national insurance budget and the electronic collection system of statistical information. 465 public institutions are involved and it received the award for digital content at the WSIS in Geneva. New electronic services are now ready to be launched in the system. By the end of 2004, it is expected that the system would be extended to offer approximately 15 online services.

information and public administration services, including specific electronic transactions. For example, in Bulgaria citizens can check their social security contributions, medical insurance contributions and complementary retirement contributions. Other two-way services require an electronic signature. This includes permanent address change. In Poland, the "Malopolska Gateway" enables individuals and businesses to settle everyday matters at a Digital Office on the Internet (24 hours, 7 days a week), without visiting the office in person. This concerns filling out

customs and tax statements, applying through the Internet for documents such as identity cards, driving licenses, passports and settling all essential matters indispensable for setting up a business



Estonia, Malta, Poland, and Slovenia appear to have the most developed systems offering the possibility of downloading and uploading official government forms over the Internet.

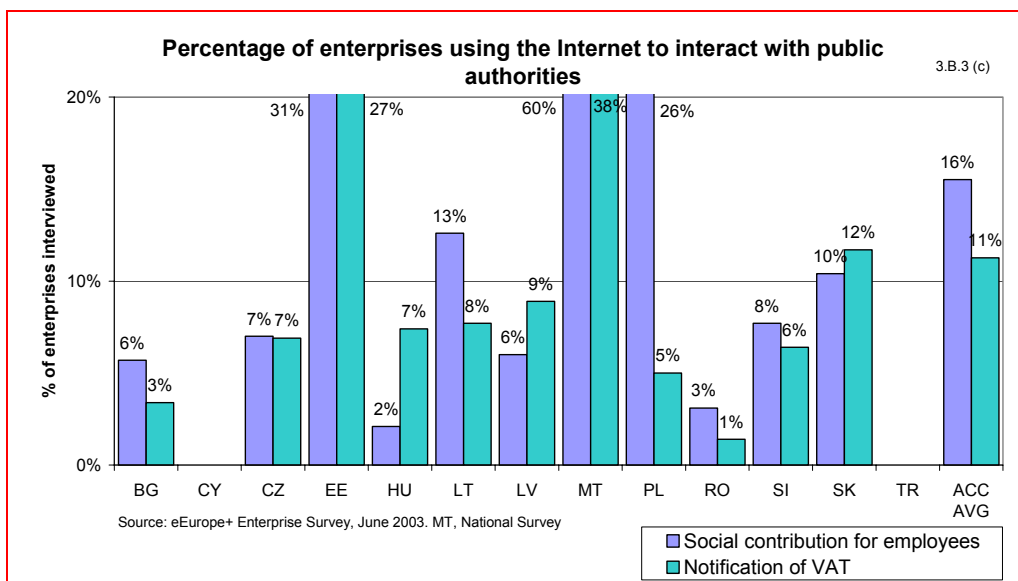
**ID-card**

Estonia has a national identification card that can be used for electronic identification and giving digital signatures, where a digital signature is equivalent to a handwritten one. A universal system, DigiDoc, has been developed to assign and verify digital signatures. Over 360,000 ID-cards have been issued as of 13 January 2004 and additional applications are underway.

## Online Services for Businesses

The eEurope+ Action Plan identified ten e-government services for businesses. Only those four services that have been identified as being used to any significant extent in most of the ACCs are shown here. e-Government services are supply driven and specific information on how they are actually used is difficult to obtain. For example, the VAT Declaration Service could be used just as an information source with a declaration being returned on paper or it could be used to make an online declaration. As the level of implementation in the countries is different any direct comparisons of one country to another using the data presented below should be avoided.

Progress has been made in providing online two-way government services for businesses, namely VAT declaration and notification, and corporation tax declaration and notification. In Malta, for example, most of the e-government services for businesses offer full online transactions. In Romania, most of the services operate with two way interaction.



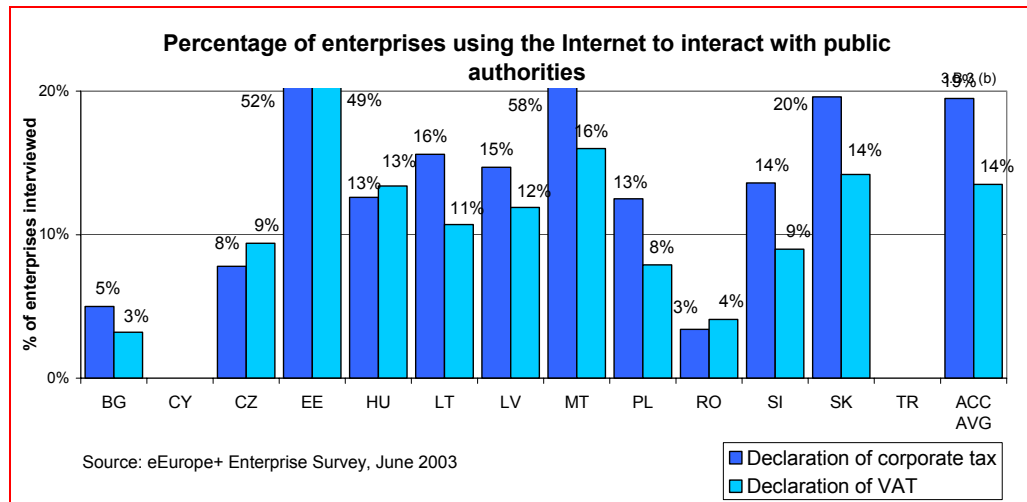
Companies continue to interact with governments over the Internet beyond the acquisition of administrative forms.

### **Electronic Market Place: e-trziste**

The Czech Republic has introduced e-trziste to ensure efficient spending of financial resources used for ICT by the public administration. Since September 2002, all public administration authorities have to purchase ICTs up to the value of 60,000 euro using e-trziste. In 2003 more than 12,500 transactions were processed using e-trziste for a total value of 36 million euro.

### **Electronic System for Public Acquisitions**

The system was launched by Romania in March 2002 with 159 public authorities using the system, for 7 categories of goods. Since then, over 1,050 government agencies and 8,000 suppliers have since asked to use the system. There are 80 categories of goods involved, comprising thousands of individual products. It is estimated that the system has savings of 70 million euro on 220,000 transactions.

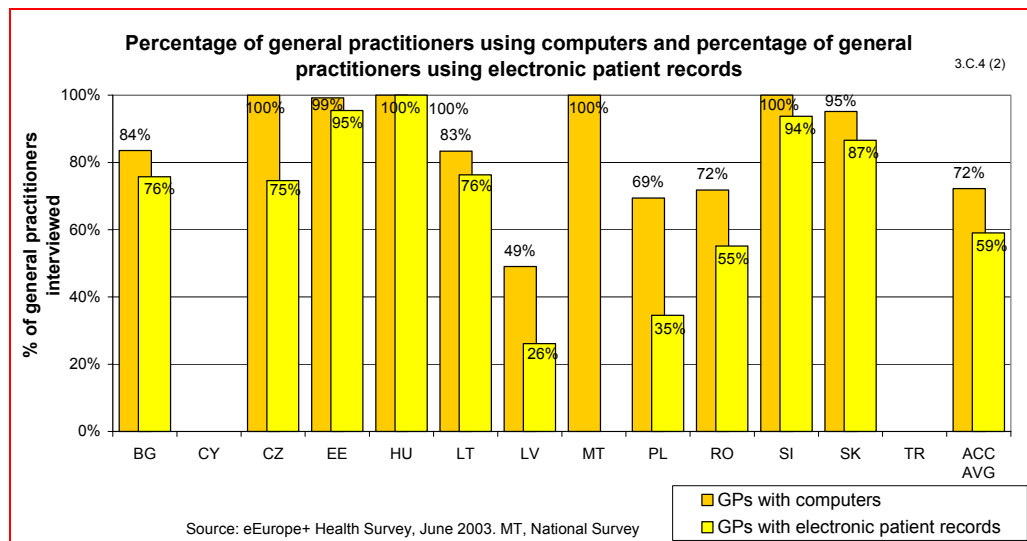


## Health online

One of the motivating elements for the introduction and use of electronic health services are the benefits that can be obtained by having information that can be shared amongst and across all health sector actors including the patient, general practitioners, hospitals, specialist consultants and the social security systems.

In the delivery of the care process, and in most health care systems currently found in the Acceding and Candidate Countries, the general practitioner is the gatekeeper or main entry point into the provision of care for citizens. Availability and use of computers by the general practitioner could therefore have a considerable impact on the efficiency of the health system.

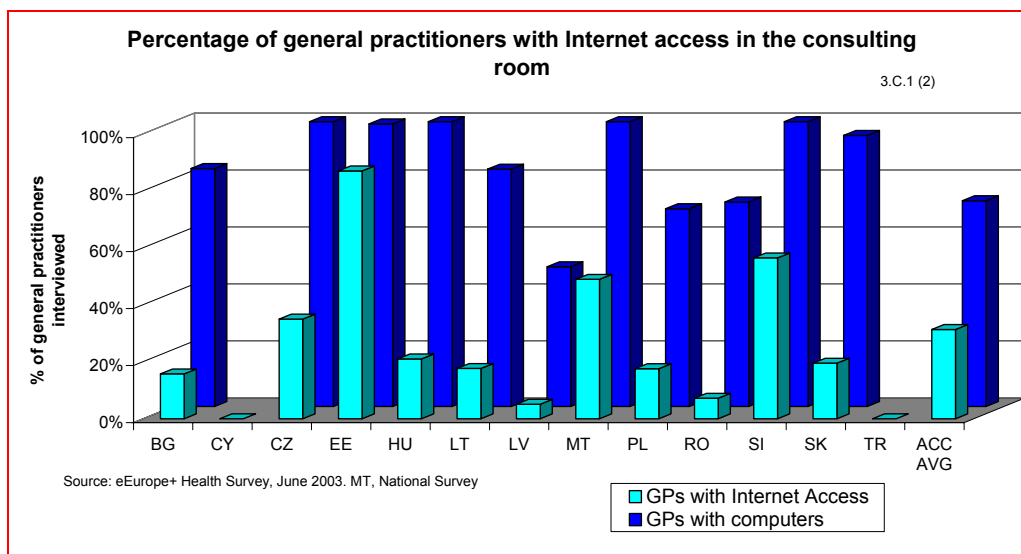
## Computer Usage



These results would indicate that in most Acceding and Candidate Countries steps have been taken towards the implementation of an e-health system. In Estonia, for example, patients must produce their electronic health card at the start of their appointment with the health professional. In fact, the Health Telematics Working Group of the High Level Committee on Health has suggested that many of the Acceding and Candidate Countries are progressing well in this area and are also making important steps in the use of ICT in health, and some have highly advanced systems from whose experience other countries could benefit.

### Internet Access in the Consulting Room

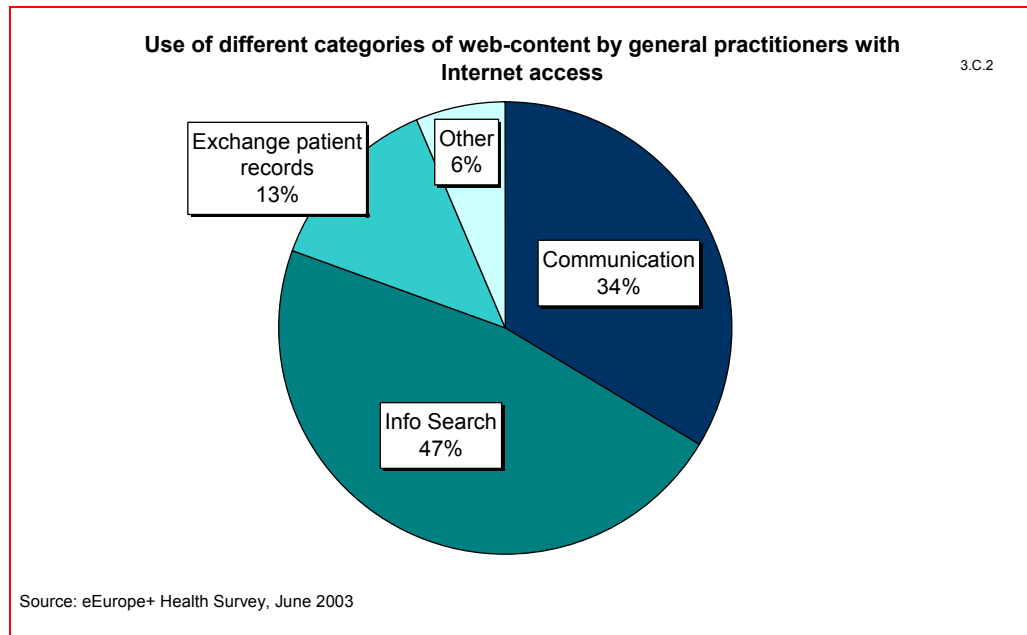
In spite of the use of computers to facilitate accounting or storage of patient related data by general practitioners, the use of Internet services by this same group is an area that has considerable development potential.



With the exception of four countries (Czech Republic, Estonia, Malta and Slovenia) approximately 70% of doctors in the Acceding and Candidate Countries do not have Internet access in the consulting room.

### Internet usage by General Practitioners

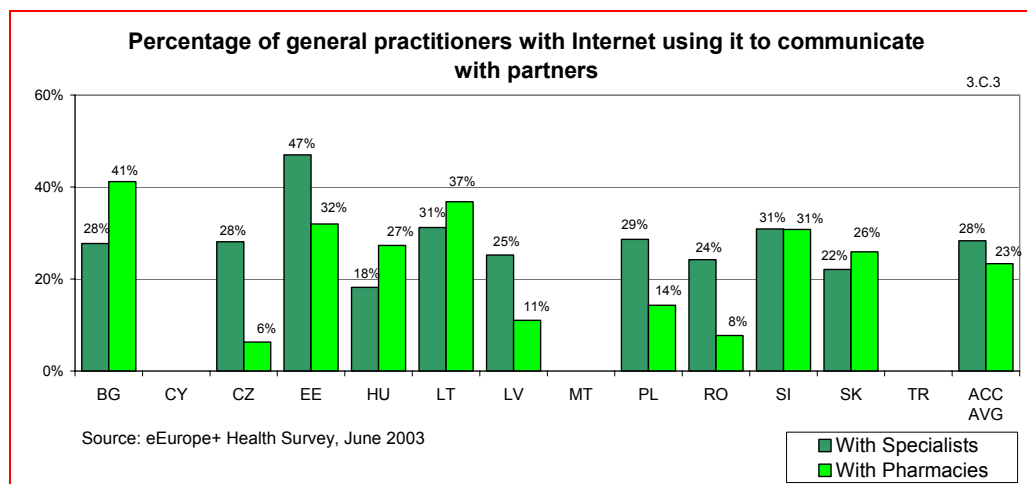
General practitioners in Acceding and Candidate Countries appear to use the Internet primarily for e-mail communication and searching for information. Exchange of patient records is limited.



However, in Estonia for example, the exchange of patient records is roughly six times higher than that found in other countries reflecting a more advanced e-health system.

### Communication

Findings from the eEurope+ survey indicate that the people with whom the general practitioners communicate are broken down into two main groups - medical specialists and pharmacies. Other groups, that are not being shown in the following graph because the figures represent small percentages, are the health ministries, social service departments and health insurance organisations.

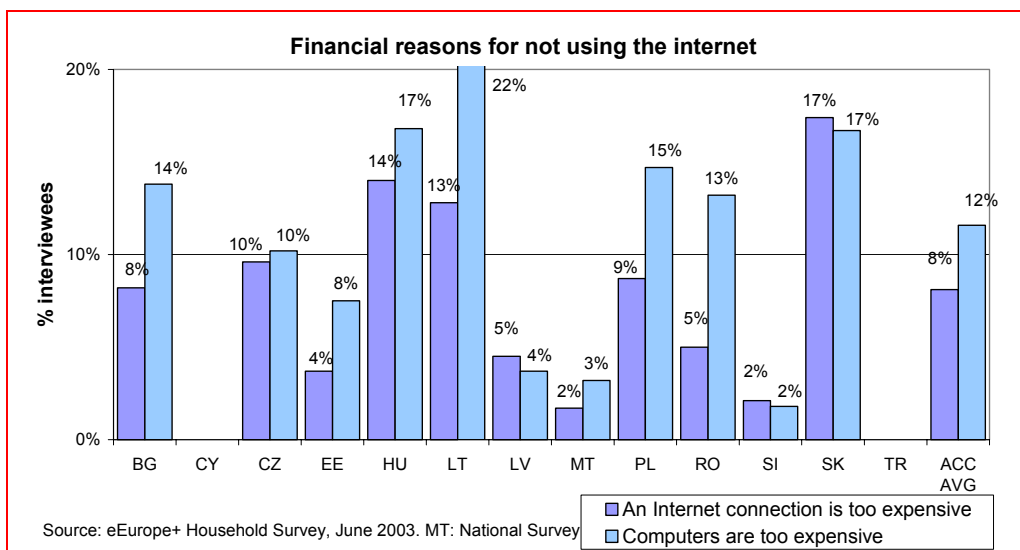


## INHIBITORS TO USAGE

In their reporting of progress, the Acceding and Candidate Countries wished to identify not only *what* categories of people use the Internet but also the reasons *why* the Internet is not being used. The results are quite revealing and provide indicative areas where policy actions may be required.

### Cost

The cost of a computer and the cost of the Internet connection were cited as reasons for not accessing the Internet by 11% and 8% of respondents respectively.



It is especially true that in the Acceding and Candidate countries with a low GDP per capita, sufficient PIAPs could be established as a valid alternative to the need to have a computer at home.

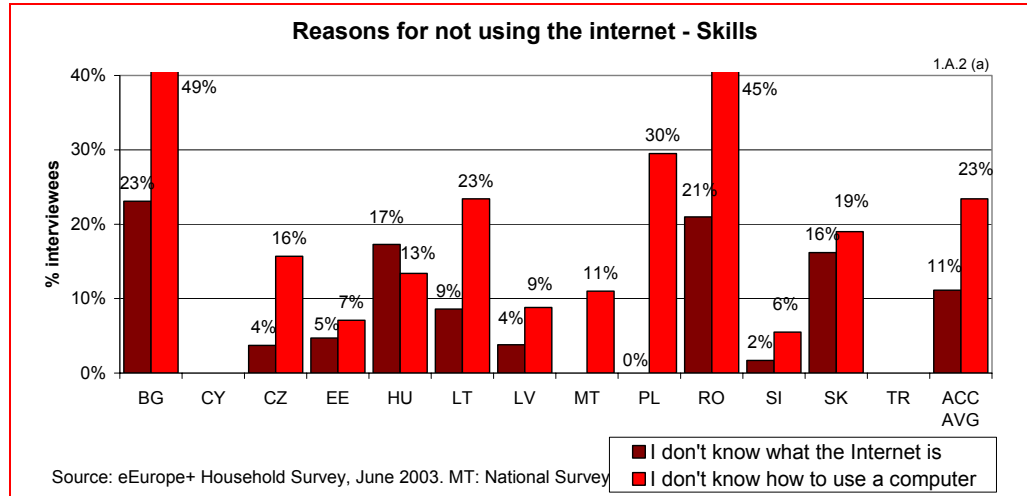
### Skills

It was found that approximately 11% of all respondents claimed to have no exact knowledge of what the Internet actually is. On average, 23% of the people claimed that they do not know how to use a computer. This figure is even higher in Bulgaria and Romania with almost five out of ten people claiming that they do not know how to use a computer.

#### **National Programme for Computer Literacy**

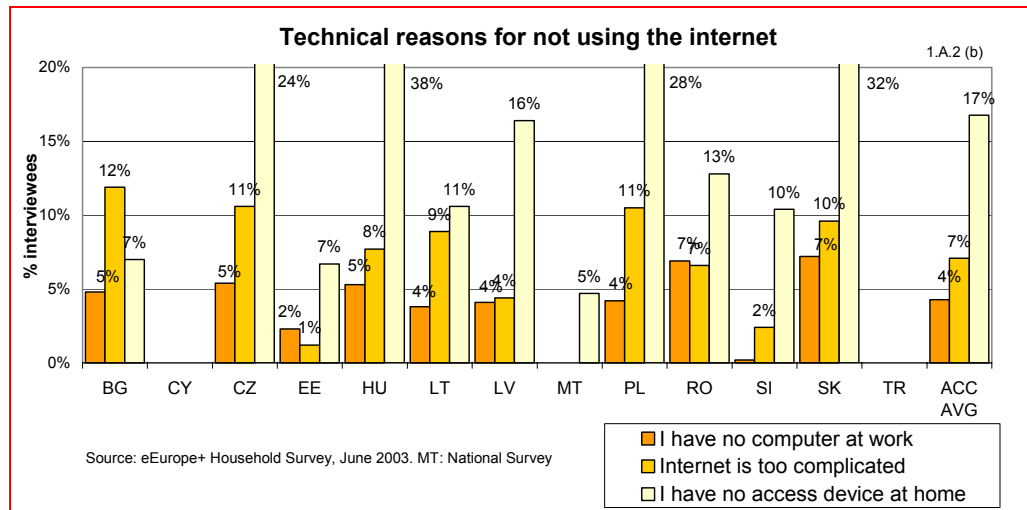
The NPCL was launched by the Czech Ministry of Informatics in February 2003. The project is a public private partnership. It gives the public the chance to learn basic computer and Internet skills for a small charge. 25,000 participants completed this course in ten months and the network of training centres grew to 240 including 145 towns in the Czech Republic. The biggest interest in the programme was by attendees between 40 and 60 years old. Women represented 60% of the participants.





**Technical reasons**

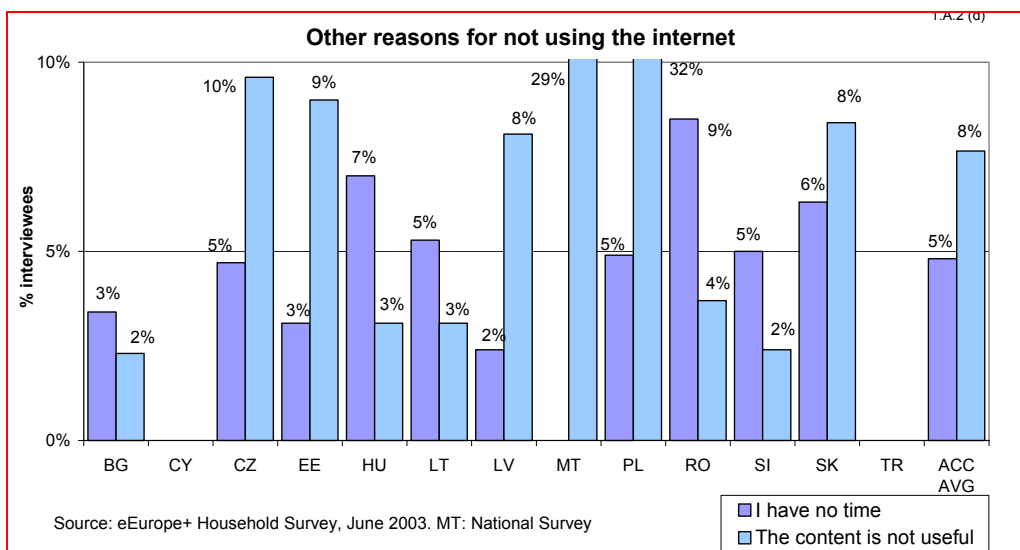
Some of the people who responded to the eEurope+ survey stated that the Internet was too complicated to use even though many had not used the Internet before. Promotional campaigns and public events could be used to create awareness of the Internet and stimulate usage.



The main technical reason given for not using the Internet is the lack of an access device at home. This could indicate a significant latent demand. Another reason being given, based on a preconception that has appeared, is that Internet can only be accessed if the work place provides an Internet access.

## Other Reasons

Two other key reasons given for not using the Internet were: not having enough free time and that available content is not useful.



Many other reasons for not using the Internet have been identified but by less than 5% of the people. These include the opinions that Internet is not needed, there is no PIAP, there are language barriers and that they have no interest in the Internet. Less than 1% of the people thought that the security of the Internet was an inhibiting factor.

## CONCLUSIONS

The data and information presented in this Progress Report indicate that considerable progress has been made in many areas related to the Information Society since the launch of eEurope+ in 2001 and that all Acceding and Candidate Countries have made significant efforts towards the implementation of a knowledge-based society. Nevertheless, while much has been achieved, this report shows that there is some way to go before the majority of Acceding and Candidate Countries reach the levels of availability and use of ICT seen in the current EU Member States and before Europe can be regarded as making satisfactory progress towards the Lisbon goals.

In drawing conclusions from this report and from the eEurope+ exercise as a whole and in reflecting on the current situation in and the future of the Acceding and Candidate Countries we can speak in terms of achievements and lessons learned, issues/recommendations for the future and of final thoughts as the new challenges of eEurope 2005 are confronted. Indeed, many of the issues highlighted in this report and many of the conclusions drawn below are relevant not only to the Acceding and Candidate Countries but also to current EU Member States and the European institutions.

### Achievements in Acceding and Candidate Countries

1. Significant progress has been made in delivering online government services for citizens and enterprises.
2. Experience in providing e-health services has been gained by a number of Acceding and Candidate Countries. These countries are invited to share their experiences and best practices with other Acceding and Candidate countries as well as EU Member States.
3. Public Internet Access Points have proven to play a significant role in bringing the advantages of the knowledge economy to those who have no ICT exposure at work and cannot afford access from home. They can also raise awareness of ICT and also act as centres for basic ICT training.
4. Since the launch of eEurope+ the number of people making use of the Internet has risen considerably. As more and better services become available; as PIAPs become more commonplace and as exposure to ICT grows in schools, places of work and public buildings, usage will grow even more rapidly.
5. Liberalisation in Acceding and Candidate Countries has been achieved, requiring major restructuring, including the separation of ownership and regulation, and creating independent regulatory authorities. Most directives concerned with Information Society Services are, at least, at the stage of initial drafts of the legislative texts in Acceding and Candidate Countries.

6. Significant progress has been made in all Acceding and Candidate Countries in improving fixed line networks and in some countries, complete digitisation has taken place. Take-up of mobile telephones is high and doubled in many countries from 2000 to 2002.
7. In schools, Internet connectivity, the teaching of ICT and the use of ICT tools in the general curriculum have all increased since the launch of eEurope+.
8. The European Commission Pre-accession facilities have been used by some of the Acceding Countries to bridge gaps and/or to provide strategically important analysis for the further development of the Information Society.

### **Issues and recommendations for the future**

1. With eEurope+ coming to an end and accession becoming a reality for 10 countries, it may be an appropriate moment to review national action plans for the Information Society to ensure a closer alignment with the objectives defined by the EU-15 within the framework of the eEurope 2005 Action Plan.
2. A key area of eEurope 2005 and for the development of a successful world-leading knowledge economy is the availability and take-up of broadband across Europe. The successful efforts in connecting schools, universities and other educational establishments in the Acceding and Candidate Countries should be continued and the connections upgraded to broadband as quickly as possible.
3. Furthermore, there is an urgent need to stimulate the development of interactive, multi-media rich, multi-lingual, content as this is one of the most important drivers for broadband deployment. Access to public sector information is also a key driver for take-up and should therefore be promoted.
4. The rural divide is an ongoing concern but largely unquantified. Particular attention is therefore needed to measure the rural divide in order to develop policies to close this divide as well as provide an appreciation of the potential role of ICT in overcoming rural underdevelopment.
5. The importance of the existing state and semi-public infrastructure in rural areas cannot be underestimated, for example, by aggregating their demand for broadband, high speed Internet access can be brought to parts of a country previously considered unprofitable by telecommunications operators.
6. Regional and local government should be supported in bringing the benefits of ICTs to their people. Schools, colleges and community centres can be used to great effect in bringing ICT awareness, access and training to the rural population. Experience during eEurope+ shows that investment in PIAPs can help close many aspects of the digital divide: this investment should therefore continue.

7. Although computer equipment costs are similar throughout Europe there are significant disparities in local purchasing power that affect affordability, and therefore entry into the Information Society for a considerable number of potential users. Governments are invited to examine policy measures and mechanisms to increase the household penetration rate of PCs.
8. Continued attention should be given to the implementation and provision of e-government Services to take them beyond the simple provision of information and towards fully transactional services centred around the needs of citizens and enterprises and achieving high levels of use.
9. Governments of the Acceding and Candidate Countries and EU Member States are requested to review their websites for compliance with the Web Accessibility Initiative's guidelines.
10. Measuring the Information Society requires not only specific indicators but also consistent collection methods to provide results that are comparable over time and against the best in the world. National Statistical Institutes and Eurostat are invited to examine the lessons learnt during the eEurope+ Benchmarking process and to share best practices with EU-15 Member States and other international organisations. Moreover, as a greater number of services are provided, e.g. in e-government, e-health and e-learning, the collection of data relating to usage of these services would provide governments with valuable benchmarking results and offer the opportunity for governments to learn from the most popular/most-used services.
11. Endowing the younger generations with digital literacy skills remains high on the educational agenda of all countries. Governments could speed up this process by reviewing their national education curricula to ensure that appropriate ICT training forms part of every pupils' education and that the curriculum in teacher training institutions also include ICT training.
12. The educational gender divide is an area requiring special attention: research is required into how best to ensure equality of opportunity and interest for students of both sexes in ICT-related tertiary education.
13. The continued, significant contribution of the Information Society to overall economic growth and the creation of employment should be reinforced by increased and more effective use of life-long ICT training in order to improve employability and adaptability in labour markets and addressing the needs of the unemployed and disabled in providing requalification and improve their chances on the job market.
14. The development, implementation and use of integrated health care networks to accelerate the sharing of information between healthcare professionals should be encouraged.

15. Innovative government initiatives and public-private partnerships, for example in conjunction with chambers of commerce, should be initiated to promote investment in and use of ICT in enterprises, particularly SMEs, and to encourage greater take-up of e-business.
16. New challenges in relation to information and network security as well as the important issues of spam and cyber-crime need to be addressed urgently. These are issues which know no international boundaries and need to be resolved so as not to slow down the progress made so far across Europe in the development of the Information Society.
17. The Acceding Countries should strive to fully exploit the possibilities offered by Structural Funds, on the basis of existing guidelines and national development plans and priorities, for a number of important Information Society issues, including broadband deployment

## **Final Remarks**

The eEurope 2005 objectives represent ambitious targets for all EU Member States. For the Acceding and Candidate Countries to join eEurope 2005 part-way through the process and aim at achieving its policy goals will prove to be a significant challenge. The progress made during the course of eEurope+ puts these countries in a better position to confront the challenges of the eEurope 2005 Action Plan.

Continued political focus is vital to ensure that the objectives of implementing an Information Society continue to be addressed and placed high on the political agenda, even after accession has taken place. The end of eEurope+ is by no means the end of the story. Moving to eEurope 2005 raises the stakes: the Action Plan aims to stimulate services, applications and content, covering both online public services and e-business. It also addresses the underlying broadband infrastructure and security matters. The mid-term review of the eEurope 2005 Action Plan will ensure that the aims and objectives of the programme are as relevant as possible to the creation of an inclusive knowledge-based society in an enlarged European Union and that the Information Society successes across Europe contribute extensively to the Lisbon strategy.

## Annex – Acquis relevant to the Information Society

Directive	2002/77/EC of 16 September 2002 on competition in the markets for electronic communications networks and services
Directive	2002/65/EC of the European Parliament and of the Council of 23 September 2002 concerning the distance marketing of consumer financial services and amending Council Directive 90/619/EEC and Directives 97/7/EC and 98/27/EC.
Directive	2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Data Protection Directive)
Council Directive	2002/38/EC of 7 May 2002 amending and amending temporarily Directive 77/388/EEC as regards the value added tax arrangements applicable to radio and television broadcasting services and certain electronically supplied services.
Directive	2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive)
Directive	2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive)
Directive	2002/20/EC of the European Parliament and of the Council of 7 March 2002 on the authorisation of electronic communications networks and services (Authorisation Directive)
Directive	2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)
Council Directive	2001/115/EC of 20 December 2001 amending Directive 77/388/EEC with a view to simplifying, modernising and harmonising the conditions laid down for invoicing in respect of value added tax.
Directive	2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society
Directive	2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit of and prudential supervision of the business of electronic money institutions.
Directive	2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce)
Directive	2000/28/EC of the European Parliament and of the Council of 18 September 2000 amending Directive 2000/12/EC relating to the taking up and pursuit of the business of credit institutions.
Directive	1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures (Electronic Signatures Directive)
Directive	1999/64/EC of 23 June 1999 amending Directive 90/388/EEC in order to ensure that telecommunications networks and cable TV networks owned by a single operator are separate legal entities
Directive	1999/44/EC Aspects of sale of consumer goods and associated guarantees
Directive	1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity
Directive	98/84/EC of the European Parliament and of the Council of 20 November 1998 on the legal protection of services based on, or consisting of,

	conditional access
Directive	98/48/EC of the European Parliament and of the Council of 20 July 1998 amending Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations
Directive	1998/34/EC Definition of Information Society Services, amended by 1998/48/EC
Directive	1998/27/EC Protection of consumer interests
Directive	1998/6/EC Consumer protection and pricing of products
Directive	97/66/EC of the European Parliament and of the Council of 15 December 1997 concerning the processing of personal data and the protection of privacy in the telecommunications sector
Directive	97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP)
Directive	97/13/EC of the European Parliament and of the Council of 10 April 1997 on a common framework for general authorizations and individual licences in the field of telecommunications services
Directive	1997/7/EEC Protection of consumers in respect of distance contracts
Commission Directive	96/2/EC of 16 January 1996 amending Directive 90/388/EEC with regard to mobile and personal communications
Directive	95/47/EC of the European Parliament and of the Council of 24 October 1995 on the use of standards for the transmission of television signals
Directive	95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data
Commission Directive	95/51/EC of 18 October 1995 amending Directive 90/388/EEC with regard to the abolition of the restrictions on the use of cable television networks for the provision of already liberalized telecommunications services
Commission Directive	94/46/EC of 13 October 1994 amending Directive 88/301/EEC and Directive 90/388/EEC in particular with regard to satellite communications
Directive	1993/13/EEC Unfair terms in consumer contracts
Council Directive	92/44/EEC of 5 June 1992 on the application of open network provision to leased lines
Council Directive	91/287/EEC of 3 June 1991 on the frequency band to be designated for the coordinated introduction of digital European cordless telecommunications (DECT) into the Community
Council Directive	90/544/EEC of 9 October 1990 on the frequency bands designated for the coordinated introduction of pan-European land-based public radio paging in the Community
Commission Directive	90/388/EEC of 28 June 1990 on competition in the markets for telecommunications services
Council Directive	90/387/EEC of 28 June 1990 on the establishment of the internal market for telecommunications services through the implementation of open network provision
Directive	1989/552/EEC Provisions laid down re pursuit of TV broadcasting activities
Council Directive	87/372/EEC of 25 June 1987 on the frequency bands to be reserved for the coordinated introduction of public pan-European cellular digital land-based mobile communications in the Community
Directive	1987/102/EEC Approximation of laws, regulations, administrative provisions concerning consumer credit
Directive	1985/374/EEC Liability and defective products
Directive	1984/450/EEC Misleading and comparative advertising





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