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**COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE
EUROPEAN PARLIAMENT, THE ECONOMIC AND SOCIAL COMMITTEE AND
THE COMMITTEE OF THE REGIONS**

(Text with EEA relevance)

***e*Europe 2002 Final Report**



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1. INTRODUCTION

The *eEurope* 2002 Action Plan was endorsed at the Feira European Council in June 2000 as part of the decade-long Lisbon strategy of economic, social and environmental renewal. It was complemented by the *eEurope+* initiative launched by the candidate countries in reply to the invitation of the Feira European Council to take on board the Lisbon strategy. The Action Plan set out 11 action areas in which there were a total of 64 targets to be achieved before the end of 2002.

eEurope targets have been monitored regularly through the benchmarking exercise. Benchmarking forms part of the open method of co-ordination, promoted by the Lisbon European Council, whereby monitoring, exchange of best practices and peer review are applied to improve convergence of national performances towards the goals and targets for the Union set out in the Lisbon strategy. The benchmarking of *eEurope* is based on a list of 23 sector-specific indicators endorsed by the Council in November 2000. Intermediate measurements of these indicators were presented in the Commission Communications '*Impacts and Priorities*' in March 2001¹ and '*eEurope Benchmarking Report*' of February 2002².

The present document highlights the achievements of *eEurope* and identifies remaining obstacles to the full development of the information society in Europe. There is also an accompanying [Commission Staff Working Paper] which provides a commentary on progress in each of the 64 targets.

In terms of realising the targets endorsed at the Feira European Council, *eEurope* has been a major success. Most of the 64 targets have been achieved. Its success is due to the contributions of many actors in the European Institutions, Member States, Industry and Social Partners. Its achievements are notable as they have been realised despite the difficulties of a sharp decline in the stock market, particularly in ICT stocks, high levels of debt, and subsequent reductions in investment. The goal of a competitive knowledge based economy is still some distance away, but *eEurope* has laid solid foundations.

In general *eEurope* has been strong on bringing citizens and businesses online and establishing a framework within which the knowledge economy can grow. Translating these achievements into tangible economic benefits, higher productivity, improved quality of service, greater social inclusion and non-inflationary growth, cannot be done quickly. Achieving these gains through effective use can only be realised by restructuring economic behaviour, modernising practices and undergoing organisational change to exploit the new technologies. This is a long run process and achieving it in two years was beyond the scope of *eEurope* 2002. To summarise:

- **Internet connectivity has grown rapidly.** When *eEurope* was launched, few had access to the Internet. In 2002, more than 90% of schools and businesses are online and more than half of Europeans are regular users. Europe now has the fastest backbone research network in the world. Widespread take up of high-speed connections by households and SMEs is

¹ COM(2001) 140, 13.3.2001. All documents referenced in this Communication are available from the *eEurope* web site: <http://europa.eu.int/eeurope>

² COM(2002) 62, 5.2.2002.

going to be the next challenge. There are still significant differences in connectivity between Member States.

- A **legislative framework for electronic communications** and for **e-commerce** has been agreed. Telecom legislation has been designed to strengthen competition in the market and thereby reduce prices and to stimulate innovation. Prices have fallen and that competition has been improving. For e-commerce, a series of directives have been adopted to increase certainty in e-commerce transactions, in particular cross-border trade, and to ensure an adequate level of consumer protection.
- **Increasing effective use of the Internet** is the focus of the next step, eEurope 2005. This means for example, more firms to use e-commerce; schools not only connected but also making full use of the Internet in class; government services offered online as well as fully interactive, more use in the health sector where there are great demands for up-to-date information. More training is needed for the benefit both of workers and companies. Action must be taken to address the current gaps in access and use of digital technologies so to ensure that all Europeans have the opportunity to take advantage of them for their social and working life.

A detailed analysis of the benchmarking statistics that led to these conclusions is given in section 2. This is followed by Conclusions focusing on the removal of residual obstacles to the full development of the digitaleconomy.

2. OVERALL ASSESSMENT OF eEUROPE 2002

2.1 Connectivity

The Lisbon strategy has been based on the paradigm of innovation, employment and growth. At the end of the nineties, there was an evident economic divergence between the USA and Europe. The US economy accelerated, doubling the rate of growth of investment, while Europe slowed down and growth in investment reduced.

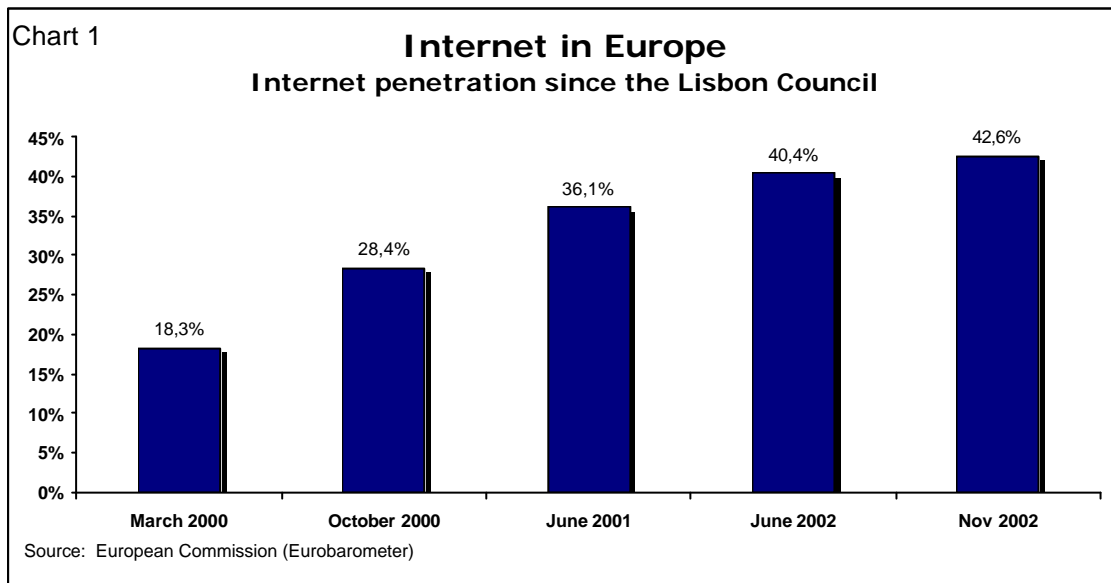
In the first half of the nineties, US investment was increasingly comprised of information technology products. The increase in US investment in this period was probably cyclical³, and restricted to a few sectors. The high levels of investment in computers did not appear to improve the productivity of those other sectors in which they were being used.

However this changed in the mid-90s, at least in the USA. New data revealed an acceleration of growth as a result of an increase in the rate of productivity. This shift in the rate of growth coincided with a reduction in the price of computers and with the widespread adoption of the Internet. A major factor in the productivity increase was the very high productivity level of the ICT sector. It was only when computers became widely available and got connected, enabling networking and affecting production processes, that productivity gains spilled over to non-IT industries.

³ Investment usually increases as an economy comes out of recession. This was the case of the US in the early 90s.

The *eEurope* initiative considered the Internet as a potential source of productivity growth. Together with increasingly powerful computers and advances in telecommunications, the Internet is at the heart of the digital economy. Its networking abilities make it the very basis of the information society. *eEurope 2002* therefore aimed at increasing connectivity throughout the EU.

Extending connectivity in Europe will increase its value to European citizens and businesses. High levels of connectivity create a bigger market for both sellers and buyers, and introduce the potential for productivity gains through reorganising business processes. This section briefly reviews growth in connectivity of citizens and enterprises, and the conditions under which it occurred, during the course of *eEurope*.



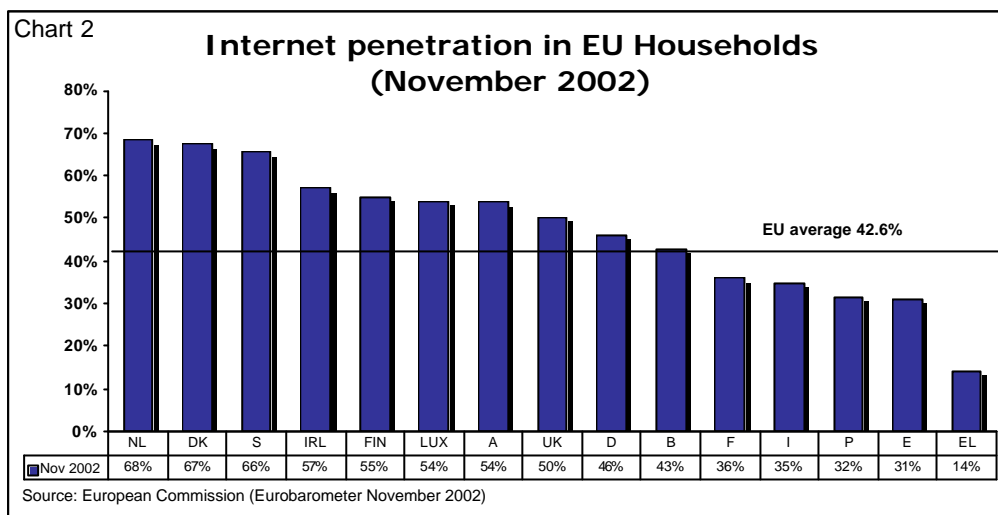
2.1.1. Internet Penetration

Internet connectivity of households increased from about 18% in March 2000 to 43% in November 2002 (Chart 1). Internet through TV sets and mobile devices remains marginal, though these are expected to grow rapidly in future.

The rapid overall rise in household Internet penetration hides wide disparities between Member States (Chart 2)⁴. Three countries have Internet penetration rates above 65% and five others above 50%⁵. Two more countries are above the average, whilst five countries are well behind the EU average. Greece is an outlier with penetration of less than 14%, a figure which increased only marginally over the past two years.

⁴ Note that surveys are based on telephone interviews and therefore penetration rates tend to be slightly overestimated as households without a fixed telephone can be considered not to have an Internet connection at home.

⁵ In comparison, the US Dept. of Commerce calculated that 50.5% of US households were connected to the Internet in September 2001. By November of 2001 the EU figure was 37.7%.



The results are generally encouraging but there remain areas of slow growth and big differences between and within Member States. For example, in November 2002, 47% of women use the Internet, in comparison to 60% of men. This difference reduced only marginally during the last two years: in October 2000, 35% of women and 50% of men answered that they used the Internet. Internet usage is particularly high amongst young people, those with higher education and those who live in a city.

eEurope 2002 stressed the importance of reducing regional differences in the deployment of information infrastructure. To this end, the Commission increased the priority given to information society projects within the existing Structural Funds programmes. A recent evaluation⁶ shows that Structural Funds have made a significant contribution to the development of the information society in less developed areas, and particularly to the achievement of the Lisbon objectives. About €10 billion from Structural Funds are being deployed through investments in support to infrastructure development (in particular broadband), e-government, e-commerce and ICT skills⁷. The EIB also contributed to the Lisbon strategy through the 'Innovation 2000 Initiative'. At the end of 2002 the bank had approved loans for an amount of €14.4 billion in favour of innovative projects (including e-services)⁸.

Internet connectivity in businesses is far higher than the household rate. Almost all large enterprises (with more than 250 employees) and over 80% of all companies with more than 10 employees are using the Internet. There is evidence of a north-south divide with Nordic Countries far more advanced than those of southern Europe but the latter are catching up according to the latest available Eurostat data. More detail on Internet use by businesses is given in the discussion of eCommerce in section 3.3 below.

Internet connectivity of schools reached 93% in February 2002 and most Member States had either achieved or were on track to reach the target of having all schools connected by end 2002. Schools will now have to address upgrading to broadband and ease of access, as exemplified in section 2.3.1 below. The Barcelona European Council in March 2002

⁶ "Thematic Evaluation of the Information Society" by Technopolis, study carried out for the European Commission (DG REGIO), 2002.

⁷ While information society projects represented about 2% of Structural Funds expenditure in the 1994-1999 programming period, they now comprise more than 7% of appropriations for 2000-2006 in Objective 1 and 2 areas.

⁸ Out of this total, 30% was for education and e-learning, 30% for ICT and 8% for diffusion (e.g. information platforms in health and tourism sectors). The remaining 32% was for R&D.

underlined the importance of computers in schools and called on Member States to ensure that the ratio of internet-connected PCs to pupils was brought down to one for every 15 pupils.

2.1.2 *More competition is reducing prices*

Internationally available statistics have shown a clear relationship between Internet price and penetration. The approach of eEurope 2002 was to stimulate competition and thereby to drive prices down to competitive levels away from monopoly prices. This has proved successful as regards Internet access by a standard dial-up telephone line for which prices have fallen continuously and substantially in the last two years. Monthly costs for a typical residential user, 20 hours of usage off-peak, are now between €10-20 in most Member States, including call charges. **Thus, the marginal costs of Internet access for a PC owner have become small.**

Most Internet users still use dial up connections to access the Internet, a temporary connection associated to low speed, which prevents the downloading of rich applications. These inconveniences are overcome by high-speed, always-on (permanent) broadband connections. As part of the eEurope benchmarking exercise, prices of ADSL and cable connections – the only widely available broadband access technologies – have been tracked. While it is difficult to provide unambiguous comparisons across Member States the following features are clear:

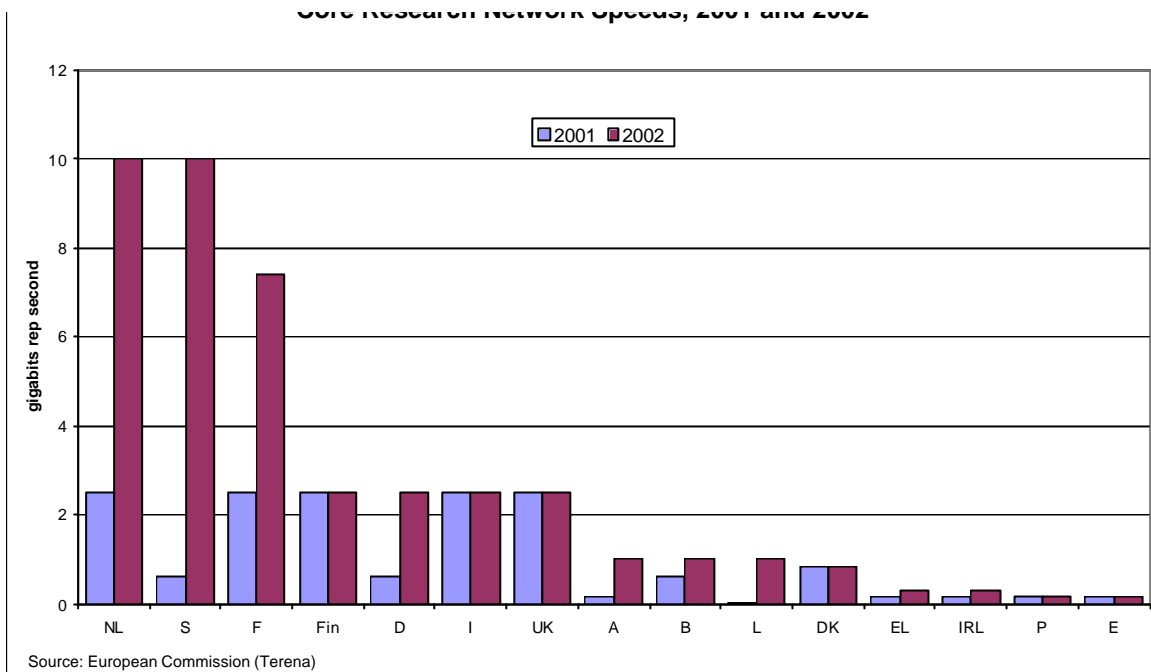
- ADSL prices are falling and at the same time the bandwidth offered has increased although there are wide differences across Europe.
- Competition is still limited but has successfully reduced prices in some Member States, especially where alternative networks exist e.g. in Belgium where there is nearly 100% cable penetration, ADSL prices are amongst the lowest in Europe (and broadband penetration one of the highest).

Data on broadband penetration are limited (the Commission will monitor availability of connections through the benchmarking of eEurope 2005). In several European countries broadband is developing rapidly, some achieving penetration rates near the top of the international league. In some EU countries broadband developments still have to take off. Competition in the EU for the supply of broadband access is still limited, but will be further strengthened by the implementation of the new regulatory framework for electronic communications (see section 2.2 below). Widespread availability of broadband access is also one main objective of the eEurope 2005 Action Plan, which focuses on broadband as the essential infrastructure to achieve the knowledge-based economy by 2010.

2.1.3 *Fast research networks*

eEurope has tackled one particular aspect of broadband by creating a high speed backbone for universities and research institutes. The Commission has co-funded the work of 27 national research and education networks, including all Candidate countries, to upgrade their interconnection networks. In December 2001, the GEANT network reached a maximum speed of 10 Gigabit/s and a total transmission capacity of over 130 Gb/s, transferring more than 1 Petabyte of data per month at the end of 2002.

GEANT has now become the fastest research network backbone in the world, offering the widest geographic coverage (32 countries). In 2002, GEANT reinforced its connectivity to other regions in the world (e.g. North America and Asia Pacific) and it is in the process of establishing direct connectivity to the Mediterranean and Latin America regions. Thus, enabling European researchers to collaborate with colleagues from around the globe.



GEANT is a much needed infrastructure tool for the establishment of the European Research Area. An important goal of the Lisbon strategy towards the most dynamic knowledge-based economy in the world has been realised with the high-speed interconnection of more than 3100 research and education institutions. GEANT has set the basis for the emergence of a European Grid⁹ infrastructure and allowed the initiation of the first important Grid-focused RTD projects of which the most important is the DataGrid project led by CERN.

This tremendous increase of European backbone capacity allowed the NRENs to significantly increase their national backbone speeds as well. This is shown in Chart 3 which gives national backbone capacities before (June 2001) and after (June 2002) the introduction of GEANT.

The *e*Europe Action plan aimed to interconnect high-speed research networks not only to universities, but also to schools. As a matter of fact all universities and most institutes of higher/further education are permanently connected, sometimes with innovative solutions (such as wireless campus networks). Still more efforts are being done to further upgrade national networks and to interconnect other learning facilities (e.g. primary and secondary schools, libraries, etc.) to these networks.

2.2 Legislative acts

2.2.1 *The new regulatory framework for electronic communications*

Focusing on connectivity, the *e*Europe 2002 Action Plan highlighted the necessity of lower prices for a quicker take up of the Internet, and identified the new regulatory framework as the main tool for reinforcing competition and delivering competitive prices. *e*Europe 2002 called for all possible efforts to be made to ensure that the framework was adopted as soon as possible, and for “*work towards introducing greater competition in local access networks and unbundling of the local loop*” to be carried out.

In July 2000 the Commission proposed a package of measures for a new regulatory framework for electronic communications networks and services. The package consists of

⁹ The Grid can be defined as the scientific problem solving infrastructure of the 21st century. It is a heterogeneous set of advanced networks, computers, storage devices and scientific instruments that collectively interact and manage information in the service of the research community (industrial applications are already under development). <http://eu-datagrid.web.cern.ch/eu-datagrid/>

five European Parliament and Council Directives under Article 95, one Commission Directive to be adopted under Article 86, and one Commission Decision on a regulatory framework for radio spectrum.

The texts making up the regulatory framework are the following:

- Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, (“**Framework Directive**”)¹⁰
- Directive 2002/20/EC of the European Parliament and of the Council on the authorisation of electronic communications networks and services, (“**Authorisation Directive**”)¹¹;
- Directive 2002/19/EC of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associated facilities (“**Access Directive**”)¹²;
- Directive 2002/22/EC of the European Parliament and of the Council on universal service and users’ rights relating to electronic communications networks and services (“**Universal Service Directive**”)¹³; and
- Directive 2002/58/EC of the European Parliament and of the Council concerning the processing of personal data and the protection of privacy in the electronic communications sector (“**Data Protection Directive**”)¹⁴. This directive is currently undergoing its ‘second reading’ in the European Parliament.
- Directive 2002/77/EC on **competition in the markets for electronic communications networks and services**¹⁵, consolidating the existing liberalisation Directives applicable to telecommunications.
- **Radio Spectrum Decision** 676/2002/EC, establishing a legal framework to achieve the harmonisation of the use of radio spectrum¹⁶.

In addition, the Commission proposed a European Parliament and Council Regulation (2887/2000) for unbundled access to the local loop which was adopted in December 2000 and entered into force on 2 January 2001. However, the effective implementation is uneven and progress has been slow.

Member States are expected to transpose the legislation by 25 July 2003. The new framework will also be adopted by all those countries joining the EU over the coming years.

The new regulatory framework aims to further strengthen competition in the market, thereby reducing prices, stimulating innovation, and ensuring consumers’ choice, creating the necessary conditions for improving the upward trend in high-speed Internet penetration.

The evolution of the regulatory model has been a timely response to the emergence of innovative services generated by convergence of telecommunications and information technologies, whereby similar services can be delivered over different types of networks. The new regulatory framework takes convergence into account by adopting a technologically-

¹⁰ OJ L 108, p.33 of 24.4.2002.

¹¹ OJ L 108, p.21 of 24.4.2002.

¹² OJ L 108, p.7 of 24.4.2002.

¹³ OJ L 108, p.51 of 24.4.2002.

¹⁴ OJ L 201, p.37 of 31.7.2002.

¹⁵ OJ L 249, p.21 of 17.9.2002.

¹⁶ OJ L 108, p.1 of 24.4.2002.

neutral approach, applied homogeneously to all transmission infrastructures, irrespective of the types of services carried. Content services are outside the scope of the framework.

The primary responsibility for implementing the new framework lies with the national regulatory authorities of the Member States. The regulatory process will be based on the analysis of the degree of competition on the relevant market, and on the identification of the operators holding significant market power. Whenever the evolution of markets generates bottlenecks, the regulatory framework will allow for intervention to fix access obligations, to promote transparency and non-discrimination. Thus, there is a fine balance between the adaptation of regulation to changes in the marketplace and the provision of legal certainty to operators. Further guarantees for innovators are given by the non-applicability of access rules in emerging markets.

2.2.2 *e-Commerce*

The legal framework has been improved by the completion of the internal market for Information Society services through the adoption of Directives on electronic commerce (2000/31/EC)¹⁷, electronic signatures (1999/93/EC)¹⁸ and copyright and related rights in the Information Society (2001/29/EC)¹⁹. This will help to provide more business certainty in carrying out electronic commerce across the EU's internal borders and ensure an adequate level of consumer protection.

The *eEurope2002* Action Plan also called on the Commission to promote self-regulatory initiatives: “*Commission to stimulate increased flexibility in e-commerce regulation by building more on co- and self-regulation, inter alia through co-operation with relevant business groups such as the Global Business Dialogue.*”, and also highlighted the importance of building consumer confidence in e-commerce.

In keeping with these objectives, the Commission has supported a wide range of non-legislative initiatives, for example in the field of online dispute resolution and has supported the activities of the Global Business Dialogue (GBDe). In the area of consumer confidence in particular, the Commission launched the e-confidence initiative to encourage the definition of common standards for trustmarks with the aim to promote good online business practices and bolster confidence in e-commerce.

2.3 **Stimulating the effective use of the Internet**

While connectivity supplies the ‘infrastructure’, and the legal frameworks create the conditions for its exploitation, the adoption of the ‘new technology’ carries the potential of improving the way in which certain activities are carried out. The networking capabilities of the Internet can change the way we work and learn, how we relate to the public administration, the healthcare services that are available and how people with disabilities are integrated into our society. This section uses the benchmarking indicators agreed at the November 2000 Internal Market Council to analyse how the network has been adopted to develop an inclusive European digital economy.

2.3.1 *Internet in schools*

An essential requirement for Europe to create a knowledge economy is to invest in modernising education and to provide schools, teachers and students with easy access to high

¹⁷ OJ L 178, p.1 of 17.7.2000.

¹⁸ OJ L 13, p.12 of 19.1.2000.

¹⁹ OJ L 167, p.10 of 22.6.2001.

quality information and communication resources. Progress over the past two years in connecting schools and supplying computing resources to staff and students has been a success story. Developments in education have been monitored by annual surveys of teachers and school principals and the key findings are as follows:

- The level of **computer equipment in EU schools** is high and rising. On average, there are 10 pupils per off-line computer compared with 12 pupils per computer in 2001. The number of pupils per online computer has fallen from 25 to 17, although there are wide variations around these averages across Member States.
- The main factor influencing the standard of computer equipment is still the level and type of education. At EU level, **the number of pupils per computer** more than doubles between professional/technical and secondary education (from 3 to 7 for off-line and 4 to 10 for online computers), and doubles again between secondary and primary education (from 7 to 12 for off-line and 10 to 25 for online computers).
- eEurope aimed to have all schools connected by end 2002. **By February 2002, 93% of schools were already connected.** However, connections are not always available in the classroom, impeding teachers use the Internet for educational purposes.
- In terms of bandwidth, narrowband connections predominate, but **broadband** has grown considerably. This is linked to the development of ADSL, which has increased fourfold from 5% to 19% of schools, while cable modem connections have remained stable at 6%. Broadband is more extensive in urban areas and is also more widespread in professional/technical and secondary education than in primary schools.
- Over half of **EU teachers** have been officially trained in the use of computers and four in ten in how to use the Internet. More than nine out of ten teachers use a computer at home, and almost eight out of ten have an Internet connection at home. Furthermore, almost nine out of ten teachers are convinced that the Internet has already changed or will sooner or later change the way they teach.

In schools greater emphasis is being placed on the quality of e-learning products and services, and on the pedagogical context for their use. We are moving beyond questions of connectivity and infrastructure, to ones associated with content, teacher training and organisational implications, including new social interactions inside and beyond schools

2.3.2 *Working in the knowledge-based economy*

The eEurope 2002 targets set in relation to working in the knowledge economy cover skills, training, flexibility in the workplace and the promotion of training centres and public Internet access points to give wide access to life long learning to all citizens. Achieving these targets require contributions from a range of actors in the public sector, the private sector and from social partners. To facilitate their co-operation, the Commission established a high-level group, ESDIS²⁰, to monitor and support the activities of all participants and promote the exchange of good practices.

In relation to **digital literacy of the labour force** the proportion of the working population receiving computer training increased from 23% to 29% between 2000 and 2001 but this increase did not continue in 2002. The need for more computer training is underlined by the fact that, in all

²⁰ Employment and Social Dimension of the Information Society - http://europa.eu.int/comm/employment_social/knowledge_society/esdis_en.htm

Member States, the proportion of the working population using computers at work was far higher than the proportion being trained.²¹

To promote wider training, ESDIS issued a recommendation²² in November 2001 for the **European Computer Driving Licence (ECDL)** to be accepted as a Europe wide basic IT accreditation scheme, without prejudice to either existing national schemes.

In terms of **greater flexibility in the workplace**, a significant achievement has been the joint agreement by social partners on telework²³, signed in July 2002, which follows up the 2001 agreements in the commerce and telecommunications sectors²⁴. The percentage of the European workforce teleworking (regularly or occasionally) raised from 5.6% in 2000 to 8.2% in 2002²⁵.

Public Internet access points (PIAPs) represent an important tool not only for accessing the web but also for training and e-working. There has been considerable progress in the setting up of these centres, used by about 8% of European Union citizens

2.3.3 *Participation for all in the knowledge-based economy*

The eEurope 2002 Action Plan was subtitled ‘an Information Society for All’ and aimed at ensuring a truly inclusive Information Society. eInclusion is now addressed in both the European Employment Strategy and the Social Inclusion Process, on the basis of a report²⁶ developed with the support of ESDIS. A detailed presentation of achievements in the domain of **e-Accessibility** is given in the Working Document “*Delivering e-Accessibility - Improving disabled people’s access to the Knowledge Based Society*”²⁷ and by the reports for each of the actions in the action plan, summarising the main results achieved, remaining issues and proposed solutions²⁸. These are summarised below:

- (a) Adoption of the Web Accessibility Initiative (WAI) guidelines for public web sites, as proposed by the Commission²⁹, and largely supported by the Council and the Parliament³⁰.
- (b) Review of relevant legislation and standards to ensure conformity with accessibility principles; The report recommends the monitoring of the progress of the situation in Europe through the development of relevant indicators.
- (c) The Network of Centres of excellence in Design for all, EdeAN, was launched in July 2002 and now has around hundred members.

²¹ See *Strategies for jobs in the Information Society*, SEC(2001) 222 and *Information Society jobs - quality for change*. SEC(2002) 372 available from

²² http://europa.eu.int/comm/employment_social/knowledge_society/index_en.htm

²³ http://europa.eu.int/comm/employment_social/knowledge_society/it_skills_en.pdf

²⁴ http://europa.eu.int/comm/employment_social/news/2002/jul/145_en.html

²⁵ http://europa.eu.int/comm/employment_social/knowledge_society/tw_commerce.pdf ;

http://europa.eu.int/comm/employment_social/knowledge_society/tw_telecoms.pdf.

Source: Eurobarometer November 2000, October 2002.

²⁶ SEC(2001) 1428. http://europa.eu.int/comm/employment_social/knowledge_society/eincl_en.pdf The report identified gaps in Internet use, threads and opportunities for social cohesion, and presented policies and best practices, leading the way to Council Resolution 2001/C 292/02.

²⁷ SEC(2002) 1039 - http://europa.eu.int/comm/employment_social/knowledge_society/eacc_en.pdf

²⁸ http://europa.eu.int/information_society/topics/citizens/accessibility/index_en.htm.

²⁹ COM(2001) 529 final, eEurope 2002:accessibility of public web sites and their content

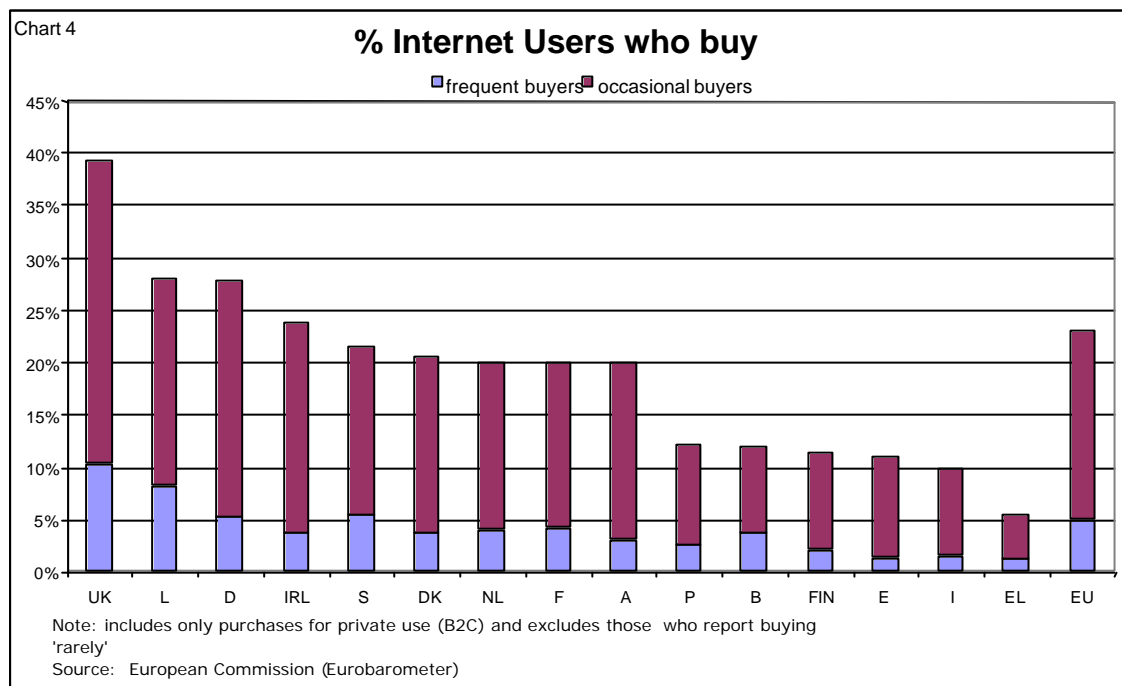
³⁰ Resolutions CR 7087/02 of 20th march 2002 and EPR P5_TA(2002)0325 of 13 June 2002.

- (d) Publication of "Design for all" standards for accessibility of information technology products, in particular to improve the employability and social inclusion of people with special needs.

Under *eEurope 2002* a standardisation common work programme has been revised every year permitting the implementation of the main priorities and activities in this area.

2.3.4 Accelerating e-commerce

Demand from consumers for electronically-traded goods and services (B2C) is continuing to grow but less fast than business-to-business (B2B). In October 2000, 18.5% of Internet users made purchases online 'frequently' or 'occasionally'. This increased to 23% by November 2002. Internet users from the UK are by far the most likely to purchase online and the only other Member States where more than a quarter of Internet users purchase online are Germany and Luxembourg (Chart 4).



Business-to-consumer (B2C) e-commerce makes up only around 1% of total retail sales and cross-border B2C inside the EU is still only a fraction of total e-commerce activities. The bulk of e-commerce activity is represented by business-to-business (B2B), which makes up more than two-thirds of the total value of e-commerce transactions.

According to the *e-Business W@tch* survey (conducted in mid 2002), many more European enterprises are buying online than selling online. In some sectors (ICT services, business services, electronics, publishing & printing), more than 45% of companies buy online. In comparison, slightly more than 1 in 10 enterprises sell online and this percentage has even decreased between 2001 and 2002 in some Member States according to the latest available Eurostat data.

Differences between large and smaller enterprises also exist with respect to the quality of access to the Internet. More than a quarter of small enterprises still connect to the Internet with an analogue dial-up modem. Larger enterprises are better equipped with fixed network connections and more than half of those having access to the net with more than 2 Mbps (according to the *e-Business W@tch* data). Such significant differences have been observed

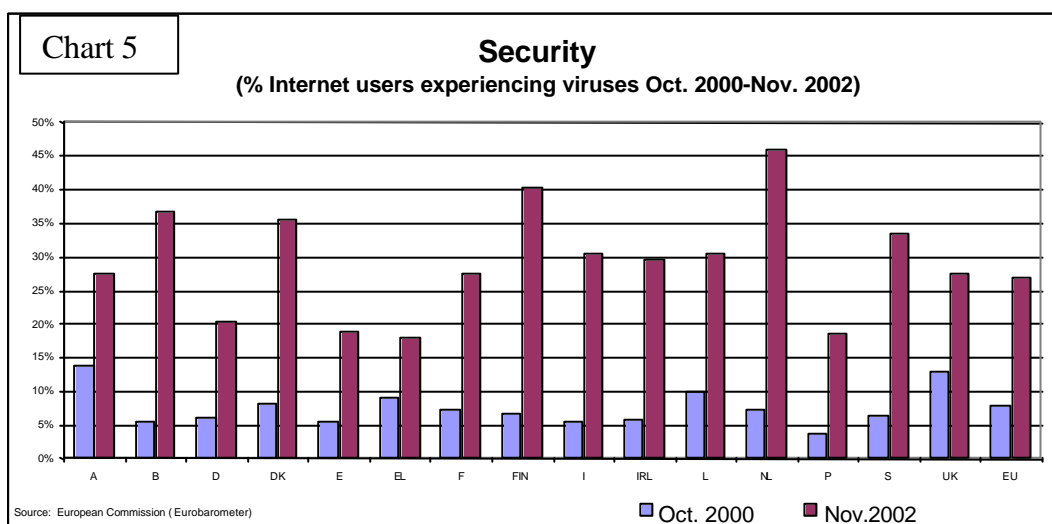
not only between companies from different Member States or of different size, but also between companies operating in different sectors.

The steady integration of ICTs into business processes may have a significant impact on the economy as a whole, in terms of efficiency expected to materialise into productivity gains. In this context, focus is already shifting to e-business as a wider concept encompassing not only e-commerce activity but also the electronic integration of internal processes.

SMEs are still lagging behind large firms in integrating e-business technologies into normal business practices to realise their full potential. All Member States are taking measures to help their SMEs to Go Digital. The EU benchmarking initiative of national and regional policies in support of e-business for SMEs, identified about 180 such public-funded initiatives, and suggested 19 examples of good policies in support of e-business. The benchmarking exercise demonstrated that further efficiency gains could be reaped from networking national and regional initiatives, sharing information and experience and learning from each other. This is taken up in the *eEurope* 2005 Action Plan.

2.3.5 A more secure Internet

For computers and communication networks everywhere, security has become a major concern. During the short period of *eEurope* there has been a visible increase in threats and security incidents. Virus attacks in particular have become much more common as shown in the chart .



Actions are underway in a number of areas to improve protection against security threats. An electronic signatures Directive³¹ was adopted but use of this form of authentication is limited. The roll out of a more secure Internet Protocol is only slowly progressing. *eEurope* also triggered a major industry-led smartcard initiative backed by €100m research funding. This initiative achieved its target of establishing a smart card charter which was launched at under the Danish Presidency in December 2002³².

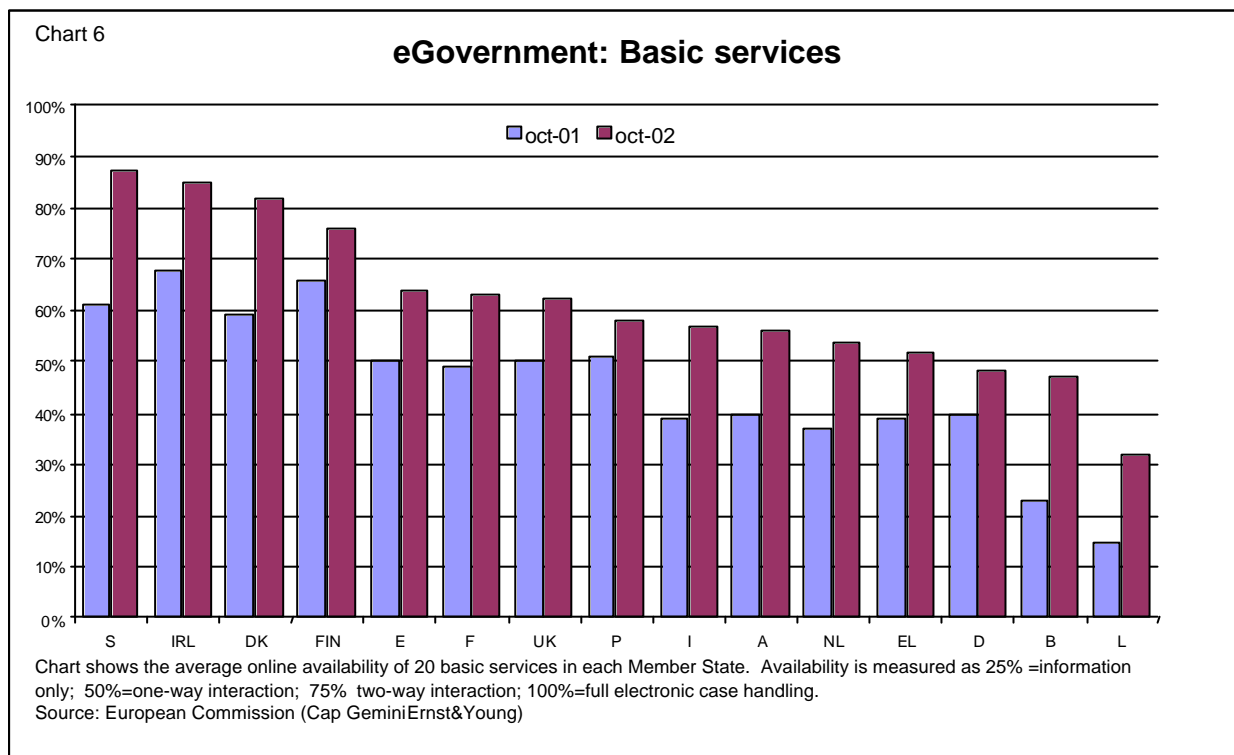
³¹ Directive 99/93/EC, entry into force 19.07.2001

³² *Open Smart Card Infrastructure for Europe* (previously known as “Common Specification”) <http://www.europe-smartcards.org>

The security work begun under *eEurope* has now developed into a more comprehensive approach of network and information security. On the basis of a Communication by the Commission³³ and a Council Resolution³⁴, Commission and Member States will take a series of measures in 2002 encompassing awareness-raising, technological support, regulation, international co-ordination. The establishment of a network and information security agency is envisaged and will allow the Union to give a more efficient response to security challenges of tomorrow.

2.3.6 Government On-line

The *eEurope* 2002 Action Plan set a target for basic public services to be available online by the end of 2002. A definition of 20 basic services was agreed in Council and used a basis for surveys of online services provision by 10,000 national, regional and local service providers. In October 2002, it was found that all Member States at least partly offered all 20 basic services online. Services provided from central administrations are online and for the *eEurope*



target to be fully achieved requires the few local providers not yet online to develop their e-services .

A more detailed analysis of the sophistication of service provision showed that there has been rapid progress. Chart 6 shows the relative position of Member States and the progress towards fully interactive service delivery. Measured as a percentage (where 25%= information only; 50%=information plus one-way interaction i.e. downloadable forms; 75% = two-way interaction and 100%= full electronic case handling), the average for all services in all Member States has increased from 45% to 60%. Four Member States have an average rating above 75% i.e. services can be applied for fully online and a further 8 had an average over 50% meaning information is available online and application forms can be downloaded.

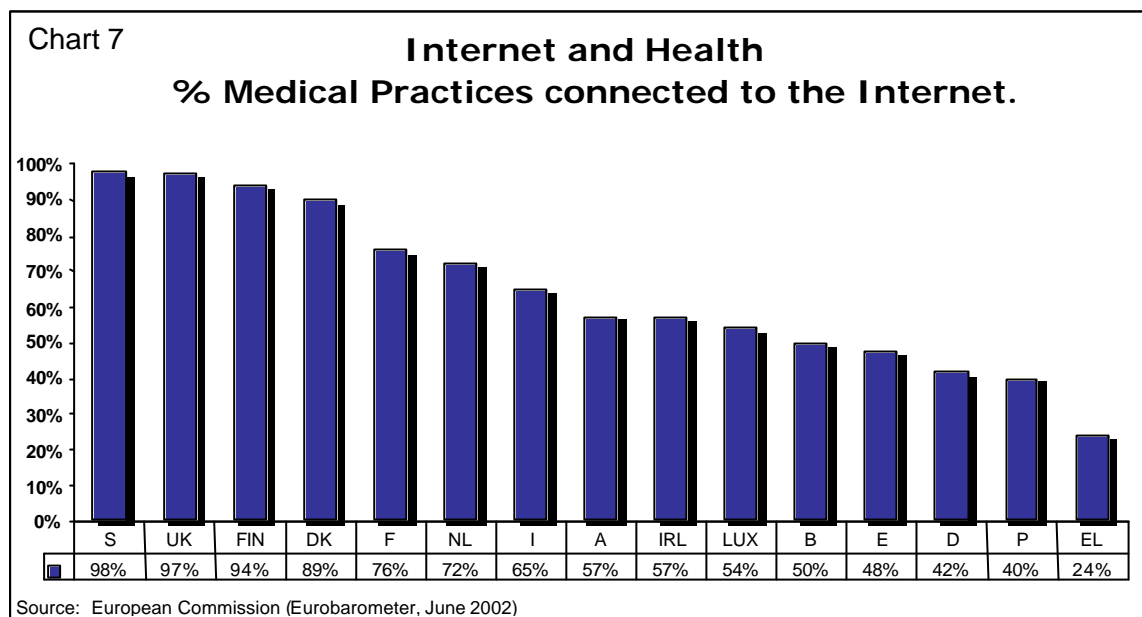
2.3.7 Health Online

The principle targets of the Health Online Chapter were twofold:

³³ COM(2001) 289 of 6 June 2001.

³⁴ 14378/01 of 6 December 2001.

- to encourage Member States to set targets for the use of information technologies within healthcare; and,
- to develop a basis for supporting citizens in identifying high quality health care information on the Internet.



Since eEurope was launched, there have been considerable advances in the provision of health services online. All Member States have now adopted detailed plans to implement information technology in the provision of healthcare. Furthermore, Eurobarometer surveys have showed a steady rise in the rate of Internet connections by general medical practitioners. The 2002 survey showed that, on average, 78% of EU medical general practitioners were connected to the Internet, with almost 100% connected in the UK and in the Nordic countries.

The use of the Internet to deliver patient care is also growing. On average, 48% of medical practitioners use Electronic Health Care Records and 46% use the Internet to transmit patient data to other care providers for the purposes of continuity of care. However, a fully interactive use of the Internet to deliver care to patients through the provision of, for example, e-mail consultation (12%) or allowing patients to book appointments on line (2%) would appear to be in its early stages.

The initiative to support citizens in obtaining good quality health information on the Internet was based on the recognition that European citizens are avid consumers of health related information on the Internet. Accordingly, the eEurope 2002 Action Plan proposed the development of a core set of Quality Criteria for Health Related Websites. A Communication, *Quality Criteria for Health related Websites*³⁵, was adopted following consultation with representatives from government, industry and NGOs as well as an online public consultation.

The Communication outlines six quality criteria: transparency and honesty, authority, privacy and data protection, updating of information, accountability, and accessibility. It states the need to tailor these criteria according to particular audiences and describes the methods of implementing quality criteria including codes of conduct, self applied codes or quality labels, user guidance tools, filtering tools, and third party quality and accreditation systems. The

³⁵ COM(2002 667).

Communication invites Member States and national and regional health authorities to implement the quality criteria, develop information campaigns, localise available information, and exchange information on how quality standards are implemented. It also notes that consideration will be given to the possibilities of establishing a system of recognisable Community seals of approval for Internet sites as part of the implementation of the European Union public health programme.

3. CONCLUSIONS

This evaluation has shown that *eEurope 2002* achieved its main objectives and that these represent important steps towards the knowledge-based economy which is at the centre of the Lisbon strategy.

As access prices have fallen, the number of households connected to the Internet in Europe has risen to over 40%. More than 90% of schools and 90% of businesses are nowadays connected. With Géant, Europe now has the world's fastest backbone research network connecting nearly all universities and research institutes and representing a test-bed for future Internet technologies. Development of competition is likely to further drive down prices, in particular for broadband access, to increase innovation and broaden the range of services.

Moreover, new services and the Internet have opened up new opportunities for society as a whole, helped by the creation of a comprehensive legal framework in e-commerce, and will be further stimulated by the upcoming transposition and implementation of the new regulatory framework for electronic communications. There is an increasing number and higher quality of e-government services becoming available online across the whole of Europe.

The upward trend in the use of information and communication technologies and services (ICTs) in the economy and society is very encouraging. The starting point is now better than ever for Europe to draw the full benefits of digital technologies and the Internet in terms of productivity gains, economic growth, employment and social cohesion. Yet conditions ought to be even better, in particular with regard to the existing gaps in Internet use among the different groups and to the use of ICT and e-business by European SMEs. Therefore, Europe ought to realise the efficiencies and opportunities intrinsic to the adoption of these technologies.

Basic e-government services are online. Now they need an increasing degree of interactivity and require back-office reorganisation to fully achieve efficiencies. Most schools are now connected. The next step is to use computers more effectively to improve education and skills. The work of medical practitioners at all levels is becoming more information intensive. The development of health information networks with broadband connectivity is becoming a critical infrastructure for the provision of health services. Much work has been done to improve the security of information infrastructures by both the private and public sector but threats remain and the consequence of attacks are increasingly costly. It is essential for security work to continue and a centre of competence be established to stimulate e-commerce and Internet use in general. Internet connections have greatly improved, obviously initially mainly narrowband. Europe must now move broadband; a leading-edge infrastructure being a prerequisite for a competitive knowledge economy. In general, the pervasive use of ICTs across a wide range of economic and social activities supported by broadband networks can bring about a profound and long-term impact on productivity growth and *eEurope 2002* has initiated this process.

The next stage in the development of the information society and its contribution to the Lisbon objectives is already underway in the form of the *eEurope2005 Action Plan*³⁶ which covers the period 2003-2005. The objectives of the new Action Plan were endorsed by Heads of State and Government at Seville in June 2002 and is already providing an effective response to many of the issues highlighted in this Report.

The new Action Plan focuses on a more limited number of key targets where government action can make a genuine difference: the modernisation of public services to make them more productive, accessible and equitable; the further promotion of a favourable environment for e-business; and a secure broadband information infrastructure. Cutting across these priorities is the necessity to create an inclusive information society for all of Europe's citizens.

The extensive use of a wide range of different ICT applications, content and services, both by the public and private sectors, is expected to improve productivity and competitiveness in the EU economy as a whole, creating a favourable environment to private investment, and making an important contribution to meeting the Lisbon agenda.

³⁶ *eEurope 2005 Action Plan*, COM(2002) 263.