

eEurope
2003+



Progress Report

June 2002



Progress Report

Positive action based on a strong political commitment is needed to ensure that the EU candidate countries use the full potential offered by the Information Society and avoid a digital divide with the EU.

The eEurope+ 2003 initiative mirrors the priority objectives and targets of the EU's eEurope Action Plan launched in Feira on the 19-20 June 2000. The eEurope+ Action Plan aims to help accelerate reform and modernisation of the economies in the EU candidate countries, encourage capacity and institution building, improve overall competitiveness, and enhance social cohesion.

EU candidate countries, with the assistance of the European Commission, have committed to this co-operative effort in order to implement effectively the Information Society by means of joint actions that address the specific situation of the candidate countries, through benchmarking of progress in the implementation of these actions, and by aligning actions and methodologies with those undertaken by the EU Member States in order to allow for easy integration of all efforts in the next phase, namely eEurope 2005.



Introduction

The EU candidate countries are faced with enormous challenges in their attempt to catch up with the development of a knowledge-based economy while the process of transformation from a planned to an open market economy is taking place at the same time as accession to the European Union.

The European Council, Lisbon, 23/24 March 2000, set the ambitious objective for Europe to "become the most competitive and dynamic knowledge-based economy in the world". To achieve this objective a comprehensive eEurope Action Plan was developed and adopted by the European Commission in May 2000.

At the European Ministerial Conference, Warsaw, 11/12 May 2000, the central and eastern European countries recognised the importance of the objective set by the European Council and agreed that an 'eEurope-like' action plan should be developed. The eEurope+ Action Plan, launched at the occasion of the Göteborg European Council, mirrors the priority objectives and targets of eEurope and defines actions specific to the situations in the candidate countries.

The objective of this first progress report is to:

- **give** an overview of the actions undertaken by the candidate countries since the adoption of the eEurope+ Action Plan;
- **establish** a first baseline of available indicators so that they can be used to measure progress in the next phase;
- **compare** the relative position of the candidate countries with respect to the general EU situation; and
- **draw** an initial set of conclusions based on the above.



Implementation of eEurope+

The development of a knowledge-based economy can be accelerated by targeting specific actions to achieve specific objectives. The eEurope+ 2003 common action plan contains clearly identifiable, concrete actions and target dates.

General

The candidate countries are fully aware that they must make greater efforts than the EU Member States if they are to be a part of the future, integrated European Information Society. Although most candidate countries have made significant progress since the reform process began in the early 1990's, there are still many areas where the current situation is still far behind that of most EU Member States.

Action must be taken upon several fronts at the same time although there are some complex interactions between them. For example, encouraging the public to make the investment in the equipment that provides Internet access is difficult if there is no digital content in the national language whereas the development of digital content and services is a risky commercial proposition when the potential market is limited to an insignificant potential customer base. However, there is clear recognition that many parallel actions are the only way to make progress.

The implementation of the eEurope+ action plan is based on a simple strategy, namely on the one hand it is based on a common set of actions contained in elaborate national eStrategy Plans in each of the candidate countries, while on the other hand the actions are directly linked to eEurope 2002 in order to ensure a broader European relevance.

Funding

Implementation of the eEurope+ actions is largely coming from national budgets in the candidate countries, through special programmes or through the integration of the actions in national economic development plans, and/or via existing budgets.

However, the candidate countries have a possibility to seek financing of the eEurope+ actions by means of the PHARE programme, and MEDA for Cyprus, Malta and Turkey, as long as the actions form part of the overall national economic development plans which are the basis for requests for support from these programmes. In addition, the European Commission has put in place a special funding facility from which the organisational and logistical support to the co-ordination of eEurope+ can be financed, as well as performing extensive surveys of the agreed indicators. These surveys are expected to produce their first results towards the end of 2002.

Broader support for the implementation of eEurope+ has been sought from the international financial institutions. The World Bank, the European Investment Bank, and the European Bank for Reconstruction and Development have all been associated with elements of the action in order to ensure a coherent, supportive structure which aims to benefit, in particular, the financial underpinning of the action plan's implementation.

Co-ordination

The overall co-ordination of the implementation of the eEurope+ action plan has been undertaken by the Joint High Level Committee (JHLC) made up of representatives of the candidate countries and the European Commission.

A Statistical Working Group (SWG), made up of experts from the relevant national statistical offices and technical ministries of the candidate countries, has been created to oversee the collection and interpretation of data coming from the candidate countries. This Group, also supported by Eurostat and researchers from the EC's Joint Research Centre, reports directly to the JHLC.

Data collection and analysis

The collection of data for Information Society indicators and the application of an agreed methodology of collection and analysis is a challenge worldwide. National statistical offices are struggling to develop and validate the methodologies and elaborate the necessary data collection tools. In the case of the candidate countries, this is no exception: relatively little data is available either in the public sector or in the private sector (e.g. as a result of commercial surveys), methodologies are largely not available or untested, and analysis remains a complex matter.

In the context of eEurope+ it has been agreed to use a variety of techniques to collect and analyse data. Unless specifically indicated, most of the data used in this report has been made available by the public institutions of the candidate countries, supervised by the relevant national statistical office. It provides a first data set that forms a baseline for further measurement of progress at a later stage, in subsequent progress reports. The data is sometimes complemented by commercially available data or data from other public sources like the international institutions (International Telecommunications Union (ITU), United Nations (UN), World Bank, OECD) and where this is the case, this is specifically indicated. It is appreciated that the methodology used by the international institutions may differ and to counteract any effect this may have where external data is used it is restricted to one source for any particular graph. In a number of cases and for a variety of reasons it has not been possible to obtain relevant data. However, work is underway to obtain this data in time for the next report.

The data has been critically reviewed by the Statistical Working Group, with the assistance of Eurostat, and considered suitable for presentation in this report. However, in view of the absence of scientifically proven methodologies and consistent collection methods, there is full recognition by all concerned that there may be discrepancies in the presented data and subsequent conclusions.

The data presented in this report, the comparisons made, and the analysis presented, is done on a best efforts basis in order to try to present an indicative picture of the situation in the candidate countries.

The objective is to have a reasonably consistent data set at the time of presentation of the last eEurope+ report, towards the end of 2003. The intermediate period will be used to assist in capacity building of the national statistical offices in the candidate countries, improve methodologies, and develop consistent collection methods. The purpose of eEurope+ itself is to enable the necessary capability in the candidate countries to draw appropriate conclusions from collected data and feed that into the policy making process.

The guidelines used for data collection are the following:

- **data should be recent** in order to be relevant and the agreed data measurement point is December 2001;
- **data should be consistent** with the data collected and the methodologies used under the eEurope2002 action plan, as far as possible;
- **data should be cross-checked** with existing public and private sources as far as available and possible;
- **data should be compared with relevant EU figures**, usually an EU average, EU high, and EU low, in order to allow a first benchmark of the situation.

All candidate countries submitted an extensive report with both quantitative and qualitative data. This quantitative data was verified and analysed, adjusted to allow for comparisons, and presented to the Statistical Working Group for validation. For those indicators where only a few (or none) candidate countries were able to provide data, a decision was taken to wait for further availability of data from more countries for subsequent presentation in a future progress report. The qualitative data was used to report on overall progress, present specifically interesting developments, and improve the overall readability of this report.



The Legal and Policy Framework

Harnessing the potential of the knowledge based economy can only be achieved on the basis of a responsive legal framework that takes account of the challenges posed by an essentially borderless, internet-based information and communications environment.

All candidate country governments have recognised the importance of the role they must play in the development of a knowledge-based economy. National action plans have been developed and specific ministries charged with the responsibility of co-ordinating the implementation of the individual actions. Most countries had already developed plans during the 1990's and these have been updated to reflect the objectives and actions of the eEurope+ Action Plan. Examples of how the national action plans have been realigned according to the eEurope+ Action Plan are detailed in Annex A.

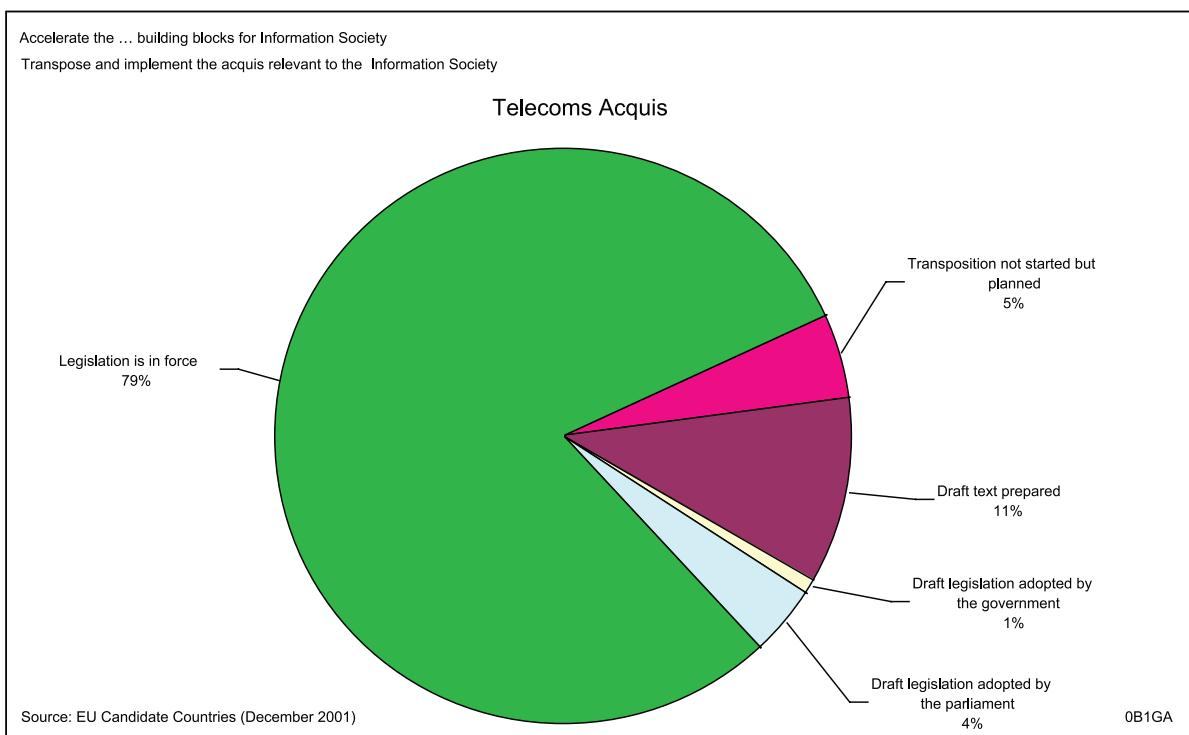
Information society development has become a main priority on many political agendas. The possibilities offered in terms of economic growth, public and private sector efficiency, and competitive advantage are now widely recognised.

The relationship between the candidate country action plans and eEurope+ acts as a political impetus to the further development of the national plans to take account of national specificity's and achieve national goals in a manner that is coherent with the objectives of eEurope+.

Although the transposition of the EU acquis is being performed as a pre-requisite to accession, some general conclusions in relation to its relevance as a basis for the Information Society can be drawn from the transposition achieved so far. The absence of legislation in certain areas can cause doubt and uncertainty leading to a loss of consumer trust and confidence. Businesses can suffer from the insecurity of operating in unstable legal environments.

The existing EU acquis, of which the relevant Directives are listed in Annex B, together with the new EU Regulatory Package for Electronic Communications Services responds to the challenges posed by an essentially borderless, increasingly internet-based, information and communications environment.

Implementation of the acquis has been progressing since the early 1990's when the reform process started and accession negotiations began. Candidate countries have progressed at varying rates according to their national situations and priorities. Most progress has been achieved in the introduction of competition in the telecommunications markets but acquis implementation in other important areas such as eCommerce is underway.



Transposition of the Telecoms Acquis

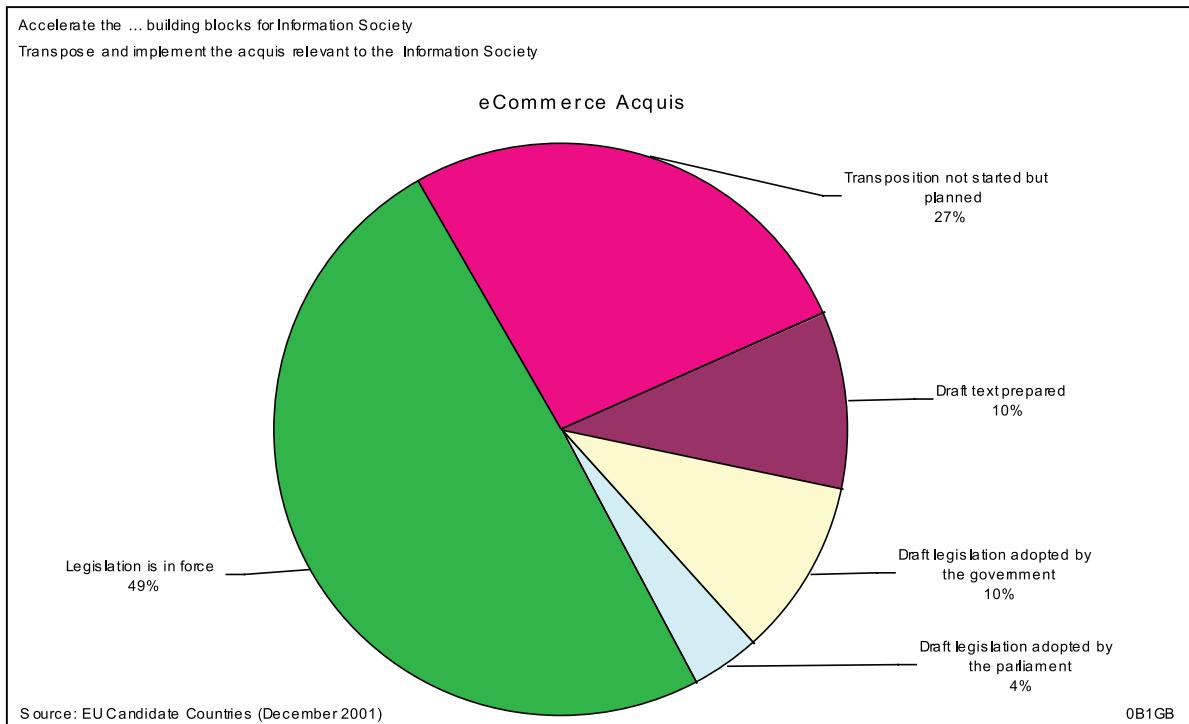
Transposition is not an easy task, especially when complicated by ongoing institutional reform and new and evolving EU legislation.

Despite these complications, progress is being made. Looking at the overall situation about 79% of the Telecoms Acquis has already been transposed and another 16% has been prepared or adopted. Chapter 19 of the Accession Negotiations has been provisionally closed for all countries except for Romania and Turkey (negotiations with Turkey have not yet started) and therefore plans exist to transpose the remaining legislation. Commitments for the transposition and implementation of the new EU Regulatory Package for electronic communications services are expected over the next months.

The Tariffs Regulation has been published in the Turkish Official Gazette in August 2001. The objective of the regulation is to establish a competitive structure in the telecommunications market, to promote investment and technological innovation, to extend telecommunications services throughout the country and determine procedures and principles towards the approval and control of tariffs.

The development of the eCommerce acquis has aimed at creating a legal framework that embraces the concepts of trust and security. Transposition of the eCommerce acquis appears to be less advanced than the Telecommunications Sector. This is due, in part, to the fact that some of the acquis is more recent or requires other legislative changes before transposition can occur, for example, in the areas of encryption and data protection.

Although most countries have made progress in transposing the EU acquis, transposition of the Directives on Information Society Services, the legal protection of services, misleading advertising and consumer credit have not yet started in many countries.



Transposition of the eCommerce acquis

Other areas where the eCommerce acquis has not been transposed are those where market sectors have not developed to the same extent as can be found in the EU-15. This is a particular area where consumer confidence is almost non-existent in the candidate countries. For example, the area of mail orders where examples of faulty or poor quality goods being delivered are numerous, as are other cases where goods have simply not been delivered at all.

In June 2000, the Latvian Cabinet of Ministers adopted the concept of the legal status of electronic documents. Following on from this adoption a draft Electronic Document Law has been prepared. This prepares the way for the introduction and usage of electronic documents and electronic signatures.

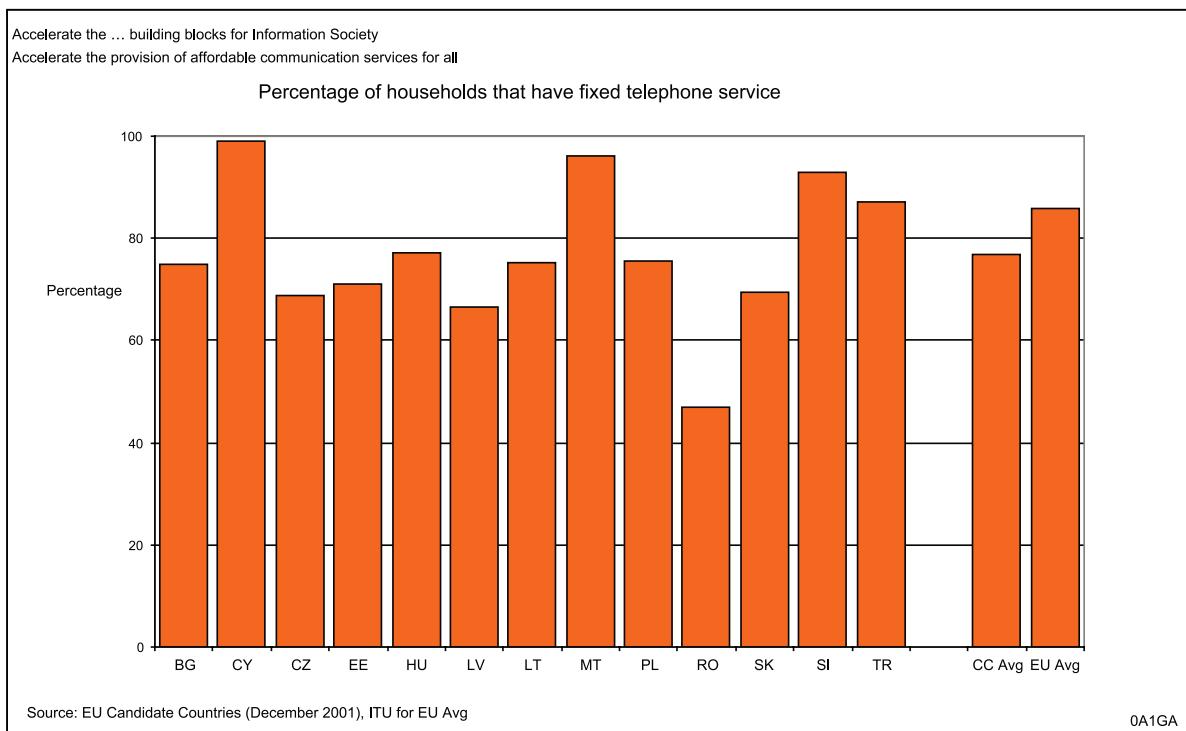
The candidate countries fully recognise that protecting the consumer's rights is fundamental to creating an environment in which eCommerce can grow and flourish. The most advanced telecommunications systems will not create growth in the uptake of eCommerce if consumers have a basic mistrust of the mechanisms in relation to the purchasing of goods and services over the Internet.



Infrastructure and Affordable Access

It is vital that citizens, business, and government have access to modern communications networks and the services available over these networks. There is a basic need to ensure that all citizens are offered the possibility of affordable communications services so that info-exclusion can be avoided.

Since the reform process began all the candidate countries have been modernising their telecommunications networks and increasing penetration levels and are now 'closing the gap with Europe' that used to exist in this area.



Percentage households with fixed telephone service

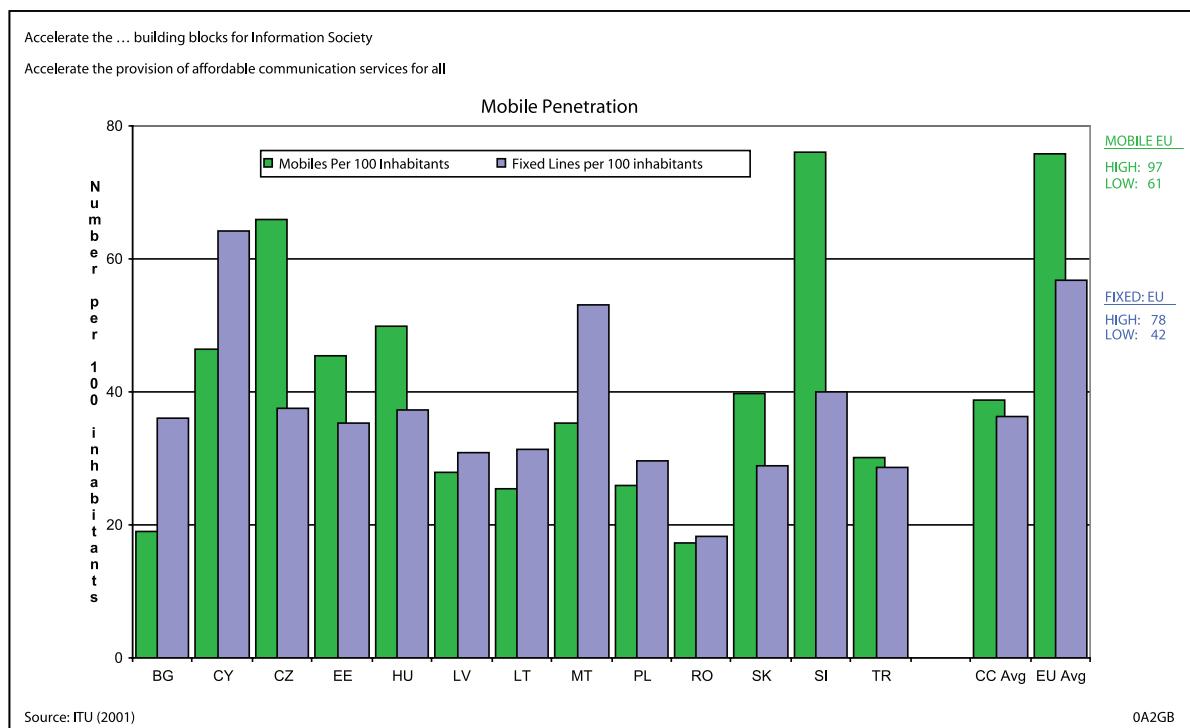
The most common method used to access the Internet is the fixed telephone line. On average, 77% of households in the candidate countries now have a fixed telephone service as compared to 86% in the EU-15.

Two countries, Malta and Cyprus, are relatively small and prosperous with high penetration rates whilst Romania has a mainly rural population with one of the lowest GDP per capita incomes.

Although the telecommunications networks have been modernised, there is still a substantial amount of progress to be made in making access to the Internet a reality for everybody.

There is a general assumption that any household equipped with a telephone line is capable of accessing the Internet. This is not the case, especially when a telephone line is connected to an old analogue exchange. Some countries still have dial-up connection failure rates in the range of 10-30%. Some households are still equipped with 'shared-lines' that are unsuitable for use as Internet connections. In addition to the problems of reliability the old networks cannot support the bandwidth required to transfer data at speeds fast enough to maintain acceptable response rates.

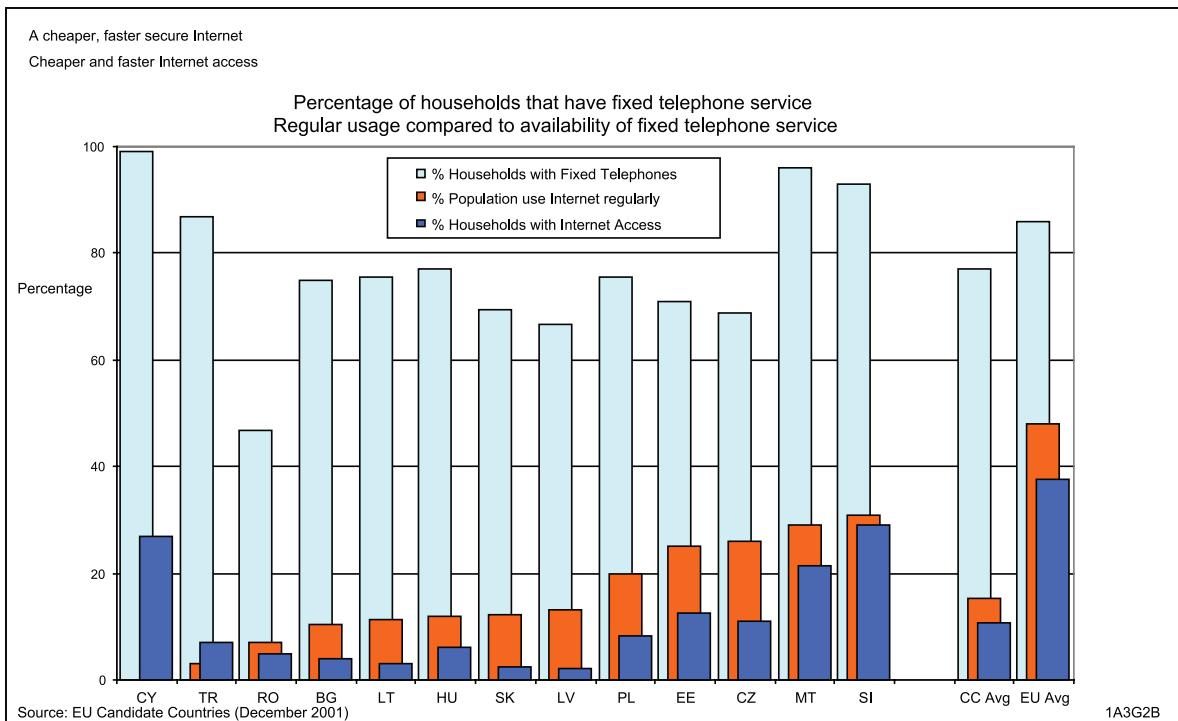
In some countries the penetration rates for fixed telephone services are distorted by differences in penetration between urban and rural areas. There are many rural areas, small towns and villages where there is no telecommunications service at all but larger towns and cities have almost 100% penetration on new digital exchanges. This is a particular case where specific actions may need to be undertaken to avoid a widening of the digital divide and further social exclusion. In the first instance, an effective, pro-competitive regulatory framework will assist in further roll-out of infrastructure. Where this is not the case, specific action may be required as it is not evident, given the size of the problem, that universal service arrangements will provide a solution.



Mobile Penetration Rates

The rapid uptake of mobile telephony in some candidate countries has been caused, to a certain extent, by the long waiting times for fixed telephone lines or some increases in local call rates as a result of tariff rebalancing, as well as through the early, competitive supply of state-of-the-art services. Indeed, in some countries the fixed telephony penetration rates have even dropped as subscribers cease using fixed telephony in favour of mobile.

It is often assumed that the number of households with Internet access and use the Internet regularly would be largely in proportion to the fixed line penetration rate. However, the information obtained has proved this assumption unfounded.



Households with Internet Access, Internet Usage and Fixed Telephony

There is no correlation between households with fixed telephones and access to the Internet. There is furthermore a significant difference in the average number of households with Internet access in the EU-15 and the candidate countries.

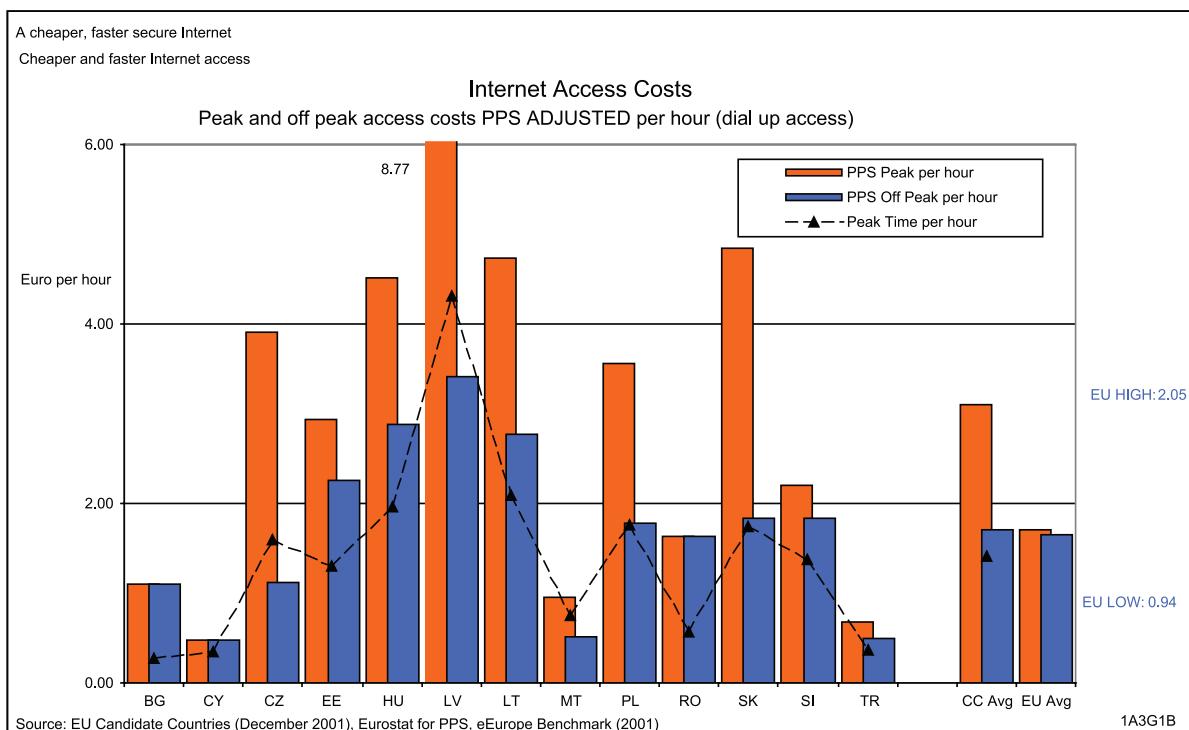
It is also remarkable that there is no correlation between the figures for regular usage and the households with Internet access. An explanation for this could be that where the usage figures are significantly higher than the Internet penetration rates that alternative access methods are used.

3 or 4 private companies in each of the largest towns in Lithuania have established Local Area Networks to provide Internet connections. Typically, each company provides Internet access for 300 or 400 households. Such a solution provides people with a cheaper, but not necessarily faster, Internet access.

The alternative methods that could be used to gain access to the Internet are Public Internet Access Points, Cyber-cafes, telecottages, and the office. A significant number of people access the Internet in Hungary from places other than their home. For example, of the 1.1 million people with on-line access, 390 thousand use the Internet at work and 420 thousand use it at school.

Another factor that has a direct bearing upon home Internet penetration is that of cost. The elements of cost that can be considered are the cost of an Internet subscription, the access cost, and the investment required to purchase a PC, modem, cables and other ancillary equipment.

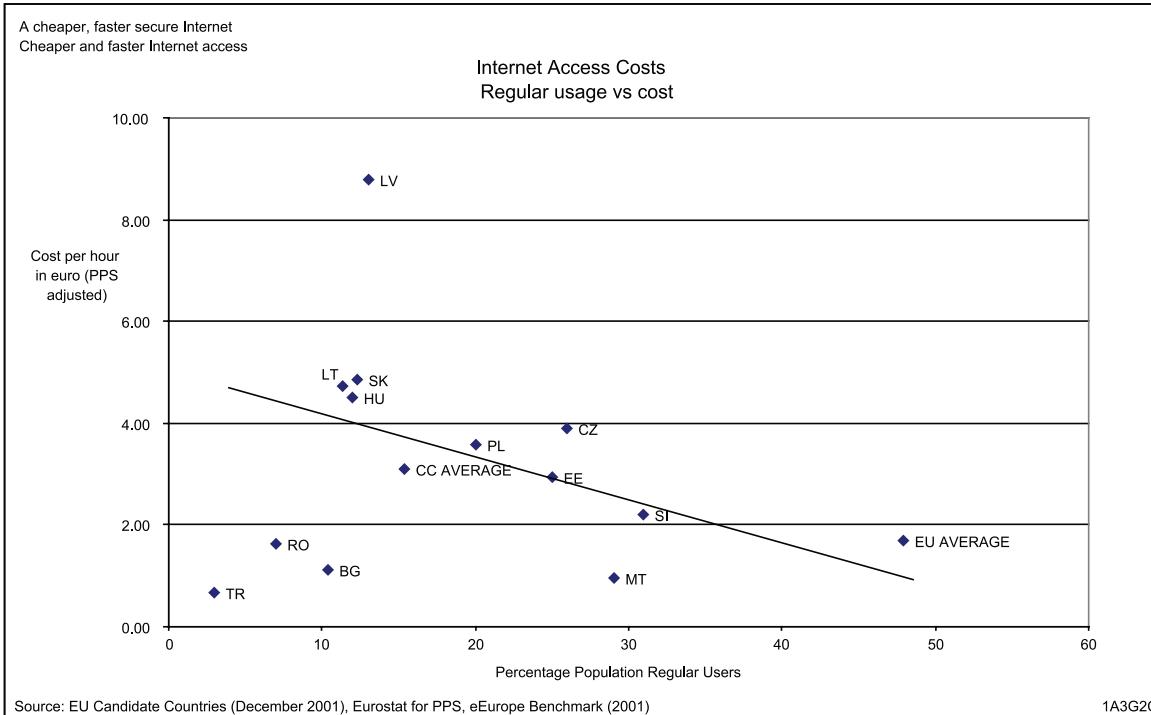
A comparison of the costs of accessing the Internet may provide an indication as to why the Internet penetration rates vary from one country to another. Taking account of the economic factors prevailing in each country, the cost of dial-up access for one hour has been recalculated in terms of a Purchasing Power Standard (PPS). Purchasing Power Parities are obtained as a weighted average of relative price ratios regarding a homogeneous basket of goods and services expressed as a unit that is independent of national currencies. The resulting figures are then more or less comparable.



Internet Access Costs (PPS adjusted)

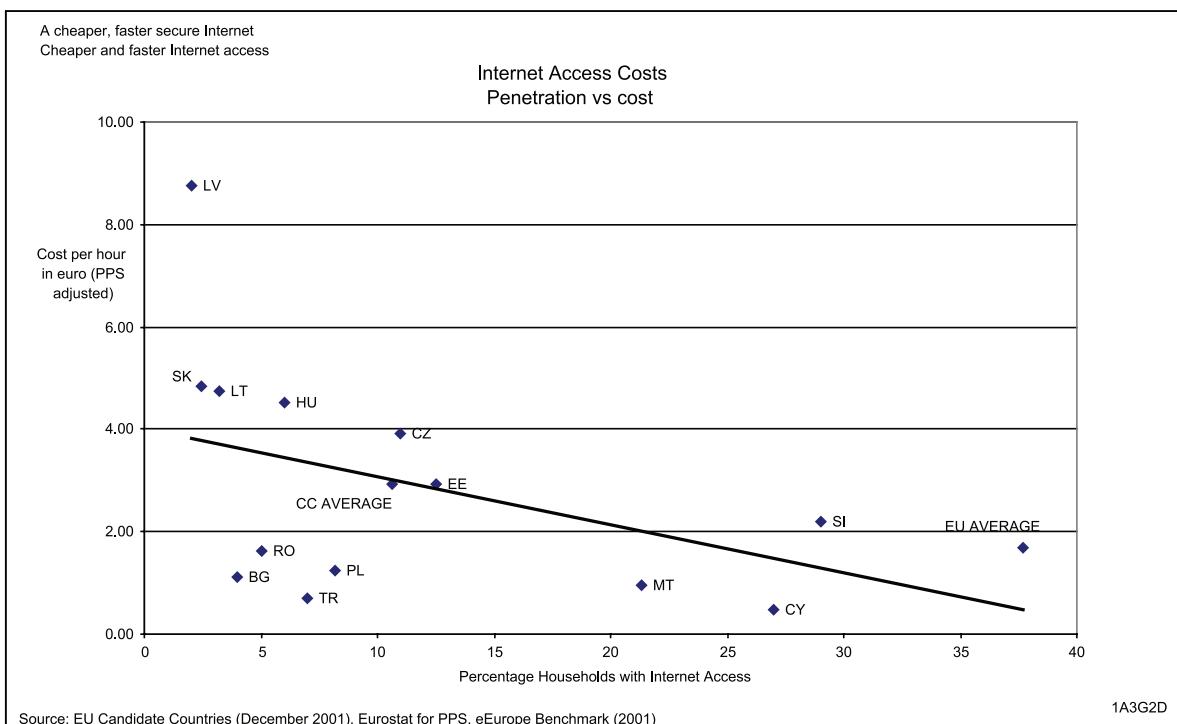
It is interesting to note that the average cost of off-peak access in the candidate countries is practically the same as in the EU and there is a striking difference between the average peak time cost and off peak cost in the candidate countries. It is surprising that two of the countries where the access costs are the lowest are the relatively prosperous Cyprus and Malta.

Although the access cost in some of the candidate countries is lower than the EU average there is some cause for concern, for all countries, if the costs are likely to be readjusted following the introduction of cost-based tariffs by the incumbents, with significant market power, in competitive markets. The assumption being that cost-based tariffs may cause a tariff increase rather than a decrease.



Regular Usage vs. Dial-up Access Cost

There is an apparent link between cost and regular usage. In general, as the access cost reduces the regular usage rate increases.



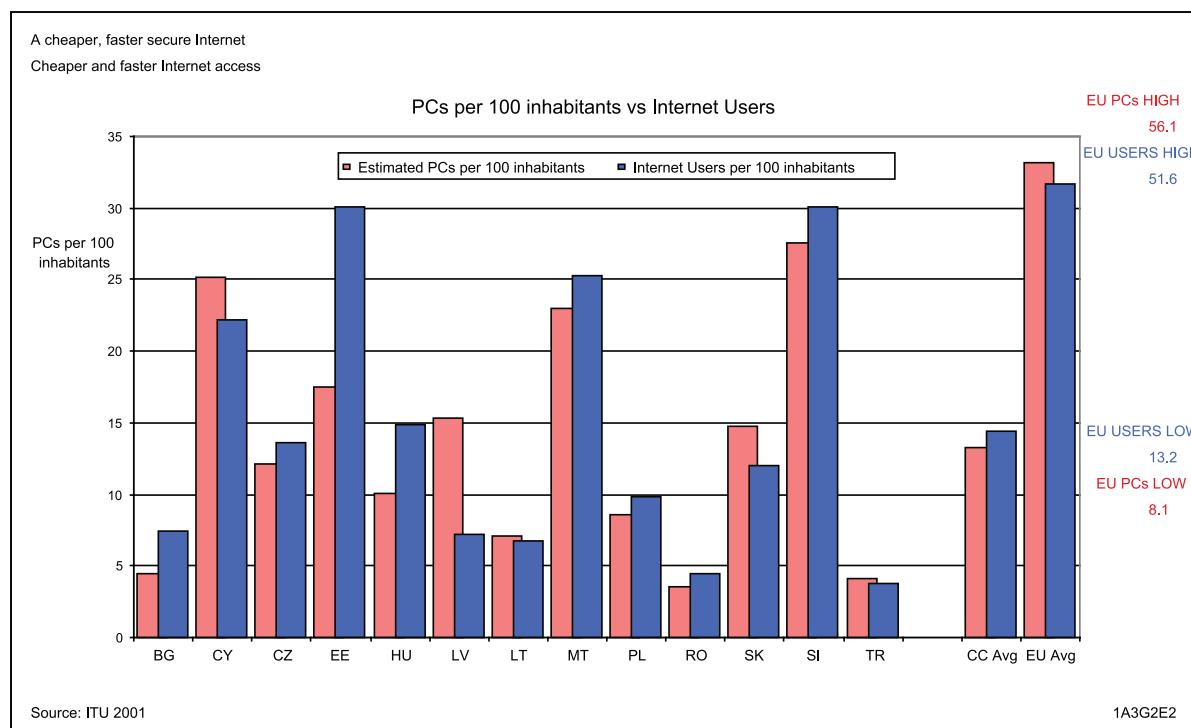
Penetration vs. Dial-up Access Cost

There is a striking correlation between penetration rates and cost and this shows a very definite indication that penetration rates increase as access costs decrease.

There are a few countries that are exceptions to this general rule but there may be other local factors that serve to inhibit regular Internet usage. These could include the lack of local Internet content, lack of computer literacy, or simply the cost of purchasing a computer. This could also be explained by the relatively small number of PCs per 100 inhabitants in the countries concerned. Whereas the average in the candidate countries is 13 PCs per 100 inhabitants the proportion drops to less than 5 PCs per 100 inhabitants in Bulgaria, Romania and Turkey.

The next Progress Report will examine how penetration and usage varies according to the type of access (dial-up, leased line, ADSL and WLL) and the extent to which each technology is utilised.

When the Estonian telecommunications market was liberalised, Internet access tariffs were significantly reduced. Over the period August 2001 to March 2002 the number of ADSL connections almost doubled (from 10,700 to 20,000). This increase could have been driven by the fact that an ADSL connection is only slightly more expensive than 20 hours dial-up access in peak time. Whereas one in four of Estonia's population were Internet users during 2001, it is estimated that the current ratio is two people in five.

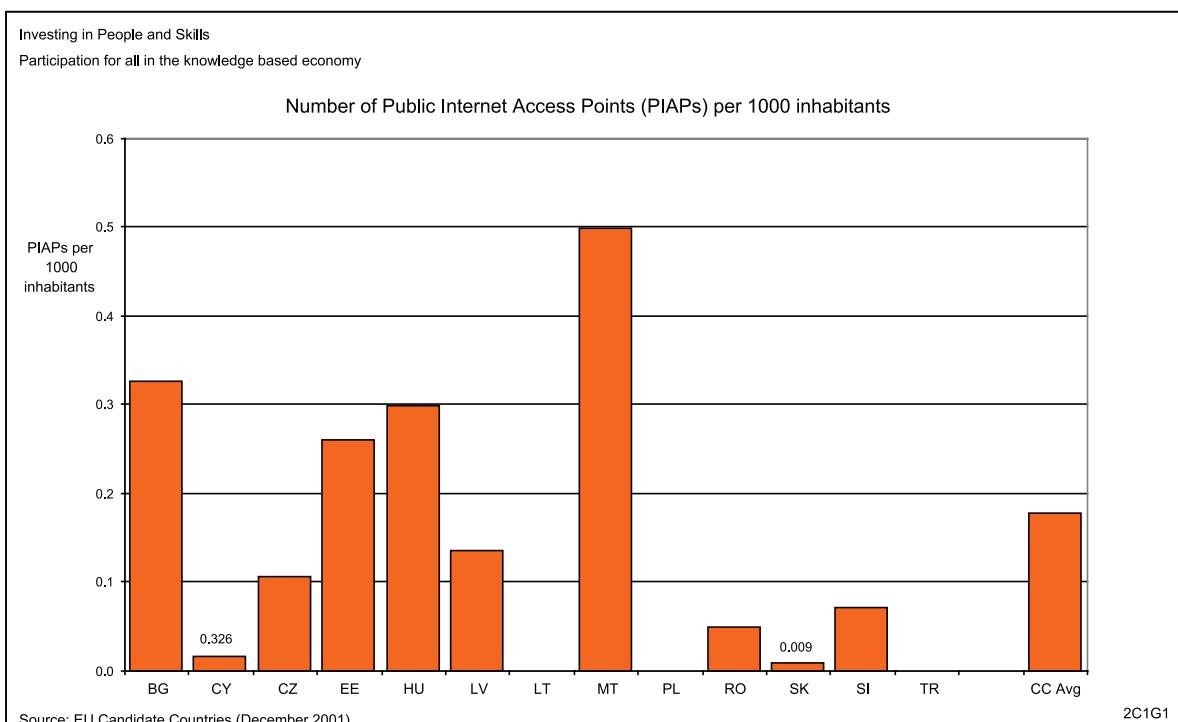


PCs per 100 inhabitants and Internet Users

Although there may be slight differences in the data collection methodology employed by the ITU and those of the candidate country statistical offices, the data is sufficiently relevant for the overall trends and relative differences between countries. Except in a few cases, there is a correlation between the number of PCs in a country and the number of Internet users.

There are currently 40 Internet Service Providers in Latvia and about 70% of them provide services in the capital city, Riga. Most users access services via Lattelekom's network with 35% using dial-up connections and 65% using fixed connections.

Only 22% of the households in Hungary possess a computer and only 6-11% of these are connected to the Internet. In practice, this means that only 5-9% of the population can access the Internet from home as opposed to the 37% average in the European Union. However, this figure represents 100% growth over the last three years. This growth is attributable to a significant drop in the cost of purchasing a computer and the growth of Hungarian language Internet content.

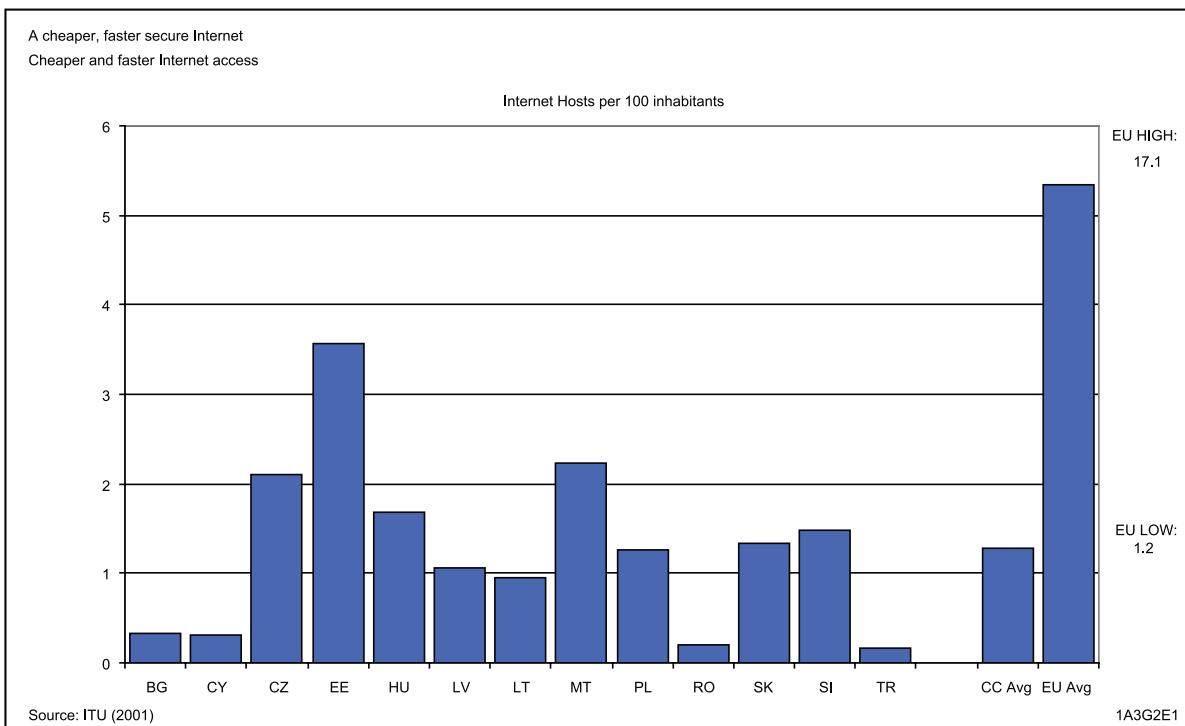


Public Internet Access Points (PIAPs)

The provision of Public Internet Access Points (PIAPs) is a positive step forward in closing the digital divide. Many countries are providing public Internet access in libraries and schools. Malta and Bulgaria make their school computer facilities available to the general public after school hours. In Malta, the Government is entering into partnerships with Local Councils to offer the computer facilities in all public schools for the use of the general public after school hours by mid-2003.

The Slovenian Ministry of Information Society supported a number of projects in co-operation with other governmental agencies during 2001-2002. In the spring of 2002 a record number of PIAPs (144) were registered. An annual increase of at least 20% new PIAPs per year is planned over the next few years.

Competition in any market has a positive effect on prices, increases consumer choice, and serves to increase consumer awareness of the product or service on offer as competitors publicise their own offerings to gain market share.



Internet Hosts per 100 inhabitants

The large number of people that do not use the Internet, and are not aware of its benefits, should not be forgotten. Studies undertaken in Hungary have shown that the most important obstacles to Internet use are the following:

- absence of a computer (44%);
- lack of interest (37%);
- cost of internet use (22%);
- insufficient expertise (16%).

The four most powerful Lithuanian companies (two banks and two telecommunication companies) launched a project called "A Windows into the future" in 2002. The main goal of this three-year project is to achieve an Internet penetration rate in Lithuania equal to the average penetration rate in the European Union. In 2002 the project will create 60 PIAPs in different Lithuanian towns.

The number of companies offering Internet access services in Poland continues to increase. The result of this increased competition is a decrease in the prices for the services. The companies operating on the market offer a wide range of Internet access solutions like modems, ISDN, cable television, radio and satellite lines, local networks, and mobile phones.

Although online commerce includes business-to-business and business-to-consumer sales, retail sales over the Internet may not be a profitable business for some years to come. This is attributable to two reasons:

- a lack of consumer confidence in electronic payment methods; and
- the distrust about the quality of goods delivered by mail order.

Consequently, the most important obstacles to any major expansion of retail trade lies in how eCommerce is perceived by the population. Creating an environment of trust and security requires conscious marketing and quality services even if this results in financial losses over a lengthy period of time.

Increasing the levels of Internet access and encouraging regular usage is a multi-dimensional problem that includes factors of cost (of a computer, an Internet subscription and the related usage charges), availability of reliable telecommunication services, educational levels and, of course, content in the national language.

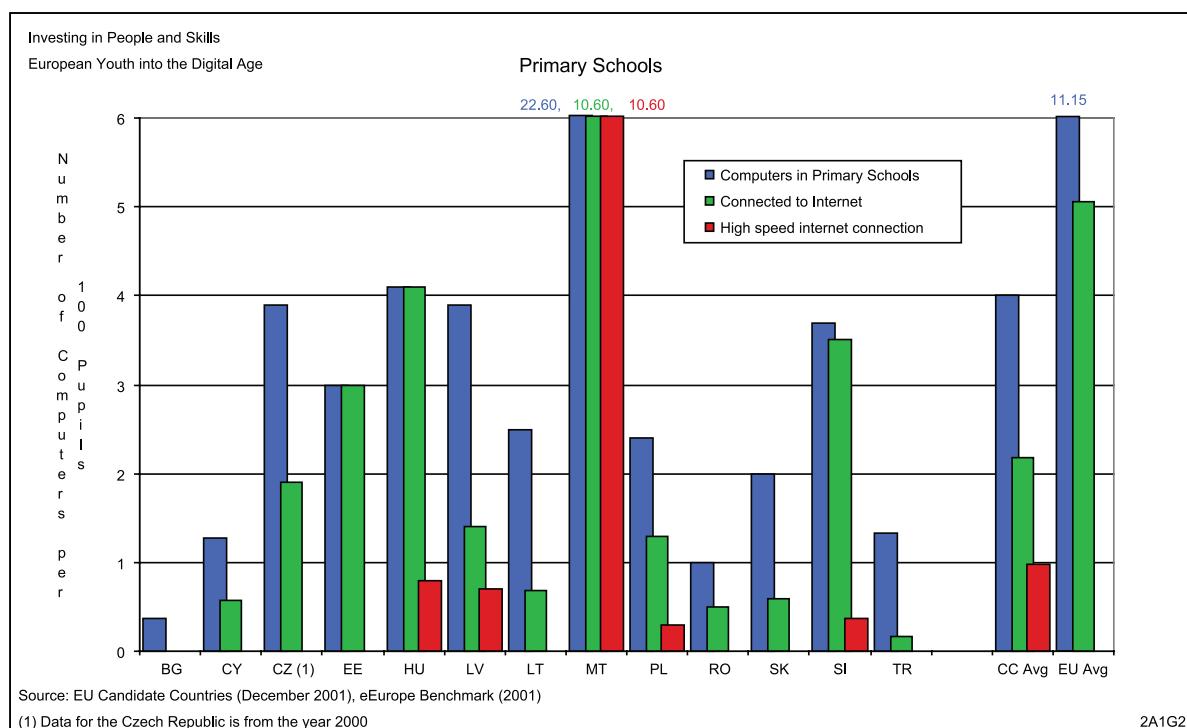


Capabilities and Skills

A Europe of Knowledge is now widely recognised as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich European citizenship.

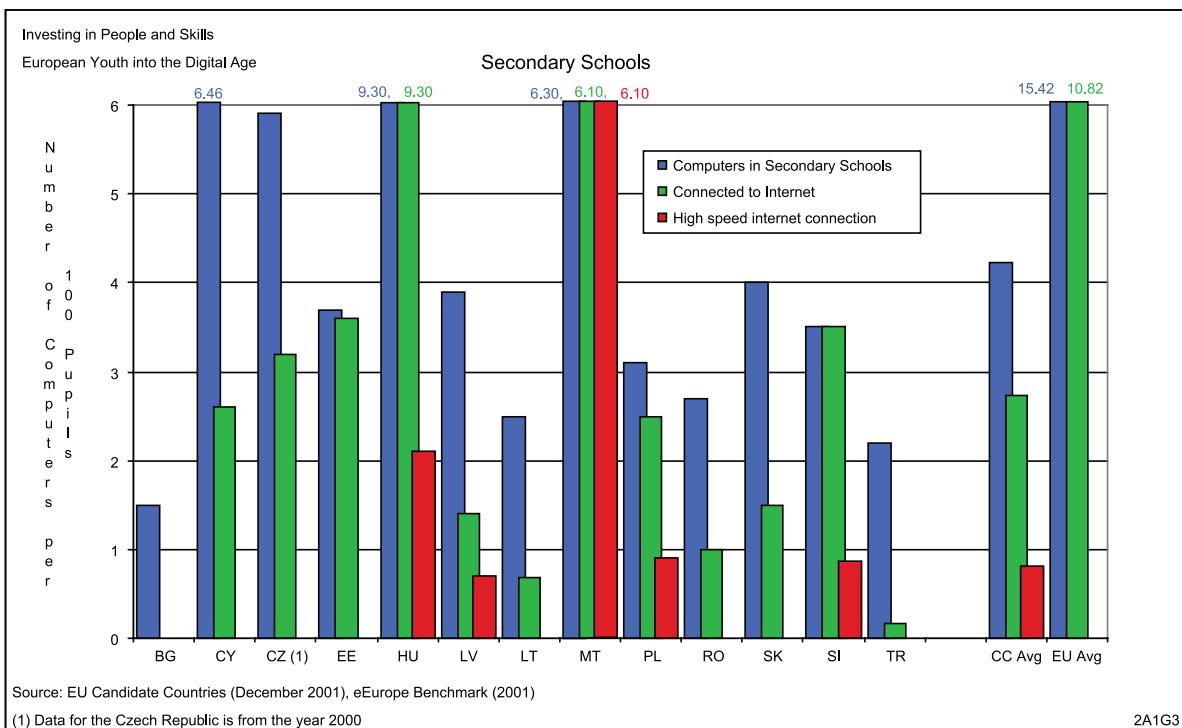
Connecting all schools to the Internet is one of the most important goals to attain. There is recognition that Internet access should be provided in all classrooms together with high-speed connections, software and content. The goal of providing 5 to 15 multi-media computers per 100 pupils is an ambitious goal requiring significant levels of investment and cannot be achieved in the short term.

The number of computers per 100 pupils is approaching the target level in some countries although there is a significant imbalance between primary, secondary and tertiary levels.



PCs per 100 pupils in primary level education

The situation concerning the provision of PCs in primary school education is such that, on average, there are almost four PCs per 100 pupils and roughly half of them are connected to the Internet. However, only one pupil in a hundred has access to a computer with a high speed Internet connection.



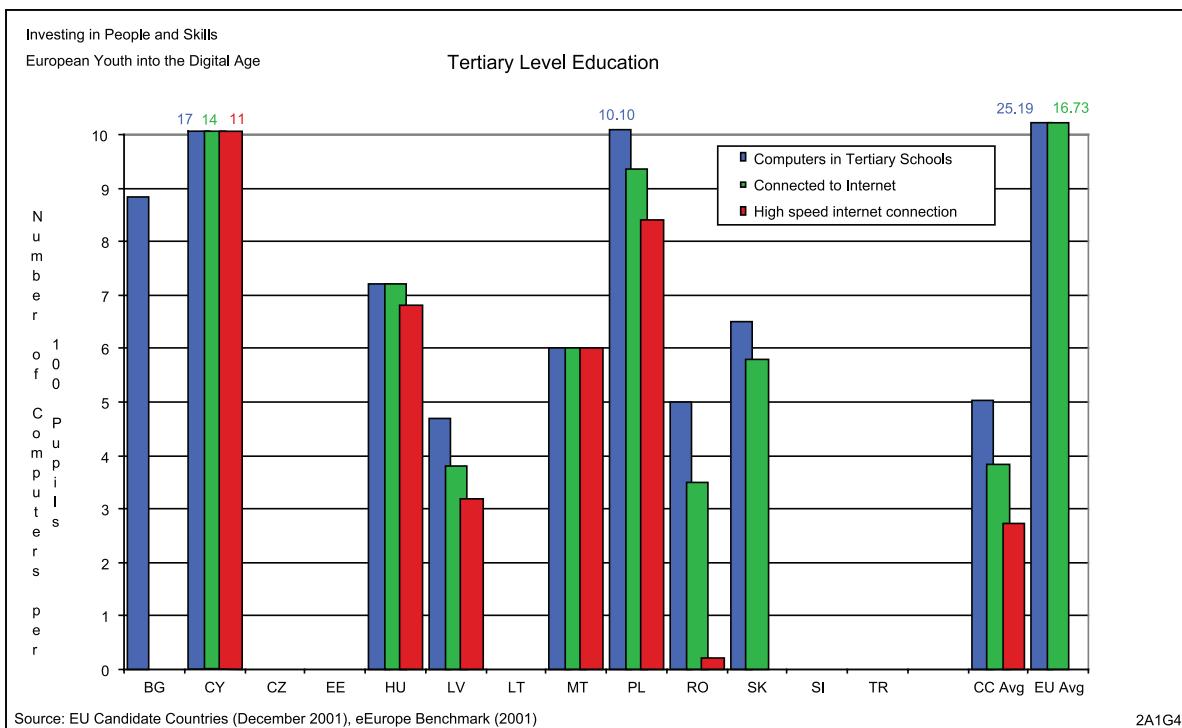
PCs per 100 pupils in secondary level education

On average, the availability of PCs in secondary level education is similar to that for the primary level. Although slightly more than half of the PCs have an Internet connection only one PC per hundred pupils has a high speed Internet connection.

In 2001, Romania introduced a system known as ADLIC (Electronic High School Admission). This system is the first Romanian system used to centralise the exam results and assign candidates to high schools according to their results and their preferences. The assignment of the high school candidates is made according to the specifications of the Ministry of Education and Research.

In Poland many programmes and projects aiming at equipping schools with computers and Internet access, IT education and improving the use of the information society technologies as well as improving the quality of teaching, have been implemented, e.g. Interkl@sa (including "An Internet classroom in every community" and "An Internet classroom in every junior secondary school"), "Equipping secondary schools with an Internet laboratory," "Teaching for the future" and two "Internet for schools" projects.

The Slovakian INFOVEK Project aims to provide Internet access to 2,500 primary and 800 secondary schools by the end of 2005. Almost 20% of the schools had been connected to the Internet at the end of 2001 and this proportion should increase to 35% by the end of 2002. In addition to the Internet connections teachers are being trained to use ICT and integrate it into the teaching and learning process using multimedia materials and digital content.



PCs per 100 pupils in tertiary level education

Particular attention must be paid to ensuring that sufficient computers are provided in tertiary level education. Any deficiencies in this area will lead to consequential delays in the availability of computer literate school leavers being integrated into the workforce. It will be another fifteen years before those currently in primary level education will be leaving school. In general, the current levels of Internet connected PCs in schools is in the range of 1 PC per 50 pupils. In some countries, the ratio of Internet connected computers is as low as 1 PC for 500 pupils and in other countries the proportion is 1 PC for 10 pupils. These divergences are significant and require particular attention. In this respect, it may be interesting for the candidate countries to share their experiences and exchange ideas on particularly successful projects, problems encountered and how these were resolved.

The current level of access to ICT in Bulgarian higher level education has been made possible by foreign funding and donations from private sponsors as university budgets do not allow sufficient ICT spending. The budget dedicated to education was 3.88% of GDP in 2001 and reached 4.13% in 2002.

Malta has undertaken a highly ambitious programme to establish all of its primary and secondary classrooms as centres of ICT-education by:

- installing PCs with high speed Internet connections in all classroom;*
- providing and updating multimedia educational software in all classrooms;*
- providing a laptop computer to every teacher in all schools;*
- undertaking a continuous in-service development programme to train teachers in the usage of ICT as an educational tool;*
- providing an e-mail box to every pupil and teacher;*
- providing a limited amount of web-space to every pupil so that they can have their own individual web page.*

An examination of other areas may provide some indicators as to whether there are other factors that have an influence. For example, are teachers reluctant to move away from traditional teaching methods or not receiving training in how to use ICT in the teaching environment? Is it that the scale of the task is such that the size of the budget required is difficult to justify?

Despite the fact that there is very limited data available with regards to high speed Internet connection for schools some preliminary remarks can be made. A few countries have taken advantage of the potential offered by the high-speed research networks and have connected the schools to these networks. Such connections open the way to utilising interactive multi-media courses and truly effective distance learning methods. Basic literacy skills are a fundamental prerequisite for inclusion in the Information Society. In some countries the rate of illiteracy exceeds 2% and can be as high as 14%. This is an area where a

In November 2001, Cyprus launched a three year, 7 M euro, programme to train all 10,000 teachers in the use of ICT and multimedia. The scheme is reinforced with government grants of 1 K euro for each teacher that wishes to purchase a personal computer.

The Czech Republic is currently implementing the first period of information educational policy called 'Internet for Schools'. It aims to make infrastructure available for all schools by 2002, improve the access by 2003 and ensure that high quality training is available at primary and secondary schools by 2005. The objective of the project is to ensure a high quality ICT literacy for primary and secondary school leavers with support of improved infrastructure and software. In total, 6,200 schools should be put online in the framework of this 250 M euro project by 2005.

coherent approach is needed involving eEurope+ and the Ministries of Education. In particular, the use of Information and Communications Technology are important in reducing the costs of the large-scale educational infrastructure needed to provide nation-wide education for all.

The availability of content in national languages has increased but there is still an implication that a certain level of skill in the English language is required to take full advantage of content and services provided over the Internet.

The Estonian Tiger Leap Plus action plan, a development program for ICT education in Estonian schools 2001-2005, is a continuation of the Tiger Leap plan. The program focuses on four priority fields: ICT competence, virtual learning, sustainable development of infrastructure, and collaboration of all parties.

Research Networks

The EU research networks regularly increase network capacity. Core network speeds of 2,5 Gbps are common and in one country the speed is 10 Gbps. The Czech Republic, Hungary and Poland already have 2.5 Gbps connections to the GEANT network and are therefore close to the EU on this front. Those countries that do not connect to GEANT will be limiting the operation of their research networks for some years to come.

The academic capabilities of the candidate countries can be engaged when the necessary networking technology is in place. New forms of learning and collaborative working with national, regional European and global partners will be denied to those candidate countries that do not take the initiative to connect to high-speed networks.

However, attention may need to be given to situations where schools have access to these research networks and where the same schools offer after-hours public internet access: the carriage of such commercial traffic over the research networks may be incompatible with the rules under which the research networks operate and with competition rules.

CESNET (Czech National Research and Education Network), established in 1996 by all universities of the Czech Republic and the Czech Academy of Sciences, has recently upgraded the CESNET2 connection to the Internet from 155 Mbs to 622 Mbs. CESNET's main goals are operation and development of the Czech NREN, research and development of advanced network technologies and applications and increased public awareness about advanced networking matters.

The Slovakian academic network (SANET) has been substantially improved and the bandwidth of the backbone network has been upgraded from 4Mbps to 1 Gbps. All the major cities will be connected by the end of 2003. SANET provides access to Internet for all universities, research institutions, scientific libraries and some schools and museums.

In Slovenia, 274 educational and research institutions are using ARNES facilities. This includes public libraries, cultural institutions and, in addition, a large number of NGOs and independent freelance intellectuals and artists. The short-term plan (2002) is to accelerate inter-city connections throughout Slovenia and examine options for the implementation of WWG technology pilot projects.

The Polish scientific community has been implementing the program "PIONIER: Polish Optical Internet - Advanced Applications, Services and Technologies for Information Society" (2001-2005), adopted by the State Committee for Scientific Research. One of the major goals of the programme is to build an intelligent optical network based on their own intercity fibre infrastructure. This network will be built with 5 000 km of fibre and will connect 21 academic metropolitan area networks in Poland with capacity of hundreds Gb/s.

Improving Public Computer Literacy

The shortage of ICT and eBusiness skills has created a barrier for fully seizing the employment potential in the EU and will be an increasing problem in the candidate countries. Even though efforts are being made to provide Public Internet Access Points these initiatives could encounter difficulties and might create greater social exclusion if the expected user population are not provided with the basic ICT skills necessary to use the services offered over the Internet.

In Bulgaria, a successful collaboration exists between the larger IT companies and the Bulgarian Chamber of Commerce to provide training to SMEs to provide them with the skills to cope with the emerging digital economy.



Stimulating Usage

Electronic commerce is developing in the candidate countries and strong impacts on industry and service organisation patterns, as well as on their business models, are to be expected and supported.

Progress in stimulating usage of the Internet has occurred in many areas. In Bulgaria, for example, approximately 90% of the content of Bulgarian websites is available in Bulgarian, including daily news and information, search engines, job recruitment pages and e-shop and electronic signature certificates for citizens and companies have started to be issued. The Government of Bulgaria's website content is available in Bulgarian and English. In other countries, efforts are being made to create a demand for eCommerce and eGovernment services and create consumer confidence in electronic payment systems. The

By the end of 2001, over 70% of the businesses in Hungary had Internet access. In the case of large enterprises this mostly means dedicated leased line services, while smaller companies, representing the majority of Hungarian businesses, mostly use ISDN. In smaller companies (less than 50 employees), the extent of use depends considerably on the industry sector - agricultural businesses or catering companies use the Internet to a lesser extent.

lack of effective implementations of electronic signature and certification authorities prevents the development and widespread usage of eCommerce services. Progress on this front will be difficult to achieve while the legislative framework has not been created.

There is very little data available at the moment on the usage of eCommerce in the candidate countries. Best efforts will be made to obtain reliable data on this topic for the next progress report due in December 2002.

The Government of Malta considers the implementation of e-Government as an e-commerce enabler. To promote this concept, in February 2002, the Maltese Ministry for Justice and Local Government which is responsible for the implementation of the e-Government programme, has officially launched its e-Government Payment Gateway, which will enable it to receive payments via the Internet for most of its G2B and G2C services. Both Government and the private sector are considering this move as an e-commerce stimulator that will induce the citizens and businesses to adopt the culture of electronic payments via the Internet.

Electronic commerce is in a 'start-up' phase in Lithuania. Its development is hindered by the lack of infrastructure necessary to support e-Signatures. At the moment, there are more than 80 Internet trade networks. The majority of these started their operations in 1999-2000.

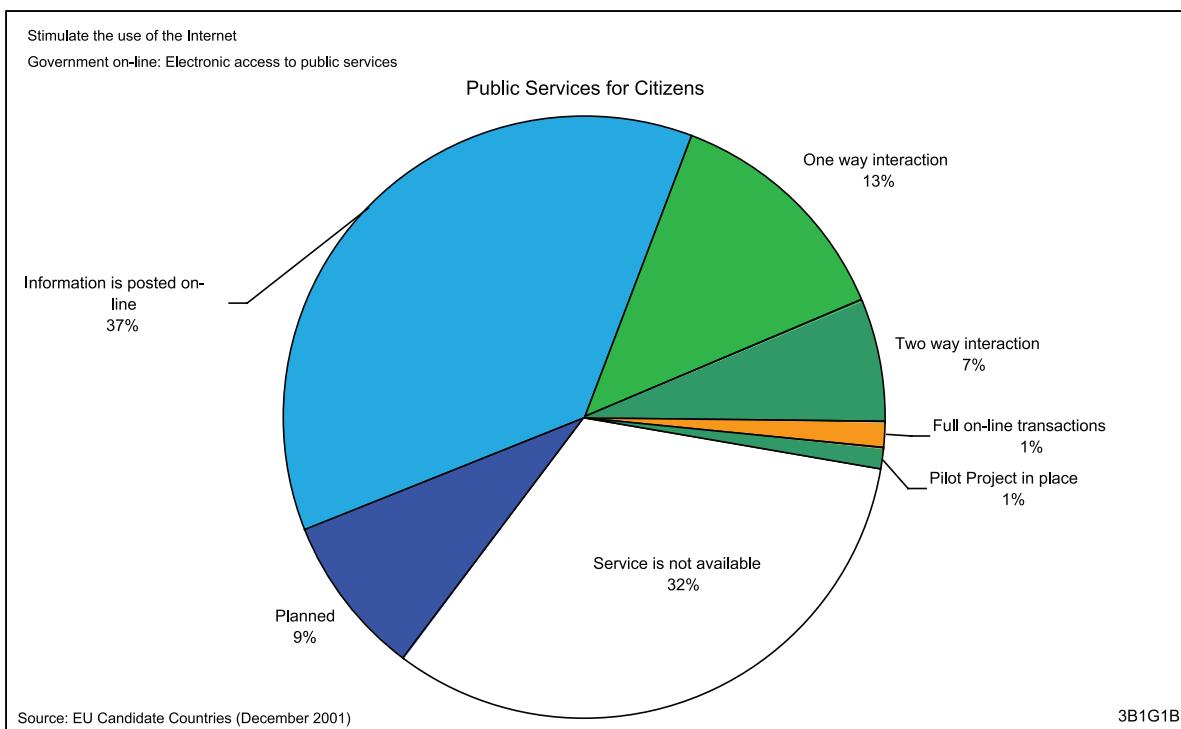
In Slovenia, a network of local and regional development centres has been put in place. Reference Centres are being established to support the introduction of eCommerce amongst SME's.

Cyprus has taken the initiative of preparing a national strategy for the development of electronic commerce, including the introduction of an appropriate legal framework.

eGovernment

The eEurope initiative identifies a number of basic services to be provided to citizens and businesses. These are listed in Annex C of this Progress Report. Progress is being made providing these services in the candidate countries. In addition to the benchmarking indicators defined in the eEurope initiative, two additional indicators are being used to monitor progress made by eEurope+. These additional benchmarks indicate whether there is a plan to provide the service and the availability of a pilot service prior to a nation-wide service rollout.

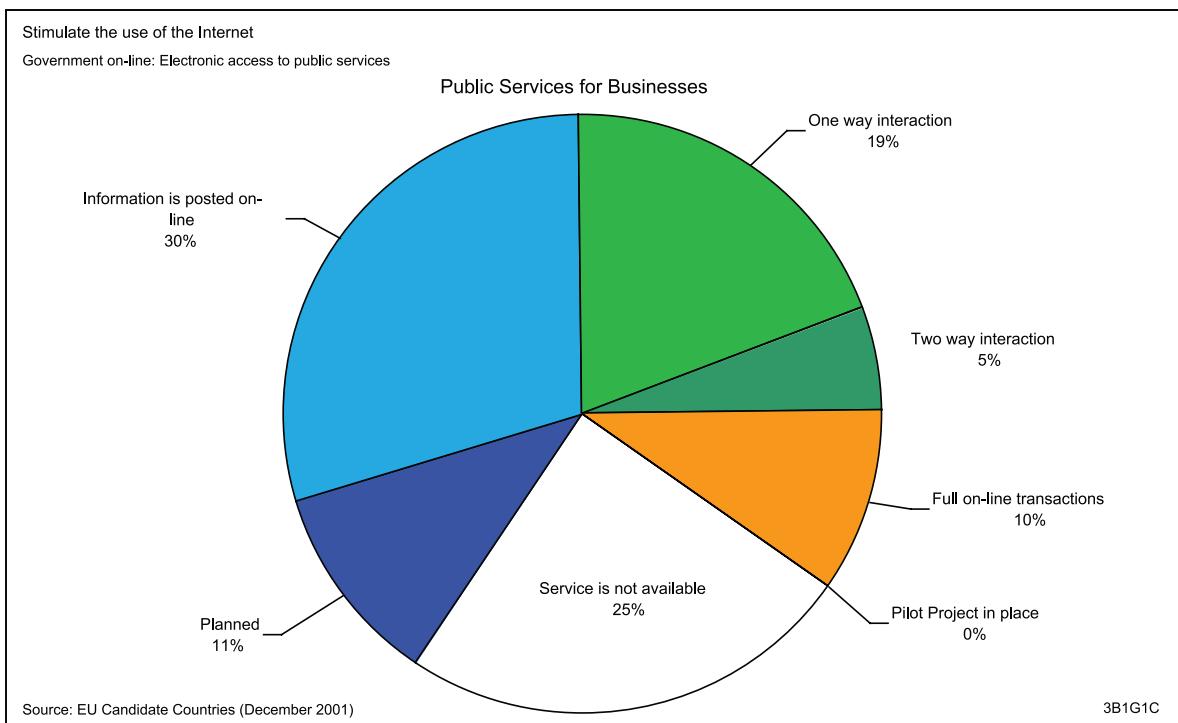
Candidate country government websites are also being evaluated against the WAI accessibility guidelines (WAI = Web Accessibility Initiative). Statistics for WAI accessibility are already available from six countries and, on average, 30% of the government websites are compatible with the guidelines, well in advance of the EU-15.



eGovernment – Public Services for Citizens

The overall situation is that 50% of the public services are available at a basic level (information is posted on-line or there is one way interaction). 8% of the services provide two-way interaction or full on-line transactions. Another 1% of the services are the subject of pilot projects and plans are in place for 9%.

The central public procurement portal allows access to information about all public lenders and auctions from the single Internet one-stop-shop in the Czech Republic. All public administration bodies are obliged to provide announcement of the public offers via this portal.



eGovernment – Public Services for Businesses

Similar progress has been made in providing services to businesses and 46% of the services now provide information on-line or in a simple one-way interaction. Two-way interaction and full on-line transactions are possible for another 11% of the services. 11% of the services are planned and only 32% of the services are currently unavailable.

The progress made in the provision of on-line government services is quite remarkable given that the indicators themselves were only agreed recently. The next challenge will be to identify which services can be progressed to move from an 'information only' implementation to a full 'two-way interaction'. This implies that the subjects of electronic signature and certification service provision have been satisfactorily addressed.

The Romanian e-Procurement system was officially launched on March 4, 2002. The system is expected to help reduce bureaucracy and corruption, by ensuring the transparency of government acquisitions and to drastically reduce public expenditure. The system will be extended gradually, in phases. In the first phase, about 400 public institutions will use the system and 10 categories of products have been identified, a total of 3000 different products, that will be acquired by these institutions only through the e-Procurement system.

All Turkish government institutions publish public information through their web sites. eGovernment applications supporting transparency and transfer of non-confidential documents and information have been initiated.



Conclusions

The results presented in this first progress report on the implementation of the eEurope+ action plan show that the **Information Society** is already very present in EU candidate countries and is the **subject of considerable political interest** due to its potential for the economies and societies in the countries.

The initial policy conclusions drawn from the appreciable amount of data that has been collected are as follows:

- i) All candidate countries have undertaken a **clear and tangible political commitment to progress the implementation of the Information Society** with the aim to make use of its full potential to modernise their economies and societies and **reduce the digital divide**: implementation of national action plans as well as the common eEurope+ action plan are evidence of these commitments. The actions undertaken go much farther than the mere implementation of EU acquis and represent a **genuine effort to progress in a more profound sense**. Moreover, in providing data and comparing that with the progress in the European Union, the **candidate countries manifest a determined interest in catching up and contribute to the establishment of the larger European market place and Information Society**. However, substantial work remains as the Information Society is a fast-moving, complex target to achieve and constant and focussed political attention is essential.
- ii) **Considerable progress** is being made with the implementation of one of the most important, basic building blocks of the Information Society, namely a **coherent and effective policy and regulatory framework**, based on EU acquis, notably in the first wave countries and in particular in the telecommunications area.
- iii) Over the last years, the candidate countries have made **great strides in basic access to communications**:
 - the average percentage of households that have fixed telephony service is closing in on the EU average,
 - mobile penetration rates are very high and often substantially higher than fixed line penetration.

- iv) However, there **remain substantial problems** in the potential use of these technologies for access to Internet:
 - fixed line networks are known to have substantial levels of faults per line (particularly where analogue switches, old loops, and shared lines are still used) and there is poor coverage in rural areas;
 - despite high penetration rates, it can not be assumed that the current generation of mobile networks are usable for access to Internet although the current upgrading technologies (e.g. GPRS) offer potential in anticipation of 3G services (UMTS);
 - Cable TV availability has not yet been exploited at any scale for use to access Internet. This may be a policy issue that needs to be addressed;
 - Alternative access technologies such as wireless local loop, DSL, and digital TV are not yet widely deployed, if at all.
- v) The availability of a fixed telephony service however, as the data suggests, does not correlate to its use for Internet access. In addition, Internet access costs, purchasing power adjusted, vary widely in the candidate countries by a factor of 7-8 for off-peak hour access and 13-15 for peak hour access. In the countries with the higher effective access costs this may be a substantial inhibitor to Internet usage. **Both the costs of Internet access as well as the cost of purchasing a personal computer representing a significant portion of the net income appear to act as blocking factors in household penetration rates for Internet access.**
- vi) In comparing Internet access costs to regular usage, there is evidence to suggest that high costs means lower regular usage. It is clear that competitive supply of services, resulting in lower access costs, is required in order to stimulate Internet usage. **The importance of an effective, and properly enforced, pro-competitive regulatory framework is self-evident.**
- vii) With a few exceptions, there is still a low penetration of computers in schools. In addition, there is substantial divergence between the countries for all three levels (primary, secondary, and tertiary). It seems that about half of the computers in the schools are connected to Internet, in some countries with a very high-speed connection via national research networks. Most of the countries have ambitious programmes that aim to connect schools and provide computer facilities. **Given the essential importance of investments in youth for the future of the countries, extra attention may need to be given to this area, including more extensive exchanges of experiences.**

- viii) In many countries either the relevant fixed line penetration (lines technically capable of Internet access) is low and sometimes even reducing, and/or alternative access technologies are not available, and/or personal computers are expensive. Consequently, **public access points remain a very important means of Internet access** for the population at large. Even more so than in the EU-15, increased policy attention needs to be given with the aim to build out the available number of public access points.
- ix) **Significant progress is made in the provision of public on-line services** through eGovernment actions in all of the candidate countries. In this way, local and federal government plays an important role as a major provider of services, boosting local, multi-lingual content, providing important impetus to eCommerce transactions because of eProcurement initiatives. Build-out of eGovernment services needs to remain a priority as this acts as a catalyst for the implementation of the Information Society in the candidate countries. In a next phase, candidate countries should also give consideration to the possibility for citizens, enterprises and administrations to have access, where appropriate, to the pan-European e-services of any European public administration in a seamless way.
- x) The available data means that this report can only draw conclusions in a few, limited areas. Little or no data is available yet in areas such as eCommerce, environment, transport and several other areas of the eEurope+ Action Plan. It is also clear that there is an interest to undertake more detailed analysis in the areas where there is data in order to better understand underlying reasons and trends. This in itself underscores **the need for increased capacity of national statistical offices and research institutions to enable adequate measuring and analysing** of the Information Society indicators as input to policy development.
- xi) Overall, it can be said that there are **considerable divergences between the candidate countries in absolute terms**. Some seemingly do better than many of the EU Member States, at least in the areas in which there is data, but many still have considerable catching-up to do.

During the last few years, an important issue has been that of “materialising the political will”. In other words, how to get from policy to practice? Policy driven development versus development driven policy? It is probable that a development driven policy may work better in the candidate countries as the implementation mechanisms are not yet operating at an optimal level and public administration reforms are still in process.

The uptake of an Internet economy is hindered by a classic chicken-and-egg scenario. A strong presence of businesses on the Internet will not develop until a critical mass of national Internet users is established in order to make the Internet a viable alternative distribution and marketing channel. On the other hand a critical mass of users will not

develop until there is a strong enough local presence and content on the Internet. This would make the use of the Internet an attractive proposition to the public, in that they would be able to access a rich array of relevant and useful local content.

The success of eGovernment and the eEconomy therefore depend on resolving this issue: a critical mass of users must be established, and, at the same time, suitable and useful content must be provided and published. However, the uptake rate is highly dependent on the purchase cost of a computer, the speed of the Internet connection, and access and usage costs.

With many of the candidate countries currently experiencing the first, rather difficult results of the liberalisation of their telecommunications markets, **attention now needs to be given to effective enforcement of the pro-competitive regulatory framework in order to bring prices down and penetration up**. Special attention will need to be given to the preparations for the implementation of the new EU regulatory package for communications services, recently adopted by Council and European Parliament.

Furthermore, important issues for the next phase of the eEurope+ action plan are: **the completion of the implementation of the EU acquis** relevant to the Information Society, in particular in relation to eCommerce as a pre-condition in creating trust and confidence in the use of Internet-based transactions; the **introduction of alternative Internet access technologies**; **the provision of computers to schools and their connection to Internet**, accompanied by appropriate curricula and training of teachers; **increasing the number of public access points** to ensure greater participation for all; and the **further development of eGovernment services and of local content**.

Since the launch of the eEurope+ action plan a number of **new challenges** have arisen, notably in the area of **cyber crime and network and information security**. Given the importance of these matters, they may be recognised as a new item to address in the next phase of the eEurope+ action plan.



Annexes

Annex A Government Policy Examples

The **Bulgarian National Program for Information Society Development** adopted in 1999 was updated in the middle of 2001 to reflect the objectives and actions of the eEurope+ Action Plan. The legal framework and strengthening of the institutions have evolved towards establishing favourable conditions for development of telecommunication and information services. As a result, the important achievement for a six-month period are: the construction of a high-speed backbone connecting all central institutions and regional centres; two main projects (establishment of a Venture Capital Fund and High Technology Business Incubators), targeted on the ICT profile SME's development have been undertaken; and Internet penetration has increased from 10% to 14%.

Cyprus adopted the guiding principles of the national Information Society strategy in mid-2000. This strategy, on the basis of which an action plan has been drawn up, is tailored to the structure, characteristics and the needs of Cyprus' economy. It takes into account the overall economic and social policy objectives, and its main pillars are the creation of a modern and technologically advanced infrastructure, the introduction of a regulatory legal framework, and the establishment of an enabling environment encouraging the effective participation of economic units and the wider public. As from the introduction of eEurope+ the national action plan priorities, as well as the short and medium term measures have been reviewed in order to accommodate the specific measures that have been adopted therein. The involvement of the private sector, including employers, SME organisations and trade unions, in redesigning policy measures was given particular attention.

In the **Czech Republic** the targets of eEurope+ have been incorporated into the updated **Action Plan of State Information Policy** (until 2003) approved by Government on 18 March 2002. The Action Plan is based on the State Information Policy, a strategic policy paper approved by Government on 31 May 1999. Various co-ordination tools have been put in place to ensure harmonised development of information society related programmes. The Government Council for State Information Policy as a main IS advisory body of the Czech Government plays an important co-ordination role throughout public administration. The Czech Forum on Information Society, consisted of private sector, academic and non-governmental representatives, is an important platform for discussion on national information society strategies development. The Czech Government passed the Green Paper on Electronic Commerce in January 2002, a strategy focusing on closer co-operation of public administration with the private sector. The paper will be followed by a White Paper on Electronic Commerce identifying remaining obstacles to smooth development of e-commerce and propose respective solutions.

Estonia's Information Policy Action Plan is the basis for all Government agencies to make specific proposals with schedules, sources of finance and responsibilities. First

approved in 1998 the priorities for 2002/2003 are currently being defined. Information Society development has become one of the main priorities in Estonia's political agenda, focusing on supporting fast economical growth, making government and businesses more effective, faster, and cheaper. Basic ICT infrastructure is already widely available. At the same time, there is constant focus on offering possibilities for all social groups and regions and many projects are dedicated to this issue.

Hungary's commitment to the development of the Information Society is reflected in the budget (165 M euro) allocated to the **National Information Society Strategy** and the Electronic Governance Programme for the years 2001-2002.

A fundamental goal of **Latvia's** national programme is to integrate Latvia into the global development process. The programme has been updated to include the concept of **e-Latvia** which is now part of the National Programme - devoted to the inclusion of everybody in the process of Information Society development.

The development of the Information Society is one of the main priorities in the Programme of the new Government of the Republic of **Lithuania**. Until 2001, Lithuania did not have a national Conception and Strategy for the development of the Information Society. Lithuania's Concept of Information Society Development was adopted in February 2001 and this was followed in August with the adoption of the Strategic Plan for the Development of Information Society for 2001-2004. The main directions highlighted in this Plan are skills, public administration, electronic business, culture, cultural heritage and language. This Strategic plan is totally co-ordinated with the eEurope+ Action plan. In 2001 established important institutions for development of Information Society: Council of Knowledge Society under President of Lithuania Republic, Commission for Information Society development under Prime Minister of Lithuania, Committee for Development of Information Society under Government of Lithuania Republic.

One of the top priorities on the government of **Malta's** agenda is the attainment of a first class information society in Malta. The Government established the **eMalta Commission** and tasked it to drive the identification, promotion and co-ordination of the initiatives required for the attainment of this objective by the end of 2003. On a parallel plane, the Government is also implementing an e-Government programme. Through this programme, the Government aims to provide over 90% of the eEurope basic Public Services on a full-transaction basis by the end of 2002. The Government is also implementing a local e-Government programme in all its Local Councils and is running an 'm-Government'

initiative aimed at delivering public services via mobile telephone.

On 28 November 2000 the Polish Council of Ministers adopted the strategic document "**Aims and Directions of the Information Society Development in Poland**". It focuses on priorities of Information Society development in Poland and on actions necessary for their implementation. On 23 January 2001 the Minister of Science - the Chairman of the State Committee for Scientific Research appointed the Forum for Information Society. It consists of high-level representatives of the governmental administration, local self-government organisations, business organisations and non-governmental organisations dealing with information society issues. On 11 September, 2001 the Council of Ministers adopted the document "**ePoland - Action Plan on the Information Society Development in Poland for the years 2001 - 2006**", which follows the approach of the "eEurope+" action plan and has to be updated annually. On 21 December, 2001 the Parliament adopted the act amending the act on the governmental administration domain, in which a new sector called IT implementation was introduced. The regulations concerning this sector will come into force on 1 July, 2002. Detailed responsibilities are being determined. The IT implementation sector will cover, among others, the issues of IT infrastructure, systems and networks, IT education, IT applications for the information society, international co-operation in the IT implementation field.

The **Government of Romania** understands that the Information Society will have a positive impact on the Romanian economy through its contributions to a growth in productivity, the diminution of social inequalities, reductions in the levels of unemployment, and an increase in the quality of the educational system brought about through the use of Information Society Services and Tools. Romania's priorities for the transition to the Information Society include: modernisation of the Public Administration and the public services, improving the quality of life through the use of information technology: health, environment, transportation, developing the Information Technology sector, developing the work force for the Information Society, adapting the educational system and developing digital content. A national ICT Task Force (GPTI) was created in February 2001. This task force is chaired by the Prime Minister and it is formed by the main e-ministries. GPTI co-ordinates the National Strategy for the implementation of the Information Society designed through the co-operation between public sector, private sector, academia and civil society.

A policy for the development of the Information Society was adopted by the government of **Slovakia** in June 2001. This policy declares the development of the Information Society as being a State priority. The strategy, including actions to be undertaken in the framework of the eEurope+ Action Plan, has been defined and submitted for government approval in March 2002. The main priorities cover the IC infrastructure, education,

eGovernment, eCommerce, research & development, and security and protection in the digital environment.

In **Slovenia**, the commitment to the development of the Information Society was clearly expressed in January 2001 when the Ministry for Information Society was established. The ministry operates in close co-operation with the Government Office for Informatics and with other ministries and government offices. On a general policy level, the ministry contributed to the creation of the Slovene National Development Plan for the period 2001-2006. In spring 2002, the ministry prepared the **National Programme Republic of Slovenia in Information Society** as a policy document for Public Administration, Economy and Civil Society. The mission of the ministry includes: to prepare legal and regulatory framework for e-business on infrastructure and services level, to liberalise information and telecommunications technologies market in Slovenia, to enforce principles of liberalised market, to promote the usage of information technologies, to promote the development of services and content in public administration, economy and civil society. Progress has been made concerning all listed objectives.

The information society policy studies, initiatives and projects in Turkey have gained a new impetus after the launch of eEurope+ in June 2001. The existing efforts to transform the society into the harmonised combination of a knowledge-based economy and value adding citizens found a common appreciation at all levels of public, private, and non-governmental sector. This has resulted in the '**eTurkey**' initiative. 13 working groups have been formed with members from governmental institutions, private sector, non-governmental organisations and social partners under the supervision and co-ordination of the Prime Minister's office.

Annex B Relevant Acquis

The acquis identified here is the most relevant to the Information Society and only lists the EU Directives and most significant amendments. A complete list of the amendments and Council Resolutions is contained in Chapter 19 of the accession documents.

Telecommunications Acquis

- 1999/64/EC** 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
- 1999/5/EC** Radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity
- 1997/66/EC** Personal data in telecoms
- 1997/33/EC** Interconnection in Telecommunications with regard to ensuring universal service and interoperability
- 1996/2/EC** Amending Directive 90/388/EEC with regard to mobile and personal communications
- 1995/47/EC** Standards for the transmission of television signals
- 1994/46/EC** Amending Directive 88/301/EEC and Directive 90/388/EEC with regard to satellite communications
- 1992/44/EEC** Application of open network provision to leased lines
- 1991/287/EEC** Frequency band for digital European cordless telecommunications
- 1990/544/EEC** Frequency bands for land-based public radio paging
- 1990/388/EEC** Competition in the markets for telecommunications services
- 1990/387/EEC** Internal market for telecommunications services through the implementation of ONP
- 1987/372/EEC** Public pan-European cellular digital land-based mobile communications in the Community

eCommerce Acquis

- 2000/31/EC** eCommerce Directive
- 1999/93/EC** Electronic Signature
- 1998/84/EC** Legal Protection of Services
- 1998/34/EC** Information Society Services
- 1997/7/EC** Distance Contracts
- 1996/9/EC** Legal protection of databases
- 1995/46/EC** Protection of Personal Data
- 1993/98/EEC** Protection of copyright
- 1993/22/EEC** Investment Services
- 1993/13/EEC** Unfair terms in consumer contracts
- 1992/100/EEC** Rental and lending
- 1991/250/EEC** Legal protection of computer programmes
- 1987/102/EEC** Consumer Credit
- 1984/450/EEC** Misleading and Comparative advertising
- 1977/388/EEC** Turnover taxes and common system of VAT

Annex C eGovernment Services

The following list identifies the public services being used as part of the eEurope benchmarking. This list is also being used by eEurope+.

Public services for Citizens	Title
(1) Income taxes	Declaration Notification of assessment
(2) Job search	Services by labour offices
(3) Social security contributions	Unemployment benefits Family allowances Medical costs (reimbursement or direct settlement) Student grants
(4) Personal documents	Passport Driver's license Protection of copyright
(5) Car registration	New, used and imported cars
(6) Application for:	Building permission
(7) Declaration to the police	(e.g. in case of theft)
(8) Public libraries	Availability of catalogues Search tools
(9) Certificates (request and delivery)	Birth certificate Marriage certificate
(10) Enrolment in:	Higher education University
(11) Announcement of moving	Change of address
(12) Health related services	Interactive advice on the availability of services in different hospitals Appointments for hospitals

Public services for Businesses	Title
(1) Social contribution	For employees
(2) Corporation tax:	Declaration Notification
(3) VAT:	Declaration Notification
(4) Registration	Of a new company
(5) Submission of data	To statistical offices
(6) Customs	Declaration
(7) Environment-related permits	(incl. reporting)
(8) Public procurement	

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