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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**

**Electronic Communications:
the Road to the Knowledge Economy**

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the Road to the Knowledge Economy**

(Text with EEA relevance)

TABLE OF CONTENTS

1. INTRODUCTION

After a period of fast growth in 1998-2000, the electronic communications sector is currently undergoing a severe adjustment process. The adjustment was perhaps inevitable after the very fast growth of earlier years. Its implications and possible outcomes raise important issues for the future of the sector itself and for economic growth in Europe.

The rapid expansion led to imbalances that will have to be worked through over the next few years. The sector invested heavily and many operators accumulated high levels of debt. When economic growth slowed, expected revenues did not materialise. This led to a decline in stock market valuations and to the postponement of investment at a critical time both for the sector and the wider economy.

The high level of payments associated to third generation mobile communications ("3G") licenses contributed to worsen the financial situation of operators, although the situation varies across the EU. The experience of 3G licensing points at the need for increased coordination of policy and regulatory approaches across Europe, as possible under the new regulatory framework for electronic communications, in order to avoid the risk that fragmentation and diverging conditions at the national level delay the introduction of new wireless mobile services.

The reduction in investment is having a negative effect on the rollout of new advanced services, in particular, broadband and 3G. This results in a drop in demand for investment goods with suppliers experiencing significant reductions in sales. It has also led to reductions in R&D expenditure which undermines Europe's competitive position.

The importance of the communications sector lies in its impact on all other sectors of the economy. It offers the potential for organisations to make best use of their investment in information technology and to realise productivity gains, improvements in quality and opportunities for greater social inclusion. The sector is therefore of fundamental importance to the full development of the knowledge-based economy. Higher productivity leading to higher growth with more and better jobs and greater social cohesion is one of the objectives of the Lisbon strategy designed to transform the economic, social and environmental performance of the European Union by the end of the decade.

The sector is also important in its own right. It employs about one and a quarter million people, had turnover of € 236 billion in 2002 and represents more than 2.5% of European Union GDP. Its direct contribution to the economy is still increasing due to growth rates above the increase in GDP.

Given its importance to the wider economy, it is more important than ever that governments provide an environment that ensures the development of the sector for the benefit of its users. The advent of broadband communications is radically changing the Internet and it is essential for investment in Europe to continue if it is

not to be left behind. Similarly, investment now in 3G must be sustained, if businesses within the European Union are to maintain their lead in mobile telephony.

Electronic communications are a European strength and action must be taken now to consolidate this and to achieve the Lisbon objectives. This requires above all legal certainty to create the conditions for long term investment; public policy that stimulates both demand and supply; and, the safeguarding of long term competitiveness and innovation through R&D. As noted in the conclusions of the December 2002 Telecoms Council, state aid is not the way forward.

This Communication does not launch new policies. It reminds Member States of the need to complete rapidly the process of defining and implementing the actions already planned and complementing these where necessary. Concretely, governments should aim to:

(i) the full, effective and timely implementation of the **new regulatory framework** for electronic communications to create and maintain a competitive environment that offers incentives to innovate, invest, and improve the quality of the services offered.

(ii) encourage the use of electronic communication technologies through broadband and multi-platform access, as outlined in **the *e*Europe 2005 Action Plan**, to improve public services and, ultimately, to reorganise business and administrative processes to increase productivity and growth.

(iii) support and strengthen current **research efforts at national and EU level** to ensure Europe's long-term competitiveness.

This Communication responds to the request addressed to the Commission by the Telecommunications Council of 5 December 2002, to report in due time before the European Spring Council on the situation of the sector and, if necessary, put forward appropriate proposals. It presents the actions currently underway in Europe, particularly at the EU level, and it outlines a roadmap of the major initiatives. The Communication focuses on those actions that are most likely to impact on the sector in the next 12 to 18 months.

2. THE IMPLEMENTATION OF THE NEW REGULATORY FRAMEWORK FOR ELECTRONIC COMMUNICATIONS

The new **regulatory framework** brings benefits to consumers by ensuring a competitive environment for the delivery of electronic communications services, stimulating innovation, creating scope for price reductions, and increasing consumers' choice. It provides clear and stable rules, improving certainty for investors. Predictability provides incentives to innovate and facilitates long-term investment.

The rapid development of the sector and recent technological advances have brought about new challenges for regulators. These changes allow data to be transported through all networks, and to be accessed from a variety of terminals. This process is known as "convergence". The regulatory framework takes it into account by avoiding favouring one technology over another. This approach is called 'technological neutrality'.

Technology-neutral regulation allows provision of new services and leads to competition between different access methods, known as facilities-based competition. In the mid to long-term this is the best way to low prices and increased choice of services. It also stimulates innovation and creates resilience in communications infrastructure as a whole.

A new legal framework was adopted at the EU level at the beginning of 2002. The challenge ahead is its full, effective and timely implementation across Member States, who must transpose the European directives into national legislation by 24 July 2003. In addition, national regulatory authorities should receive the resources they need to face the new tasks. Any delay would create unnecessary uncertainties with negative consequences on the sector.

> **24 July 2003, deadline for the transposition of the new legal framework for electronic communications of March 2002.**

To make sure that national regulators apply the new rules in a coherent and consistent manner across the different Member States, the Commission has elaborated guidelines on how to conduct the analysis of the markets and on how to determine the existence of "significant market power". The corresponding document was published on 11 July 2002.

The Commission was also asked to issue a recommendation on the relevant markets (e.g. the markets that should be analysed by the national regulatory authorities for the purpose of determining which ex-ante obligations apply to undertakings holding significant market power). This recommendation [was adopted on 11 February 2003].

A number of committees and procedures has been established to facilitate the uniform application of the framework. At present, the Commission and the national regulatory authorities are defining the procedures for the notification and examination of the specific measures taken by national regulatory authorities (so called "article 7" procedures). For its part, the Commission is modifying its own internal structures to accommodate the expected high volume of individual notifications.

> **Second half of 2003, the committees must be working effectively and the notification procedure must function rapidly and efficiently.**

3.   STIMULATING THE DELIVERY OF ELECTRONIC COMMUNICATIONS SERVICES

To encourage the take up of information and communication technologies, the European Union launched the *e*Europe initiative in 2000. The objective of the *e*Europe initiative was ambitious: to bring every citizen, school and business online, and to exploit the potential of the new economy for growth, employment, and

inclusion. The importance of access and use of information and communication technologies was also recognised in the 2002 Broad Economic Policy Guidelines.

The recent *e*Europe 2005 Action Plan (endorsed at the Seville European Council of 2002, covering the period 2003-5) takes a step further, towards the development and the use of a world-class infrastructure able to deliver modernised public services. It focuses on the exploitation of information and communication technologies to make public services more productive and accessible, to complete a favourable environment for e-business, and to secure a broadband information infrastructure.

On the supply side, actions on broadband and security should advance the roll-out of infrastructure and stimulate the development of innovative content and applications. On the demand side, actions on e-government, e-health, e-learning and e-business are designed to foster the development of new services and to increase demand providing a crucial pull for the rollout of networks.

Looking ahead, the *e*Europe 2005 Action Plan promotes a multi-platform approach to broadband deployment, driven by strong competition between services and networks. When there is effective facilities-based competition, the new framework will require ex-ante regulatory obligations to be lifted. Investment in new and competing infrastructures will bring forward the day when such obligations can be relaxed.

3.1   The development of broadband services

Fast Internet connections are the basis of a world-class infrastructure for the knowledge-based society. The *e*Europe 2002 final report shows that Internet penetration in Europe has increased very rapidly over the past two years. As the Internet will have become the main medium for the transmission of information and communication in Europe by the end of the decade, it is imperative that Europe steps up to a more efficient use of it.

Most Internet users today connect to their providers through temporary telephone connections (dial-up) at low speeds of data transfer. Dial-up may be sufficient to send e-mails and download small documents, but is not fast enough for large audio or video files. High-speed and permanent connections ("broadband") allow the immediate transmission of large volumes of data, changing the overall presentation of the Internet.

Broadband provides important new options in terms of the quality of services delivered. Distance education (using e-learning), access to government services (e-government), healthcare (e-health), entertainment, videoconferencing, e-commerce, etc. become more practical and often feasible only through the high speed provided by broadband access. Realising the full benefits will also require reorganisation of business and administrative processes and the upgrading of skills. The adoption of these services into our daily life, and the opening of new markets, can improve quality of life, increase productivity and stimulate innovation.

Broadband is currently available mainly over existing infrastructure, in particular over the telephone copper network using ADSL[1] technology, and over cable TV networks using cable modems. In addition, broadband access can be delivered over new infrastructure, such as fibre optic, fixed wireless access (FWA), third-generation mobile systems, R-LANs[2], satellite communication systems, free space optics and through electric power line transmission.

In October 2002, the number of broadband connections in the European Union was 10.8 million (8th Implementation Report). Three months later, this figure is estimated to have grown to over 12 million. Awareness of the possibilities offered by broadband is spreading, interest is growing, and a new market starts to unfold. While large corporations have completed their transition to broadband access, the focus must now be on the mass market to ensure that broadband becomes available to SMEs and households on a large scale. Competition remains an essential tool for the achievement of widespread access.

In many rural and remote regions, geographical isolation and low density of population can make the cost of upgrading telephone lines to broadband capability unsustainable. Here, the Structural Funds can be used to increase infrastructure availability. As the mid-term review of Structural Funds programs will take place in 2003, this would provide an opportunity for Member States to give greater emphasis to this priority on the basis of an assessment of the regional needs.

> **By Spring 2003, the Commission will provide Member States with guidelines on criteria and modalities of implementation of Structural Funds in support of the electronic communications sector, notably broadband fixed and wireless infrastructure.**

The development of broadband services constitutes an important source of revenue growth both for fixed line communication companies and cable operators who are facing stagnating demand for their other services. Increases in broadband connections also generate significant demand for specific equipment, benefiting manufacturers.

The combination of economic and societal interest in the development of high-speed connections has led many governments to take specific actions to encourage its deployment. Many Member States have elaborated specific 'broadband strategies'.

The achievement of widespread broadband availability and use is one of the key supply-side objectives of the *e*Europe 2005 Action Plan. As part of this initiative, the European Commission convened a workshop in Brussels at the end of January, where Member States were invited to present the national strategies for achieving ubiquitous access.

Discussions will be continued on issues such as the ***relationship between content providers and*** infrastructure ***operators*** (fostering a dialogue between stakeholders), ***the regional and local experiences,*** and the contribution governments can make by

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[1]   Asymmetric Digital Subscriber Line.
[2]   Radio Local Area Networks.

combining their purchasing power (***demand aggregation[3]***). The Commission is organising a series of ad-hoc workshops to support the on-going discussions.

A Ministerial level discussion on new technologies, broadband and 3G, would be welcome in the second half of 2003. A 'broadband portal' will report on the discussions between stakeholders.

The Commission, together with Member States and other stakeholders, has started a process to define common objectives and to further national broadband strategies.

- **All Member States should have a comprehensive broadband strategy in place by the end of 2003;**

- **All public administrations should have broadband connections by end 2005;**

- **Europe should achieve widespread access and aim to reach half of Internet connections to be broadband by 2005.**

Progress in deployment of broadband will be monitored under the ongoing *e*Europe benchmarking exercise using indicators agreed on at the December 2002 Telecom Council.

Commission document describing national broadband strategies in all Member States to be presented at the end of 2003.

Spring 2004, first eEurope 2005 benchmarking report.

3.2   The mobile sector

3G networks require a very large investment. The establishment of these networks is likely to generate significant revenue streams: to operators, to service providers and to equipment manufacturers. These revenues will make an important contribution to the future prosperity of the sector but action needs to be taken to encourage roll-out.

Some governments have been faced with requests to ***adapt the licensing conditions*** or the roll-out deadlines. Some adaptations have taken place. However, any adaptation of deadlines must balance the benefit of encouraging the continued deployment of the networks against the danger of worsening the difficulties of the equipment suppliers. Governments and national regulatory authorities are convinced of the need for close consultation to take consistent decisions throughout Europe.

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[3]   For example connecting all public administrations to broadband.

> **End of 2003: Commission and Member States to work out coherent approaches to deployment deadlines in the appropriate fora under the new regulatory framework**

Network infrastructure sharing by mobile network operators is an issue that needs to be addressed further. Sharing infrastructure with other operators can substantially reduce costs[4] but may raise competition concerns. The Commission has expressed its view in the Communication on 3G of June 2002 and two preliminary opinions concerning individual cases. Infrastructure sharing has effectively taken place in some Member States. The Commission welcomes the fact that indications on this issue have already been given by some national competition authorities. It is important for industry to know with as much certainty as possible the extent of the sharing possibilities so as to be able to plan future investment.

> **End of 2003: The Commission and Member States to provide clarifications on issues of network infrastructure sharing.**

The new EU Regulatory Framework for electronic communications provides opportunities to ensure that a *coherent policy on wireless communications* is pursued across the EU. The Communications Committee and the European Regulators Group provide the means to discuss the relevant issues with the Member States both at policy and technical levels, while the transparency and co-ordination mechanism (Article 7 procedures) will play an important role in ensuring coherence of regulatory decisions.

Moreover, spectrum-related issues will be now discussed within the framework of the Radio Spectrum Decision and it will be possible to co-ordinate at an early stage Member States' approaches, via the two new bodies under the Decision (the Radio Spectrum Policy Group and the Radio Spectrum Committee).

A more flexible approach to *radio spectrum trading and usage* in the mobile sector will contribute to a more efficient mobile market. The new regulatory framework provides increased opportunities in this respect for Member States. The Commission has launched a study into secondary spectrum trading and will organise a workshop by mid 2003 with all actors involved (operators and other users, Member States and their regulatory authorities).

> **Mid 2003: Commission to organise a workshop on secondary spectrum trading and spectrum usage.**

Another difficulty encountered by telecommunication operators is the reluctance of some local authorities to grant the licenses for the installation of masts and base stations. The conclusions to the Seville European Council stated that the Council "*calls upon all the administrations concerned to act to overcome difficulties encountered in the physical deployment of networks*". Member States should look urgently into the matter, and discussions with local authorities should be started.

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[4]   For this reason, network infrastructure sharing is a particularly interesting solution to reconcile competition and accessibility in thinly populated regions.

Member States to urgently discuss with local authorities any difficulties in the physical deployment of 3G networks.

The Commission views it a priority to contribute to a general awareness and understanding of the objective risks associated with the use of mobile terminals and base stations. Considerable research work has been undertaken to investigate a possible impact on health. Information that has become available from a large body of scientific research does not suggest that carcinogenic and other non-thermal health effects can be attributed to radio-frequencies, as used e.g. by mobile telephony equipment , below the safety exposure limits established by the 12 July 1999 Council Recommendation. This was re-established by the 30 October 2001 opinion from the Commission Scientific Committee on Toxicology Ecotoxicity and the Environment and is also reflected by other international and national scientific committees and the WHO. The recommended limits to radio-frequency fields are regularly reviewed by the Commission Scientific Committees. However, the issue of public exposure to electro-magnetic fields and full respect of the recommended limits to radio-frequency fields has to remain a constant priority. Research must be continued, including the ongoing large-scale studies by the WHO supported by EU R&D funding, and science-based information must be made available.

Necessary information on health-related problems of electro-magnetic fields will be made available on Commission website in connection with the World Health Organisation by Spring 2003.

The Commission mandated CENELEC to draft standards for health aspects of the mobile telephony to be recognised under Community law. These standards ensure that the public is not exposed to electro-magnetic fields beyond the levels recommended by the Council. The standards for mobile phones have been finalised; those for base stations are partly available and are planned to be finalised in 2003.

End of 2003: Member States to actively support standardisation regarding health protection of the public in the mobile sector.

To stimulate the effective use of advanced mobile communications, there is a need to look at emerging issues relating to *mobile payments*. The industry is preparing a document aiming at identifying the obstacles (regulatory and other) to the wider use of mobile payments, proposing ways of addressing them. The Commission helps resolving the divergence of opinions within industry. This document should eventually pave the way to standardisation.

Moreover:

End of 2003: Commission report on the state of deployment of 3G networks.

Finally, satellite navigation has been highlighted as a prime means to allow for new mobile applications. The satellite navigation market in 2005 in terms of telecom applications has been estimated to some 6 billions euros. The European infrastructure Galileo, approved in 2002, will provide a set of services which will trigger an opportunity for location-based services to be developed.

3.3 Interoperability

Achieving widespread access by all citizens to new Information Society services and applications is one of the goals of the EU. The possibility to access such services and applications via terminals other than a PC, to use multiple network platforms such as cable television, digital TV, 3G or R-LANs will create significant economic and social opportunities.

A choice of platforms provides citizens with more convenient and interactive access to e-government, e-health, e-learning, e-commerce etc, facilitates their rapid take up, contributes to social inclusion, fosters innovation, offers freedom of choice and enhances competition.

However the challenge of interoperability must be addressed at different levels, such as terminal devices, network infrastructure, content and services and applications delivered across platforms. Achieving interoperability requires action at all these levels (e.g. by applications developers, services providers, content aggregators, network operators and terminal equipment manufacturers). The Commission strongly encourages the development of interoperable services, applications and platforms, as well as the development of multi-platform content[5]. The *e*Europe standardisation action plan, partly funded by the European Commission, is a useful instrument in that respect.

> **Communication to European Parliament and Council on Interoperability in support of pan-European eGovernment services in June 2003.**

This active support is complemented by industry initiatives in the communications sector such as the Open Mobile Alliance, where industry has taken steps to ensure the interoperability of services across terminals and networks. However, as 3G systems start being commercially introduced, more may need to be done to enhance the availability and ease of use of mobile services and applications, notably through an accelerated plan for interoperability testing.

The Commission recently launched a public consultation on a report on the remaining "*Barriers to widespread access to new services and applications of the information society through open platforms in digital television and third generation mobile communications*".

> **Spring 2003: Commission to issue a Communication on barriers to widespread access to Information Society services through open platforms.**

3.4 Public services

The success of broadband and 3G will depend to a large extent on the availability of attractive content, applications and services. Demand for broadband will increase as

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[5] Content accessible by alternative platforms.

new applications requiring high-speed connections are developed for Internet distribution. The development of new content, applications and services will in turn be stimulated by an increase in broadband availability.

Many interesting and attractive services can be offered by the public sector which can substantially improve the way it interacts with citizens and firms. The development of "e-government", "e-health" and "e-learning" will improve standards of living, and potentially improve quality, productivity and social inclusion. The Commission recently adopted an e-learning programme.

These areas are the main targets of the *e*Europe initiative. The Commission is collaborating with Member States to exchange good practices and carry out benchmarking exercises.

22-23 May 2003: Brussels, e-health awards at the ministerial conference on the same subject organised by the Commission and the Greek Presidency.

3-4 July 2003: Como, e-government awards at the ministerial conference organised by the Commission and the Italian Presidency.

The public sector can also help the development of broadband services and content. As a major owner of rights, governments can have a positive impact by facilitating access to publicly-owned content and information under predictable and fair conditions. A good example would be tourist services that private companies might offer combining public sector information on geography, cultural sites, traffic, meteorological conditions etc. The Commission has proposed a draft Directive to establish such predictable and fair conditions, which is currently being examined by Parliament and Council[6] .

Final adoption of the Directive on the re-use of public sector information by the end of 2003.

Finally, the European Union is directly encouraging the provision of content through the programme e-Content (a call for proposals was launched in December 2002). The development of new content, services and applications will also continue to be supported by other ongoing programmes such as *e*TEN, IDA and IST.

3.5   Security

The rollout of innovative technologies such as broadband and 3G, as well as the development of new content, applications and services, will bring new security

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[6]   COM(2002) 207 final - 2002/0123 (COD).

challenges. Addressing security issues is also crucial to stimulating demand for new electronic communications services.

Security of networks and communications is a major area of concern for the development of the digital economy. Networks and information systems are now supporting services and carrying data of great value which can be vital to other critical infrastructures. Increased protection of the networks and information systems is therefore necessary against the various types of attacks on their availability, authenticity, integrity and confidentiality.

Mobile handsets with their smart card functionalities could help to significantly upgrade the current arrangements for checking authorisations to access particular services or sites. It would be useful to fully exploit this potential to create an environment where individuals, firms and public authorities will use communications technologies with greater confidence. The Commission will soon convene a workshop to review progress in this area.

Overall security of networks is also improved by ensuring that Member States have the appropriate means to prevent and combat any form of criminal activity against networks. The Commission has adopted a proposal for a Council Framework Decision[7] for approximating national criminal laws relating to attacks against information systems, with a view to further facilitating police and judicial co-operation between Member States in this area. It is essential that this proposal be adopted as soon as possible.

June 2003: final adoption of the Council Framework Decision on attacks against information systems

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The spectacular growth of attacks and fraud conducted on electronic communications in the recent years threatens to undermine consumers' confidence in online services and the effective functioning of electronic markets. Governments are intensifying efforts to co-operate across borders to protect users. To improve the overall security of networks and information systems in the EU, the Commission has recently adopted a proposal to establish an European Network and Information security agency, which should become a centre of excellence for cyber security matters. It is of crucial importance that this agency becomes operational as soon as possible.

End of 2003 : final adoption of the Regulation setting up the European Network and Information Security Agency.

Communication networks are global, and security issues highlight the need for closer international co-operation and for a common approach. Although many initiatives need some adjustment to local environments, it is clear that international co-operation should be more widespread.

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[7]   COM(2002)173 of 19.4.2002.

4. RESEARCH AND DEVELOPMENT

The electronic communications sector is a dynamic and innovative area, where Research and Development (R&D) plays a fundamental role and determines competitiveness. This is why the reduction in R&D investment brought about by the financial situation of the sector is particularly worrying, as it risks not only to undermine the strength of the sector, but also Europe's overall long-term competitive position.

The European Union has been very well served by its commitment to research and is still reaping the benefits of past Research Framework Programmes. The outstanding example being their contribution to the development of the GSM techniques.

It was recently decided to allocate € 3.6 billion to Information Society Technologies (IST) under the 6th Framework Programme with a clear emphasis on communications technologies and services in mobile, wireless, optical and broadband communications. This investment is critical to maintain Europe's strengths in communication technologies and will contribute to the development of the next generation of products and services.

> **June 2003: second call for proposals under the work programme 2003 of the IST priority of the 6th Framework Programme with emphasis on information society services and applications.**

In addition, the two new instruments of Networks of Excellence and Integrated Projects are well adapted to foster the kind of co-operative research needed to develop strategic solutions to the outstanding technical and implementation issues within the eEurope objectives.

More should be done, however. Because of the substantial reduction in private R&D effort, Member Sates' support should be sustained through alternative frameworks, within current budgetary constraints, especially in relation to short-medium term issues (for example the CELTIC initiative within the Eureka framework).

5. CONCLUSIONS

The electronic communications sector remains crucial for the European economy and for achieving the Lisbon goals. Overcoming its current difficulties will help restart growth and create new employment. It can also accelerate innovation through the deployment of more attractive "next generation" services; notably those for public services, business and work.

A stable regulatory environment that is needed for an increased momentum has been put in place at European level. Member States are now called on to undertake full, timely and effective implementation of this new regulatory framework.

Deployment of broadband and third generation mobile will be helped by the creation of conditions that stimulate demand and supply e.g. by the development of attractive content, services and applications and by investment in secure multi-platform broadband infrastructures. Full implementation of the *e*Europe 2005 action plan is the

necessary step to reinforce revenue growth. Developing national broadband strategies with clear targets, accelerating the provision of e-government services and applications, including e-health and e-learning can generate major public benefits. Interoperable and open platforms will facilitate widespread access to these services and foster a more inclusive information society.

Maintenance of a European knowledge base is essential. Despite current strains on public finances, Member States and the European Union should create the conditions for more public and private investment in education, research and the knowledge economy, in particular to making full use of modern communication technologies and to ensuring further innovation.

The Council and the European Parliament are urged to give their support to these actions as a key contribution to the Lisbon agenda.

Spring 2003	the Commission will provide Member States with guidelines on criteria and modalities of implementation of the Structural Funds in support of the electronic communications sector, notably broadband fixed and wireless infrastructure
Spring 2003	Commission to issue a Communication on barriers to widespread access to Information Society services through open platforms.
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Mid-2003:	Commission to organise a workshop on secondary spectrum trading and spectrum usage.
3-4 July 2003	e-Government awards at the Como ministerial conference organised by the Commission and the Italian Presidency
24 July 2003	Transposition of the new legal framework for electronic communications of March 2002.
2nd semester 2003	Committees must be working effectively and the notification procedure must function rapidly and efficiently
End 2003	All Member States should have a comprehensive broadband strategy in place
End 2003	Commission document assessing national broadband strategies in all Member States to be presented
End 2003	Member States to actively support standardisation regarding health protection of the public in the mobile sector.
End 2003	Commission report on the state of deployment of 3G networks.
End 2003	Final adoption of the Directive on the re-use of public sector information
End 2003	Final adoption of the Regulation setting up the European Network and Information Security Agency

End 2003	Commission and Member States to work out coherent approaches to deployment deadlines in the appropriate fora under the new regulatory framework
End 2003:	The Commission and Member States to provide clarifications on issues of network infrastructure sharing.
Spring 2004	First eEurope 2005 benchmarking report
End 2005	All public administrations should have broadband connections
End 2005	Europe should achieve widespread access and aim to reach half of Internet connections to be broadband by 2005.