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eEurope

An Information Society For All

PROGRESS REPORT

For the Special European Council on Employment, Economic reforms and Social Cohesion – Towards a Europe based on Innovation and Knowledge

Lisbon, 23 and 24 March 2000

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Introduction

The eEurope initiative was launched on 8th December 1999 with the adoption of the Communication 'eEurope – An Information Society for all' by the European Commission¹. The initiative aims at accelerating the uptake of digital technologies across Europe and ensuring that all Europeans have the necessary skills to use them. It plays a central role in the agenda of economic and social renewal for Europe which the Commission has set out in advance of the special meeting of the European Council in Lisbon.

The initiative was motivated by the growing realisation that the application of digital technologies has become the key factor for growth and employment. There is increasing evidence that a 'new economy' or e-economy is emerging, mainly driven by the Internet. The European response to these opportunities and challenges has been rather slow, partly because the logic of the traditional industrial economy remains strong in Europe.

The Lisbon European Council could change this. By endorsing concrete policy actions it could give a strong signal that European leaders are determined to transform Europe into a dynamic and competitive economy. Much of the impetus for this transformation will come from the market and from the private sector. But public policy matters, notably in establishing a clear regulatory framework, a skilled population and an inclusive information society. No less significantly, Europe needs strong leadership and firm commitment from the very top.

The eEurope initiative seeks to stimulate such a development. The initiative was welcomed by the Helsinki European Council on the 10-11th December. The Heads of State and Government invited the Commission, together with the Council, to prepare the eEurope Action Plan for endorsement by the European Council in Feira in June and provide a progress report to the Lisbon Special European Council.

This progress report is in response to this request. It is structured in three sections and two annexes.

The first section briefly reviews the reactions to eEurope and the inputs received from Member States, industry and other interested actors.

The second section summarises further analysis of the development of the new economy in Europe

The third section sets out the 'way forward' towards an eEurope Action Plan.

Annex I addresses progress since the eEurope initiative was launched in December. It provides details on current and planned initiatives which contribute towards achieving the targets in eEurope and sets out what further actions are required.

¹ http://europa.eu.int/comm/information_society/eeurope/index_en.htm.

Annex II contains an explanatory analysis of the ‘new economy’ or the *e*-economy, the impact which it is having on Europe and the position of Europe in this development. This analysis underpins the *e*Europe initiative and provides a strong argument for urgent action.

1. Feedback

The *e*Europe initiative has triggered quite a number of comments and suggestions from various sources. They can be grouped together into reactions from European institutions, the Member States and other interested parties.

1.1. European Institutions

The Council has been invited by the Helsinki European Council to work with the Commission on the Progress Report and the *e*Europe Action Plan.

The European Parliament will adopt its report on *e*Europe during the plenary session of 13-17th March.

1.2. Member States

An informal meeting between Member States and the Commission, on the invitation of the Portuguese Presidency, was held on 31st January in Lisbon. Bilateral contacts have also taken place with Member States.

In general, they have expressed interest and support for *e*Europe. Main points were:

- Several are keen to set priorities and agree some targets already in the Lisbon European Council (e.g. cheaper Internet access and the e-commerce framework).
- There are some differences of opinion in relation to the order of priorities and suggestions for further priority actions (e.g. content, skills training).
- All stress that they do not wish to see an additional ‘process’.
- All expressed the wish for further details as to how the objectives of *e*Europe could be achieved.
- Most Member States are developing national initiatives in parallel with *e*Europe – e.g. Germ@ny goes online², UK initiative on ‘Information age government’³, French initiative on co-regulation of the Internet⁴.

1.3. Input from other actors

² A private initiative of Deutsche Telecom in co-operation with the German government. See press release, 11.02.00.

³ <http://www.iagchampions.gov.uk/Strategy.htm>.

⁴ <http://www.internet.gouv.fr/francais/textesref/pagsi2/lsi/coregulation.htm>.

The eEurope mailbox (eeurope@cec.eu.int) was set up to provide a mechanism for discussion and feedback. A wide cross-section of just under 200 interest groups: industry; academia, non-governmental organisations (NGOs), national, regional and local governments and individuals sent inputs. A deadline of 1st February was set to enable inputs to be included in this report. A more extensive analysis has been placed on the eEurope webpage: http://europa.eu.int/comm/information_society/eeurope

In terms of the eEurope proposals, it was welcomed as a valuable effort to address what is seen as a key issue for Europe's future success. There was broad support for the action lines, although different interest groups had differences in emphasis. For example industry stressed the need for a legal framework for e-commerce, while NGOs representing disabled people proposed the mainstreaming of access issues throughout the initiative. Additional issues were also proposed for inclusion, for example access for elderly people and training in digital skills.

Correspondents showed strong willingness to contribute towards furthering the aims of the eEurope initiative. Several provided examples of current projects and programmes which address some of the issues covered in the initiative. Some of the suggestions made have already been taken into account in the development of the relevant action lines (e.g. skills shortage, security).

In terms of criticisms of eEurope, the most common related to difficulties experienced in accessing the documents, which were not in a format appropriate for visually-impaired people to access .

2. Further Analysis

Since the publication of eEurope the level of interest in the impact of Internet and awareness of the 'new economy' has increased significantly in Europe. There has been a remarkable level of media attention in all Member States, while several reports and studies from the private and public sector have further underlined the developments described in eEurope.

The Commission has undertaken further analysis of currently available data (see annex II) which support the concept behind eEurope. The result of this analysis can be summarised as follows:

- The Internet will increase the potential output of the European economy via increased competition and productivity. It could therefore will be instrumental for a successful economic policy in the EU
- Europe, in spite of some strengths (e.g. mobile communication) is not sufficiently realising the full potential of the Internet
- Europe needs dynamic European capital markets supporting new start-ups, a labour market that supplies a skilled and flexible workforce and competitive product markets which keep down prices.
- There are marked differences in uptake of the Internet between Member States. This raises problems for social cohesion as well as economic growth potential, as in a networked economy there are benefits to maximising the number of people connected.

This further analysis, together with input from the many different actors underlines the importance that they attach to action in this area.

3. The Way Forward

This Progress Report should contribute, together with the Commission's other inputs, to the discussion at the Lisbon European Council on the objectives of eEurope and the manner in which these can be realised.

In view of the urgency of the matter some progress should be made in Lisbon. Therefore, it calls on Member States to agree on firm commitments to move towards these objectives. As concluded by the Helsinki European Council in December a full Action Plan needs to be adopted by June. The eEurope Action Plan should define concrete targets in all eEurope areas and the means to achieve them.

In order to follow progress, major efforts will be needed to improve statistical data for the new economy. The Commission will set up a Web page in order to track progress towards the agreed targets which will provide up-to-date, comparative information on key indicators for all Member States, together with international comparisons.

Speeding up progress in certain eEurope areas (e.g. education and research networks) also means reassessing priorities. The Commission has already made some progress in two areas. Priorities of eEurope feature prominently in the Work Programme for the IST Programme⁵, as well as in the negotiating mandates with the Member States for the structural funds national programmes (2000-2006). In the latter the Commission underlined those eEurope objectives which would be eligible for co-financing under the structural funds.

The progression and direction of eEurope depends on the outcome of the Lisbon European Council. Therefore, in order to move forward, agreement is needed on the following:

- a. The priority areas to be targeted, with timetables, in line with those proposed in the Commission's agenda for economic and social renewal, to promote the rapid emergence of the new economy in Europe, strengthening and building on European values and diversity
- b. The methodology and procedure to be established for the finalisation of the eEurope Action Plan

⁵ Information Society Technologies Programme – part of the 5th Framework Programme for Research and Technological development.

Annex I

Progress on the *e*Europe action lines since Helsinki

1. European youth into the digital age

eEurope Targets

By the end of 2001:

- All schools should have access to the Internet and multimedia resources.
- Support services should be made available to all teachers and pupils.
- Access to Internet/multimedia in public centres made available, including in less-favoured areas.

By the end of 2002:

- Teachers should be equipped and skilled in the use of Internet/multimedia
- Pupils having access to Internet/multimedia resources in their classroom.

By the end of 2003:

- All pupils should be “digitally literate” by the time they leave school.

Progress made

In January 2000, the Commission published a call for a support service⁶, for a virtual community and partnership in the area of multimedia educational tools, learning technologies, content and services. An open consultation has been addressed to this community, to provide ideas and contributions.

Consultative meetings have been arranged with industry and Member States with regard to the activities stemming from both eEurope and the recent report: "Designing Tomorrow's Education. Promoting Innovation with New Technologies"⁷. On this basis, Member States and the Commission will define concrete actions and means to upgrade school connectivity and access to high quality educational multimedia resources and ensure that the targets for digital literacy can be reached.

'The School of Tomorrow' and 'The Learning Citizen' are key issues addressed within the IST Programme. The Minerva action of the Socrates Programme is addressing these issues strategically from an educational, pedagogical and organisational perspective.

Several feed-backs to eEurope consultation remarked that the lack of skilled workers to support the growth of digital industries was a major problem in Europe. Ensuring adequate access to skills training in education will contribute to reducing this skills gap, but other initiatives outside the educational system are also required. In this context the Commission Communication on “Job Strategies in the Information Society”. deals with this issue in detail. It also provides updated information on uptake and best practices in Internet in schools.

⁶ PROMOTEUS – PROmoting Multimedia access to Education and Training in the European Society.
⁷ COM (2000) 23 Final. Adopted by the Commission on 27.01.00.

Progress needed

Identification and promotion of best practice, including teacher training, teaching practice, Internet integration, and services - should be carried out in a collaborative way. Existing co-operation throughout Europe (e.g. EUN⁸) should be widened and strengthened. In particular dialogue between industry, the educational sector and users should be stimulated to ensure that technological solutions are made more user-friendly and cost-efficient.

National progress in adapting the learning process to the challenges of the information Society will be monitored in the High Level Group on Employment and the Social Dimension of the Information Society.

In co-operation with the Member States and on the basis of the current consultation process an initiative will be adopted by the Commission this year in order to ensure that the eEurope targets are reached and to promote the widespread introduction of innovation in education. The development of benchmarking in the context of both designing tomorrow's education and lifelong learning should contribute to this process.

The Community Support Framework within the structural funds should contribute to the improvement of the level of connectivity and the effective use of Internet in education.

2. Cheaper Internet access

eEurope Targets

By the end of 2000:

- Incumbents should offer unbundled local loops.
- Leased lines tariffs should be significantly reduced.
- Licence requirements should be lightened and replaced by general authorisations.

By the end of 2001:

- Allocation of frequencies for multimedia wireless systems should be established.

Progress made

On 1 January 2000 the telecommunications market in Portugal was fully liberalised, leaving only Greece with a public monopoly (to be lifted at the latest 1 January 2001).

A Recommendation on leased line interconnection pricing has been adopted and the Commission has launched a sector enquiry into this area based on competition law.

In January 2000 the Commission held a public hearing (about 550 participants) as part of its review on the future regulatory framework for electronic communications.

⁸ European Schoolnet.

In February 2000, the Commission published a consultation document on local loop unbundling. A public hearing was held on 22 February, with a view to adopting a Recommendation to Member States on provision of unbundled access to the local loop.

The Commission has sent a questionnaire to Member States asking for detailed information on fixed wireless access (spectrum availability, licensing conditions, etc.) On this basis a strategy will be developed on freeing sufficient radio spectrum and the areas where a harmonised approach at EU level is needed.

Progress needed

The Commission will publish a Communication on the result of the communications review consultation process. All subsequent proposals for directives will be adopted, by the Commission in the first half of the year 2000. Council and European Parliament should deal with these directives as a matter of urgency.

The Commission will monitor progress in Member States towards local loop unbundling and publish the results on the eEurope Web site and in the annual telecommunications implementation reports.

The impact of the leased line Recommendation will be assessed by the Commission and, if necessary, further regulatory measures will be taken to reduce these tariffs.

The public consultation on the telecommunications review showed broad consensus on the proposal to drastically reduce licence obligations. Such measures would reduce “red tape” and support the development of pan-European services.

The Commission will further specify its proposals for a future frequency policy, including suggestions on frequencies for fixed wireless multimedia systems.

A decision to implement efficient institutional mechanisms for decisions on radio spectrum related issues is required.

3. Accelerating e-commerce

eEurope Targets

By the end of 2000:

- Ensure that the remaining e-commerce-related directives are in place.
- Propose changes to the public procurement legislation to enable e-procurement.
- Encourage alternative consumer redress mechanisms and online dispute settlement.
- Launch a campaign to help SMEs “go digital.
- Support the creation of a .eu top-level domain name

Progress made

There are four e-commerce-related Directives⁹ and two regulations¹⁰ pending in Council and European Parliament. A Common Position has already been reached on the two Directives relating to e-money and a legal framework for e-commerce in Europe.

On public procurement, the Commission envisages proposing modifications to existing directives, aimed at enabling and promoting the use of electronic means for information exchange and tendering procedures, by the end of April.

The Commission services have begun work on the notions of self-regulation and co-regulation. This work could result in drawing up guidelines, on the basis of broad consultation, which could serve as a reference for codes of conduct in e-commerce. They have also begun work to link existing alternative dispute resolution schemes in a pan-European network (European Extra-Judicial network – EEJ-net)

The Commission services are encouraging the establishment of a cross-border complaint network which will cover on-line financial services. Two meetings have already been held with national out-of-Court redress bodies for financial services.

Regarding the ‘go digital’ campaign to facilitate the transfer of technical know-how to SMEs, two consultation meetings were held with Member State representatives to develop more concrete proposals.

On February 2nd the Commission issued a consultation document on the creation of the .eu Internet top level domain name <http://www.ispo.cec.be/eif/InternetPoliciesSite> .

Progress needed

Council and European Parliament, together with the Commission, should make every effort to adopt above mentioned e-commerce related directives as a matter of urgency.

Member States should already start to work on their implementation (the success of a parallel approach was demonstrated in the case of telecom liberalisation deadline in 1998). The objective should be to rapidly create a true Internal Market and a favourable environment for e-commerce in the European Union, especially for SMEs.

The Commission and the Member States need to strengthen consumer trust in e-commerce by stimulating best business practice (by encouraging development of trustmarks, alternative dispute resolution, codes of conduct and security). Urgent action is needed to encourage appropriate on-line solutions.

Once proposed by the Commission, the legal framework for electronic procurement should be rapidly adopted. Public administrations, including the Commission should introduce e-procurement as a matter of priority. The Commission will support the development of e-procurement through the IST research programme e.g. through take-up measures.

⁹ Copyright and related rights, legal aspects of e-commerce, e-money, distance selling of financial services.

¹⁰ Jurisdiction and the enforcement of judgements, dual use export control regime.

The Commission services are in the process of drafting legislative changes to the value added tax (VAT) regime to ensure equitable treatment of e-commerce.

Regarding the .eu proposal, the Commission will report to the European Parliament and Council, as a matter of urgency, on progress and the next steps proposed.

4. Fast Internet for researchers and students

eEurope Targets

By the end of 2000:

- Internet infrastructure for researchers and students should be upgraded.

By the end of 2001:

- At least one university and one scientific research faculty per country should have a network supporting multimedia communications, rapidly to extended all others.
- Students should have access to on-line interactive multimedia lectures

Progress made

With regard to interconnection of national research and education networks a consultation with a group of experts took place at the end of 1999. The Commission is currently drafting a Commission Decision, based on the requirements document produced by the experts, to launch the research networking activity under the 5th Framework Programme. At the national level, several research and education networks (e.g. The Netherlands, Germany, France) have launched tenders to upgrade their existing facilities to Gigabit/s.

In January 2000 the Commission published a Communication entitled “Towards a European Research Area” in which a better use of electronic networks by European scientific communities for research purposes and the creation of virtual centres of excellence are set as strategic objectives.

Progress needed

The currently planned activity foresees to upgrade the interconnections between national research and education networks to multiple Gigabit/s – to match the aggregated capacity of national networks thereby eliminating bottlenecks which disadvantage cross-border collaboration.

In addition to the trans-European research and education networks some of the national networks and access to these networks also need upgrading. The Commission is examining whether and how the Structural Funds could contribute to such an investment.

Fast Internet connections are a prerequisite for new applications for students and researchers. They also provide an ideal test-bed for the development of new Internet tools. Progressively campus networks would need to be upgraded to exploit both the faster networks and to offer students and researchers advanced applications.

The Commission will support related projects through its research programmes, including the IST programme. In addition every effort must be made to raise awareness among the diverse scientific communities to ensure that they exploit the vast potential of the Internet.

Member States should review their funding possibilities to support high speed networking. The Commission will also make every effort to support Member States investments through the Structural Funds.

5. Smart cards for secure electronic access

eEurope Targets

By the end of 2000:

- Organise a “Smart Card Summit”.
- Agreement on common specifications for a generalised smart card infrastructure.

By the end of 2001:

- Begin implementation of the agreed common specifications

By the end of 2002:

- Extend use to additional applications also needing security and/or mobile access.

Progress made

The Portuguese presidency, in co-operation with the Commission, is in the process of finalising the agenda and attendance for the *Smart Card Summit* which will be held in Lisbon (10-11 April 2000, in parallel to the Ministerial Conference on the Information and Knowledge Society). The summit will gather high level representatives of the main sectors of activity concerned by smart cards from producers to consumers, including system operators like banks or mass transport.

The participants to the Summit should present a “*Smart Card Charter*” as an invitation to work on commonalities for smart cards. Its endorsement by the whole European smart card community would actually launch the action on smart cards. The Smart Card Charter is currently in preparation.

Progress needed

Agreement needs to be sought on the outline of *common specifications* for a generalised smart card infrastructure. The Commission will make every effort to support the work of industry towards achieving these goals.

The *Common Specifications* should be finalised by end 2000. They will provide the requirements for a basic set of reusable components necessary for most applications. They will clarify the commonalities and the relationships between the applications, they will set usability criteria, they will identify existing or new structures which will contribute to the success of the initiative and they will contain a detailed workplan including a distribution of responsibilities.

In 2001, the work will yield detailed specifications defining the implementation of the components in a first set of “core” applications e.g. electronic commerce or mobile telephony.

The undertaking will conclude in 2002 with the extension of the detailed specifications to additional applications.

6. Risk capital for high-tech SMEs

eEurope Targets

By March 2000:

- Have a policy review of available instruments to stimulate early stage financing.

By the end of 2000:

- Propose innovative forms of capital raising.

By the end of 2003:

- Remove remaining obstacles to an integrated pan-European risk capital market.
- Tripling of early stage finance in the European Union.

Progress made

Recent developments in financial markets indicate that the availability of risk capital and seed capital is increasing in Europe. This progress should be encouraged.

The Commission has informally undertaken a preliminary review of its own existing instruments which will form the basis of discussions with Member States on re-assessment and re-orientation.

The Communication on Strategies for Jobs in the Information Society presented Member State best practice in this area and suggested some indicators to monitor developments.

Progress needed

The results of the initial Commission review will be discussed with Member States in the run-up to the Feira European Council.

In parallel, all the Community's instruments should be evaluated against strict criteria by September 2000 and on this basis, the possibility of merging, revamping or dismantling existing schemes must be considered:

- Interfaces between the public research programmes and the financial community must be strengthened
- Co-ordination within the Commission and with other institutions, e.g. EIB, EIF must be improved.
- The Commission's own management of risk capital schemes should be streamlined, e.g. a one stop shop for all Community risk capital instruments should be set up. New ideas need

to be considered, for example micro-credits or supporting audiovisual and content industries.

The main goal must be to improve the efficiency of the Internal Market and the interaction between the various instruments.

7. eParticipation for people with disabilities

eEurope Targets

By the end of 2000:

- Review Information Society legislation and standards on accessibility.
- Recommendation to take account of people with disabilities in the public procurement of information and communications products and services.

By the end of 2001:

- commitment to make all public Web sites and their content accessible to people with disabilities.

By the end of 2002:

- Create centres of excellence in each Member State to develop an EU curriculum in Design-for-All.

Progress made

A dedicated Web site has been set up by the Portuguese Presidency at <http://www.egroups.com/group/eeurope-pwd/> to discuss the eEurope initiative in the area of citizens with disabilities. This Web site has received an enthusiastic response and discussion is on-going.

Some informal discussions have taken place with key actors in this field, including organisations of users and the High Level Group on Disability. Current work carried out by CEN on Design-for-All standardisation will be linked to the eEurope initiative.

The Communication on Strategies for Jobs in the Information Society indicated opportunities for disabled people to benefit from digital technologies and new ways of working.

Progress needed

A mechanism must be established to monitor relevant legislation and standards to ensure their conformity with accessibility principles and to harmonise national action. By next June, the Commission will propose a co-ordinated mechanism for monitoring, in consultation with Member States.

The Commission will prepare a Communication on how public procurement instruments can positively take account of the needs of people with disabilities in the procurement of digital technology products and services.

The European Institutions and the Member States should endorse the existing Web Accessibility Initiative (WAI) guidelines, making the design and content of all public Web

sites accessible to people with disabilities (www.w3.org/tr/wai-webcontent). Public-private partnerships should be encouraged to ensure widespread web accessibility.

The Commission will set up a European network to optimise the interaction among national centres of excellence (either physical or virtual) and encourage the development of curricula in “Design-for-All” for designers and engineers.

8. Health online

eEurope Targets

By the end of 2000:

- convincing cases and best practices of healthcare regional networks should be identified and priorities for medical libraries-on-line set.
- Health care informatics standardisation priorities to be implemented by end 2000

By the end of 2003:

- Implementation of informatics tools (health cards, health information and education networks) to facilitate citizens active involvement in prevention and treatment of diseases

By the end of 2004:

- Health professionals and managers to be linked to a telematic health infrastructure

Progress made

A workshop on user friendliness of health telematic applications for improved user acceptance was held in Greece 10-12 December 1999. A workshop on collaborative on-line libraries for health specialists will be held in Brussels on 28 March 2000.

The development of on-line medical libraries, next generation smartcards for health and more user-friendly infrastructures are included in the Work Programme for the IST programme 2000. This will lead to focused projects in these areas.

Progress needed

The Commission will encourage take-up of health information networks at Member State and trans-national level and will take account of the work done under the Health Monitoring Programme.

Member States should implement secure and efficient health telematics systems and services based on standards and pre-standards as adopted by CEN.

The Commission will address the wider issues of the implementation of health telematics systems and services, on which citizens have expressed concerns - such as confidentiality of health data, quality of service and liability of service providers (including authenticity of pharmaceutical supply and medical advice). To support this work, research under the Framework Programme should include the issue of info-ethics.

9. Intelligent transport

eEurope Targets

By the end of 2001:

- Full access to and support for localised emergency 112 number calls.

By the end of 2002:

- New cars sold in Europe to be equipped with active safety-enhancing systems.
- Traffic and travel planning information services to cover 50% of larger cities.
- Main European networks to have congestion information and management systems

By the end of 2004:

- Air routes to have infrastructure capable of reducing congestion.

Progress made

A Workshop was held with industry on deployment of pan-European Emergency Service and a survey launched on the status of the 112 number in the Member States.

A Recommendation to Member States and industry on 'Safe and Efficient In-Vehicle Information and Communications Systems' was adopted on 22nd December 1999¹¹.

A Recommendation is being prepared on deployment of telematics travel information services, which promotes multimodal information services.

The IST Programme has launched a number of projects in the intelligent transport area (especially in active-safety car systems and traffic/travel information domains). GNSS-2 (Galileo – the proposed European satellite navigation system); four definition phase studies are underway sponsored by the Commission and one by the European Space Agency (ESA).

Progress needed

Member States should implement the above-mentioned Recommendation on Safety and Efficient In-Vehicle Information and Communication Systems.

The transport telematics High-Level Group should discuss and agree on actions to accelerate the organisation of the emergency services, the introduction of wireless location determination and the deployment of travel information and incident management in larger cities and European networks.

The European-wide introduction of wireless location determination for emergency calls (112) and its standardisation and regulatory implications need to be defined with the Member States and industry.

¹¹ <http://www.echo.lu/telematics/transp/transport.html>.

10. Government online

eEurope Targets

By the end of 2000:

- Ensure easy access to at least four essential types of public data in Europe:
- Ensure consultation and feedback via the Internet on major political initiatives.
- Ensure that citizens have electronic access to basic interactions

Progress made

The Commission has begun consultation with Member States to establish the current state of play in relation to access to public sector information and electronic interactions with citizens. The consultation will consider developing a framework to assess progress on access through qualitative and quantifiable criteria. This work will build on best practice examples provided in the Communication on Strategies for Jobs in the Information Society.

Better access in practice is being demonstrated by the creation, in the coming weeks of a register of the external correspondence of the Commission President to be made available on the Internet. Additionally an on-line survey was launched with a view to improving the Europa web server and better responding to users' needs. The eEurope initiative itself was made available for electronic consultation and feedback.

With the adoption on 15th February 2000 of the document « Dialogue on Europe », the Commission has decided to open a public debate with citizens on the challenges of European institutional reform. New technologies (Internet, videoconferencing) will enable members of the public and civil society to pursue this dialogue (see: http://europa.eu.int/comm/igc2000/dialogue/index_en.htm).

Modifications to existing directives, aimed at enabling and promoting the use of electronic means for information exchange and tendering procedures, will be proposed by the end of April.

As part of the White Paper on its internal reform, the Commission decided on 1st March on a set of actions to move towards the e-Commission. The Commission's intention is to adapt and up-grade its information and communication policy to provide better services for citizens by maximising the use of Internet.

Progress needed

A High Level Group should be set up to advise on actions (regulatory and non-regulatory) to be taken at European level to ensure that the Internet enables satisfactory access and dissemination of public data. Such a group, which would form a key element of the follow-up to the Green Paper on 'Public Sector Information in the Information Society', should constitute a platform for exchange of information on best practice in that field.

Public authorities must reconsider their on-line strategy. The Commission will vigorously pursue the actions towards the e-Commission. Building on the results of the above-mentioned

survey and best practice examples from elsewhere, more effective, citizen-friendly approaches must be developed.

Annex 2 – The eEconomy

This annex presents a first analysis of how digital technologies are transforming the old rules that governed a predominantly industrial society to a new set of rules – those of the Information Society.

The objective is to provide some elements showing that this transformation to the 'new economy' or the *e*-economy will provide opportunities for economic growth through exploitation of new activities and by the increased productivity of existing activities. The analysis will highlight the shortcomings of the European economy in grasping these opportunities but also will demonstrate its strengths which can be built on to accelerate the modernisation of the European economy.

What is the new economy?

The term new economy describes the transformation of economic activities that is taking place as digital technologies make accessing, processing and storage of information increasingly cheaper and easier. The enormous volume of information is changing the way markets operate, leading to restructuring of businesses and opening up opportunities to create wealth through exploitation of available information.

There is at present a debate on whether or not these changes are so radical as to merit the label 'new economy'. This can now be seen every day in European media and policy statements but was originally stimulated in the USA by the exceptional performance of the US economy: 8 years of continuous growth; expansion at over 4% per year in recent years; controlled inflation below 2%; and unemployment less than 5%, in effect, full employment. Supporters of the new economy argue that digital technologies represent a shift of equal importance to the other major technological developments in the history of industrial societies: steam power, electricity and the internal combustion engine. The more sceptical view accepts that information and communication related industries are growing very quickly but not that the same productivity growth is observable in other sectors. In general, the sceptical view is 'not proven' rather than 'not true'. It should be noted that amongst the supporters of the new economy in the US, strong emphasis is put on the need for flexible markets.

The role of the Internet in the new economy

Digital technologies have been available for more than thirty years and businesses have invested heavily in them over this period. Despite this, overall productivity ('total factor productivity') has only recently begun to increase in the US and not yet done so in the EU. Possibly this is because the benefits of technology are only realised when business organisation is restructured to maximise technological advantages and this is necessarily a long-run process.

Increased productivity growth in the US began around 1995, a date which coincides with the beginning of the 'world wide web' which effectively marked the birth of the Internet as a mass market medium. It has been suggested, although it is difficult to prove, that the Internet

allowed the decades of technological accumulation to finally generate higher productivity. This assertion is supported by strong *a priori* arguments that the Internet plays a key role in lowering business costs, making markets more efficient and competitive and thereby increasing productivity in the economy.

One of the most important features of the Internet and the reason why commentators consider it be the driver of future prosperity is that it's impact goes far beyond "high-tech" industries and has been felt across all industries and services. **Enterprises in all sectors have become e-businesses.** Indeed the most successful and fastest growing companies have been the ones that have succeeded in incorporating the Internet throughout their production and distribution chain. The extent to which the Internet can lower costs and increase productivity is shown in the table below and is mainly the result of the following factors:

E-commerce reduces the cost of doing business

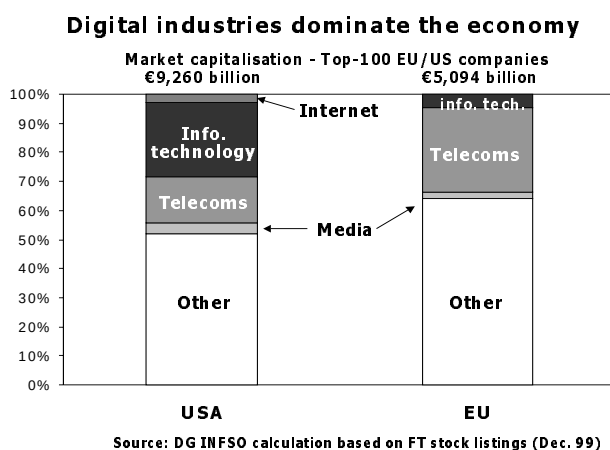
Industry	Estimated savings from business-to-business e-commerce
Aerospace machining	11%
Chemicals	10%
Coal	2%
Communications	5-15%
Computing	11-20%
Electronic components	29-39%
Food ingredients	3-5%
Forest products	15-25%
Freight transport	15-20%
Health care	5%
Life Sciences	12-19%
Machining (metals)	22%
Media and advertising	10-15%
Oil and gas	5-15%
Paper	10%
Steel	11%

Source: Goldman Sachs

- Lower input prices: purchasing of intermediate products and services via the Internet brings significant cost savings by reaching more suppliers and creating more competition in tenders.
- Lower inventories: reorganisation of companies to incorporate the Internet into just-in-time supply and distribution leads to lower inventories and hence lower costs.
- Reduced time to market: the Internet enables companies to cut distribution time by linking orders to production and utilising more efficient distribution services.
- Lower transaction costs: financial transactions are cheaper online; customers have wider choice and better product information; corporate networks are increasingly used to cut management costs and improve efficiency.
- Greater global reach: new wider markets are opened up from sales by Internet.
- Lower market entry costs: it is cheaper to establish a web site than to use traditional forms of marketing.

An indicator of the key role of the Internet is the many recent announcements of leading automobile manufacturers, airlines and banks to develop Internet e-commerce strategies and to form alliances with internet service providers. The stock market confirms the benefits of such strategies by increasing the share value of companies when they launch an Internet strategy. There are many examples of new companies that have become world leaders in well established industries such as book retailing or stock brokerage by using the Internet. These windows of opportunity are, however, short lived. Market entry soon becomes extremely costly because of the strong branding of certain e-commerce services. Indeed this was one of the motivations for launching the eEurope Initiative. **This is a critical time to take advantage of the opportunities offered by the Internet as the chance will soon be lost.**

In addition to transforming existing businesses, the Internet has been creating new services and hence new jobs in the economy. Electronic commerce, notably business to business e-commerce, is booming and world-wide e-commerce sales are expected to grow 40 times between 1998 and 2003 by which time they will become over 15% of all sales.¹² Predictions of market researchers, which often tend to be optimistic, have even been surpassed.



The Internet and e-commerce are also leading to a surge in new company creation. Confirmation of this can be found in the market capitalisation of Internet companies. The US stock markets, especially the NASDAQ on which many 'high-tech' companies are quoted, has experienced exceptional growth. Similar developments are taking place in Europe where markets for fast growth companies have also been established – e.g. Neuer Markt, Nouveau Marché, EASDAQ – although the number of companies listed and the volumes traded are still relatively small compared to NASDAQ.

The above chart shows that information and communication companies now make up a significant part of the market capitalisation of Europe and the USA. In Europe, these represent 35% of the market capitalisation of the top 100 European companies. In the USA, the figure is already 50%. A striking difference is that European markets are dominated by communications companies and lack the information technology and Internet stocks that are top of the US rankings.

¹² estimates from Electronic Commerce Observatory prepared by Gartner Consulting in co-operation with EITO (European Information Technology Observatory) and the European Commission

Successful development of the Internet will inevitably mean transfers of activity both within and between sectors. This has already been the case in sectors such as banking where jobs in local branches have declined as online banking has grown. These transfers reinforce the importance of developing new activities in Europe to ensure there is a net increase in employment. Europe must be strong in growing sectors to prevent jobs been transferred outside the EU. A survey in the USA¹³ found that in 1999 there were an estimated 2.3 million Internet-related jobs in the USA. European statistics are not available but the number of Internet jobs is likely to be significantly lower. The Internet therefore provides policy makers with a promising strategy to increase employment. In addition, the capacity of the Internet to restructure the economy demonstrates the need to develop an Information Society for all, for those in older sectors and activities as well as those in the new ones.

To summarise, network economies augment productivity which increases the potential output of the economy i.e. the rate of growth that can be achieved without causing inflation. Higher productivity could also lead to a short run decline in employment unless capital, labour and product markets function efficiently and create new activities to turn potential output into actual growth. What is needed is dynamic European capital markets supporting new start-ups, a labour market that supplies a skilled and flexible workforce and competitive product markets which keeps down prices.

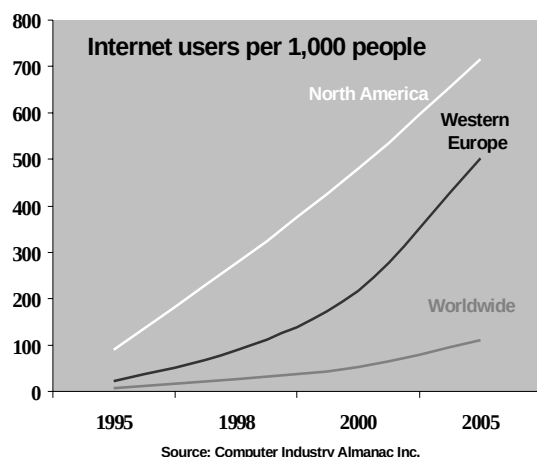
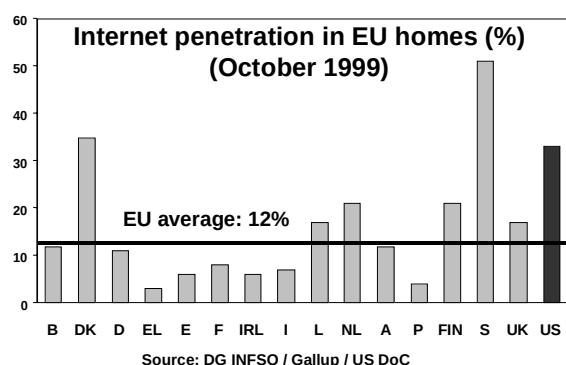
Where does Europe Stand?

The previous section showed that the new economy is built around the Internet. Therefore Europe's standing in the new economy depends most on its Internet content and usage.

Internet Penetration

In Europe, 12% of households are connected to the Internet which represents around 20% of the population with online access. Compared to the USA, a useful benchmark for Internet usage, this is relatively low as their penetration rates are 2-3 times higher. Further, as shown in the chart below, Europe is not catching up. There are some exceptions, notably the Nordic countries some of which have higher achieved Internet penetration rates than the USA. The challenge is to increase usage across the EU because the benefits of the new economy will only materialise when the entire single market reaches a critical mass of Internet penetration. Without this, there is a risk of a polarisation with benefits restricted mostly to the advanced countries. Such differences would not only disadvantage those countries with low Internet usage but all of Europe would lose out on the network economies of a large connected population.

¹³ Center for Research in Electronic Commerce, University of Austin, October 1999.



Internet content

The off-line content market is a European strength but its position in on-line content is much less satisfactory. The number of European hosts – an indication of European web sites – is less than a third the number in the US. Very few European sites appear in the the most frequently visited rankings, the only exceptions being the sites of European internet service providers.

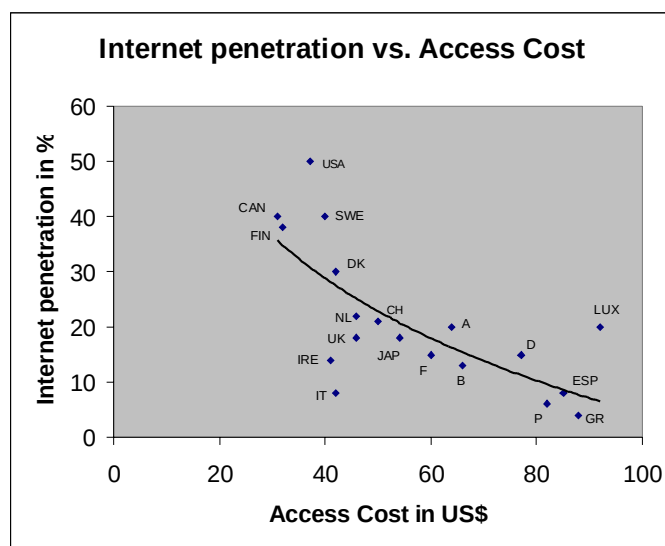
Shortage of venture capital in the EU means there are fewer European start-up companies and fewer services and web sites oriented to the demands of European users. One reason is that Europe has a higher proportion of capital held by institutions going for safe long term investments whereas in the US individuals tend to have a greater say in their portfolios and are more easily able to change the balance of funds and prepared to take risks. This impedes the flourishing of new ideas and new companies that can benefit from the new economy.

Internet Access Price

The price of Internet access is the key determinant of usage. Country comparisons show that there is a strong relationship between usage price and Internet penetration as shown in the chart. A forthcoming study¹⁴ which analysed this relationship concluded “*virtually all countries with high access costs have low penetration.*” Therefore, reducing prices through

¹⁴ ICT Benchmarking Study, Booz Allen & Hamilton.

increased competition is a priority. Europe has a dynamic fast growing telecommunication industry that had revenues of €238 bn. in 1999 - up 13.2% from 1998¹⁵. Tariffs are falling, services are diversifying, customers are offered more choice. Despite these successes, a major concern is to increase competition in the local loop, the last mile of the telephone network that connects users to their local exchange. To let the market work through more competition is preferable to a US style flat rate subsidised system as such price distortions discourage investment in alternative forms of Internet access¹⁶. These alternatives, such as xDSL technology which gives 'always-on' connection or access via digital TV cables, promise must faster access, which, in the long run may be even cheaper than a dial-up connection using a PC and telephone modem.



The Internet beyond the PC

Up to now, access to the Internet has mainly been by using a PC but this is about to change. Technological developments are leading to wider and simpler access. Small mobile devices are already on the market which can be connected quickly and allow information to be available anywhere, anytime. These devices are just the start. The technology will permit a wide range of new equipment to be linked to the Internet. Examples include in-car travel information systems linked to central congestion data; medical devices that can monitor the body and 'report' the results to doctors.

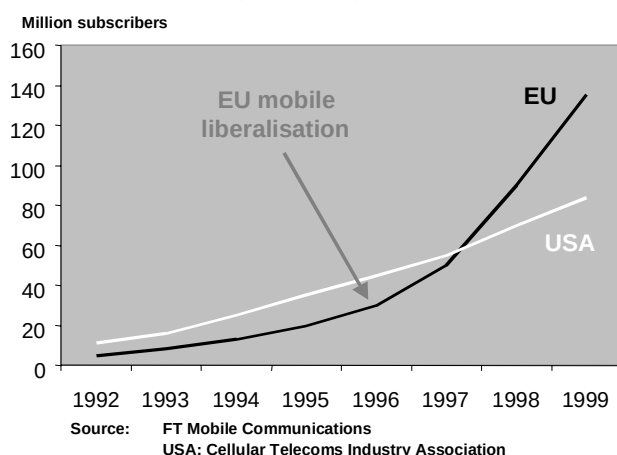
Recently, mobile communications have become increasingly important both for voice telephony and as a means of accessing the Internet. The European standard for mobile, GSM, has become a leading world standard. The number of subscribers in Europe is increasing rapidly and is expected to reach 200 million by the end of this year. Mobile subscriptions in Europe have now surpassed those of the USA. Europe also has the advantage of having a digital system which has the potential to become a major platform for Internet access. This

¹⁵ Market revenues for telecom services and equipment from EITO 2000.

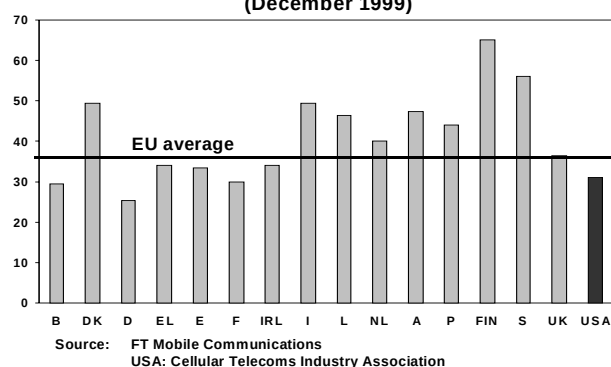
¹⁶ US internet usage benefits from their flat rate local telephone pricing system which permits US users to have access at zero marginal cost. This is only because of their very high cross-subsidies of local call by long distance (the Commission estimates this subsidy to be worth \$18bn. annually).

is demonstrated by progress in GSM technology, such as GPRS and EDGE, the roll out of the 3rd generation of mobile communications and various wireless local loop technologies.

Mobile phone penetration



Mobile subscribers per 100 inhabitants (December 1999)

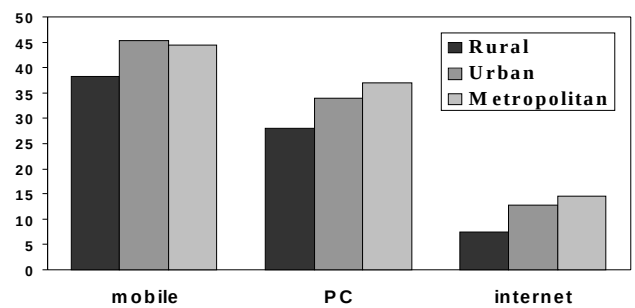


Social inclusion and the new economy

The new economy is the key driver of economic growth and, therefore, social and regional discrepancies in access cannot be ignored. Levels of PC penetration in homes ranged from 11% to 65% (average 33%) and Internet penetration from 3% to 51% (average 12%). Similarly with income levels: penetration rates for those with an income of less than €500, are respectively 10% for PCs and 3% for the Internet. At the other end of the spectrum, the maximum figures, corresponding to an income of over €4,000, are 76% for PCs and 47% for the Internet. Rural areas generally have significantly lower access to PCs and the Internet than urban or metropolitan areas (city centres).

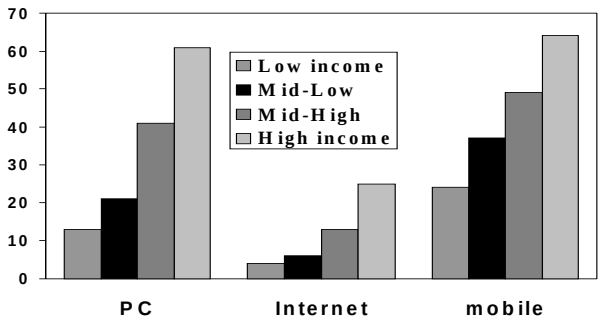
These wide differences in uptake of the Internet in Europe illustrate the challenges faced in building an inclusive information society for all. However, low levels of Internet usage in some parts of the EU are not just a problem of social cohesion, they also reduce the growth potential of the economy. Network economies increase as the size of the network increases and extending the new economy as widely as possible will increase the potential benefits that can be obtained. Building an inclusive information society is an essential element to the creation of a bigger market, higher incomes and greater potential for growth and wealth.

Mobile, PC and Internet penetration in EU homes (%) according to degree of urbanisation



Source: Commission survey by EOS Gallup

Mobile, PC and Internet penetration in EU homes (%) according to income level



Source: Commission survey by EOS Gallup