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

“i2010 – A European Information Society for growth and employment”

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“i2010 – A European Information Society for growth and employment”

(Text with EEA relevance)

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1. INTRODUCTION

In launching the partnership for growth and jobs as a new start for the Lisbon strategy, the 2005 Spring European Council called knowledge and innovation the engines of sustainable growth and stated that it is essential to build a fully inclusive information society, based on the widespread use of information and communication technologies (ICT) in public services, SMEs and households.

Information and communication technologies are a powerful driver of growth and employment. A quarter of EU GDP growth and 40% of productivity growth are due to ICT. Differences in economic performances between industrialised countries are largely explained by the level of ICT investment, research, and use, and by the competitiveness of information society and media industries¹. ICT services, skills, media and content are a growing part of the economy and society.

In recent years, ICT developments have gained pace to arrive at the threshold of massive growth in information society and media, made possible by widespread fast communications, connecting multiple devices. Traditional content (such as films, video, music) is now available in digital formats, and new services that are ‘born digital’, such as interactive software, are emerging. The **digital convergence of information society and media services, networks and devices** is finally becoming an everyday reality: ICT will become smarter, smaller, safer, faster, always connected and easier to use, with content moving to three-dimensional multimedia formats.

Proactive policies are needed to respond to the fundamental changes in technology. Digital convergence requires **policy convergence** and a willingness to adapt regulatory frameworks where needed so they are consistent with the emerging digital economy.

The Commission proposes a new **strategic framework, i2010 – European Information Society 2010, laying out broad policy orientations**. It promotes an open and competitive digital economy and emphasises ICT as a driver of inclusion and quality of life. A key element of the renewed Lisbon partnership for growth and jobs, **i2010 will build towards an integrated approach to information society and audiovisual media policies in the EU**.

¹ The services of the information society and media industries were already described in the 1998 Green Paper on convergence of the telecommunications, media and information technology sectors and the implications for regulation towards an information society approach - COM(97) 623 - and, taking into account new developments, in the 2003 Communication on the Future of European Regulatory Audiovisual Policy - COM(2003) 784. These services reflect the convergence now taking place between electronic communications services, information society services and broadcasting services and the emergence of new content services resulting therefrom.

Drawing on a comprehensive analysis of information society challenges and drawing on wide stakeholder consultation on previous initiatives and instruments², the Commission proposes three priorities for Europe's information society and media policies:

- i) the completion of a **Single European Information Space** which promotes an open and competitive internal market for information society and media;
- ii) strengthening **Innovation and Investment** in ICT research to promote growth and more and better jobs;
- iii) achieving an **Inclusive European Information Society** that promotes growth and jobs in a manner that is consistent with sustainable development and that prioritises better public services and quality of life.

The following sections outline the objectives of i2010 and the key activities, which are fully integrated and consistent with the new Lisbon governance cycle.

2. A SINGLE EUROPEAN INFORMATION SPACE

The information society is at a turning point: recent technological progress has been huge and ICT are entering a phase of mass deployment which may fundamentally change the way in which we work, live and interact. Rich media content is becoming available in new, diverse formats and can be delivered independent of location or time, personalised to individual citizens' preferences or requirements. In technical terms, communication networks, media, content, services and devices are undergoing digital convergence. Improvements in networks, combined with new compression techniques, create new and faster distribution channels and trigger new content formats and services (e.g. Voice over IP, Web TV, on-line music).

New content creation, services and business models are driving growth and jobs. For example, Western European online content markets are expected to triple by 2008 (with the consumer part growing tenfold)³. These developments are expected to multiply across the sector, today already accounting for 8% of EU GDP. However, the impact of digital convergence will be felt globally and will lead to increased worldwide competition. If Europe is to benefit fully from its economic potential, a **proactive policy approach** is needed to stimulate favourable market developments and the promotion of the knowledge society (e.g. lifelong learning, creativity and innovation), consumer protection and a healthy and safe European information society.

The creation of a Single European Information Space needs to address at the outset four main challenges posed by digital convergence:

- **speed:** faster broadband in Europe services to deliver rich content such as high definition video;

² I.e. the eEurope initiatives and the communication on the future of European audiovisual regulatory policy - COM(2003) 784.

³ European Information Technology Observatory (EITO) 2005.

- **rich content:** increased legal and economic certainty to encourage new services and on-line content;
- **interoperability:** enhancing devices and platforms that “talk to one another” and services that are portable from platform to platform;
- **security:** making internet safer from fraudsters, harmful content and technology failures to increase trust amongst investors and consumers.

Objective 1: A Single European Information Space offering affordable and secure high bandwidth communications, rich and diverse content and digital services.

Digital convergence calls for a **consistent system of rules for information society and media**. In this area, the internal market is governed by a wide set of rules covering e.g. audiovisual media, digital television, on-line trading, intellectual property rights and support measures for the creation and circulation of European content. Some regulatory elements (e.g. the e-Commerce directive) are recent and reflect digital convergence. Others, notably the Television without Frontiers Directive are due for review. The Commission undertakes to examine the rules affecting the digital economy to make their interplay more coherent and oriented to economic and technological realities. Concretely the Commission will:

- by end 2005, propose a revision of the ‘Television without Frontiers’ directive to modernise the rules on audiovisual media services;
- by 2007, the Commission will have analysed the community acquis affecting information society and media services and will bring forward proposals for change where necessary.

Complementary policies will promote **fast and efficient implementation** of the updated frameworks and support will continue for the creation and circulation of **European content and knowledge**⁴.

Regulation of electronic communications has been transformed in the last decade. The European electronic communications regulatory framework, in force since 2003, is an example of best practice. Where it has been implemented consistently and effectively it has opened up competition, encouraging lower prices and investment. Regulation must keep pace with technological and market developments. Therefore, in the 2006 review of the framework, the Commission will thoroughly examine its principles and mode of implementation, especially where bottlenecks are delaying the provision of **faster, more innovative and competitive broadband services**.

New high speed wireless applications are driving demand for **radio spectrum**⁵. Policy aims to facilitate spectrum access across the EU through market mechanisms. This will be assisted by the planned switching off of analogue terrestrial television by 2012. The

⁴ With MEDIA, the eLearning and the eContent programme and their successors.

⁵ E.g. broadband mobile, wireless local and wide area networks (WiFi & WiMax) and digital TV.

Commission will consolidate its proposals by defining a **strategy for efficient spectrum management in 2005** to be implemented in the 2006 review of the electronic communications framework.

Digital convergence requires devices, platforms and services to **interoperate**. The Commission intends to use all its instruments to foster technologies that communicate, through research, promotion of open standards, support for stakeholder dialogue and, where needed, mandatory instruments. Such a policy mix was the foundation of Europe's mobile telephony success. Under i2010, the Commission will also seek to establish a **comprehensive approach for effective and interoperable digital rights management**.

Trustworthy, secure and reliable ICT are crucial for a wide take up of converging digital services. During 2006 the Commission will propose a **Strategy for a Secure Information Society** to combine and update the instruments available, including raising awareness of the need for self-protection, vigilance and monitoring of threats, rapid and effective response to attacks and system failures. Support will be given to targeted research to 'design-in' security and to deployment measures that test solutions for key issues such as identity management. Revision of regulation will be considered where necessary, for example in protection of privacy, electronic signature or discouraging illegal and harmful content.

In summary, the i2010 agenda on the Single European Information Space will accelerate the economic pay-off from digital convergence by the following measures:

Review the electronic communications regulatory framework (2006), including defining an efficient spectrum management strategy (2005)

Create a consistent internal market framework for information society and media services by

- **modernising the legal framework for audio-visual services, starting with a Commission proposal in 2005 for revising the Television Without Frontiers Directive**
- **analysing and making any necessary adaptations to the community acquis affecting information society and media services (2007)**
- **actively promote fast and efficient implementation of the existing and updated acquis governing the information society and media services**

Continued support for the creation and circulation of European content

Define and implement a strategy for a secure European Information Society (2006)

Identify and promote targeted actions on interoperability, particularly digital rights management (2006/2007)

3. INNOVATION AND INVESTMENT IN RESEARCH

ICT make a crucial contribution to growth and jobs in Europe. The ICT sector is a major contributor to the economy, while the adoption and skilful application of ICT is one of the largest contributors to productivity and growth throughout the economy, leading to business innovation in key sectors.

Research and innovation: Europe accounts for around one third of global ICT sales, which are growing at 5% per year, with double digit growth in emerging markets such as India and China. Europe is a global leader in electronic communications, accounting for 40 to 50% of the revenues of the world's largest players⁶. Europe is also strong in sectors such as nano-electronics, micro-systems and embedded systems.

Investment in research and innovation is crucial for the ICT sector to continue delivering jobs and growth in the short and long term. However, as Table 1 shows, Europe is seriously under investing in ICT.

Table 1 - Investment in ICT Research (2002)⁷

ICT R&D ⁸	EU-15	US	Japan
Private sector investments	23 B€	83 B€	40 B€
Public sector investments	8 B€	20 B€	11 B€
Inhabitants	383 m	296 m	127 m
Investments / inhabitant	80 €	350€	400€
ICT R&D as % Total R&D	18%	34%	35%

Source: IDATE (for EU-15); OECD

Strategic ICT research is needed to assure Europe's leadership in areas where it has recognised strengths (e.g. nanoelectronics, embedded systems, communications) and in emerging areas (e.g. web-services, cognitive systems). Targeted research is needed on bottlenecks such as integrated solutions, ease of use and security. This also supports Europe's international competitiveness in crucial areas such as standards and R&D location decisions. Europe needs higher ICT research investment to reach the Barcelona target of 3% of GDP on R&D.

Deployment and adoption of ICT: Research alone is not enough. The benefits of ICT come from embedding them into products and services and the adoption of new business models, organisational change and skills. Businesses are getting productivity gains from ICT but still face a lack of interoperability, reliability and security; difficulties to reorganise and integrate ICT into the workplace and high cost of support. SMEs in particular have difficulties to adopt ICT.

A new era of '**e-business solutions**' is coming, based on integrated ICT solutions, secure web-services and 'collaboration tools' to raise worker productivity. New developments indicate that the business use of ICT will increase in the next years. It is also essential to adapt the working environment through efficient use of ICT in the workplace and for a flexible organisation of safe and high quality work.

⁶ OECD Information Technology Outlook 2004.

⁷ Comparable data for EU 25 will be available by the end of 2005.

⁸ "Investment in ICT Research, Comparative Study", IDATE 2002.

Objective 2: World class performance in research and innovation in ICT by closing the gap with Europe's leading competitors.

The Lisbon Strategy emphasises investment in research and innovation to generate growth and jobs. When Europe is successful at invention, it sometimes fails to innovate. **i2010 will therefore actively seek to reduce barriers between research results and economic rewards.**

The Commission has recently launched two major proposals to strengthen Europe's position in ICT; the Seventh Research Framework Programme (FP7) and the Competitiveness and Innovation Programme (CIP)⁹. In its proposal for FP7, the Commission asks for a substantial increase in the ICT research budget. This will contribute to closing the ICT gap with other leading economies if it is fully complemented by increases in private and public research spending.

The Commission will encourage the transformation of technological progress into innovative applications and services in the public and private sector. It will support approaches that are high risk and creative and building scale through private-public partnerships¹⁰ that mobilise the know-how, capabilities and financial resources of industry and research around strategic research priorities¹¹. The Commission will prioritise its strategic research in areas where European added value is greatest and where impact on growth and jobs is highest. In FP7 the **technology pillars** are:

- technologies for knowledge, content and creativity - including cognition, simulation and visualisation;
- advanced and open communication networks;
- secure and dependable software;
- embedded systems;
- nanoelectronics.

The co-ordination of the Commission's research and deployment instruments will be enhanced by focusing them on **key bottlenecks** such as interoperability, security and reliability, identity management, rights management and ease of use. Research and deployment instruments will be coordinated to demonstrate technological and organisational solutions in areas, where a shared EU level approach can help to build economies of scale and encourage investors.

The Commission also intends to encourage investment in ICT research and innovation in Europe through **complementary measures**. The Commission will support strategic

⁹ FP7 proposes to attribute 1 800 m€ annually to ICT. The ICT Policy Support Programme of the CIP proposes 800 m€ for 2007 to 2013 to encourage take-up and use of ICT.

¹⁰ Including European Technology Platforms or Joint Technology Initiatives.

¹¹ Research in nanoelectronics will be supported and coordinated by the Commission according to the proposal of FP7 and in line with the vision and the strategic research agenda of the European Technology Platform on Nanoelectronics.

co-operation between ICT research programmes by bringing together national and European-level activities and by building on the experience of shared infrastructures such as GÉANT. It will monitor expenditure performance by both the public and private sectors. It will also promote education and training policies so that Europe has the skills it needs to research, innovate and use ICT.

In support of the **take-up of ICT** the Commission intends to propose an integrated policy on e-business giving special attention to SMEs. This should be complemented by support under the Structural and Rural Development Funds.

In summary, to launch the i2010 agenda on raising investment in research and innovation the Commission will:

Propose an 80% increase in Community ICT research support by 2010 and invite the member states to do the same

Prioritise strategic ICT research around FP7 key technology pillars (2007)

Launch research and deployment initiatives to overcome key bottlenecks that require both technological and organisational solutions (2006)

Define complementary measures to encourage private investments in ICT research and innovation (2006)

Make specific proposals on an Information Society for all in the Community Strategic Guidelines on Cohesion 2007-2013

Define e-business policies aiming to remove technological, organisational and legal barriers to ICT adoption with a focus on SMEs

Develop tools to support new patterns of work that enhance innovation in enterprises and adaptation to new skill needs

4. INCLUSION, BETTER PUBLIC SERVICES AND QUALITY OF LIFE

As the use of ICT grows, so does its impact on society. i2010 recognises this in three ways: making sure that ICT **benefit all citizens**; making **public services better, more cost effective and more accessible**; and improving **quality of life**.

ICT are becoming more widely used and are benefiting more people. But today over half of the EU population either does not reap these benefits in full or is effectively cut off from them. Reinforcing social, economic and territorial cohesion by **making ICT products and services more accessible, including in regions lagging behind, is an economic, social, ethical and political imperative**. In i2010, strong emphasis is given to full participation and to providing people with basic digital competence.

Public services are a major part of the European economy. For example, public procurement accounts for 16% of GDP. A key challenge is to make these services **better, more accessible and more cost-effective**. Considerable advances have been achieved in the rollout of ICT-based public services. Successes are already being

registered: for example, on-line tax returns save millions of hours each year. However, much remains to be done to demonstrate economic impact and social acceptance.

ICT can contribute strongly to improvements in the **quality of life**. ICT are capable of improving the health of our citizens via new ICT enabled medical and welfare services. In light of the demographic challenges facing Europe, ICT can help make public health and welfare systems more efficient and effective. ICT can be a strong force for reinforcing Europe's cultural diversity by making our heritage and our cultural creations available to a wider number of citizens. ICT are also a tool for environmental sustainability, e.g. through monitoring and disaster management and through clean, low energy and efficient production processes¹². ICT can help to make transport safer, cleaner and more energy efficient.

Objective 3: An Information Society that is inclusive, provides high quality public services and promotes quality of life.

Digital convergence brings new challenges for **e-Inclusion**. The Commission will therefore adopt a comprehensive approach. During 2005, it will address e-accessibility through a mix of research and stimulation measures to make ICT systems easier to use for a wider range of people. It will give guidance to extend the geographical coverage of broadband in under-served areas and will review the scope of the Universal Service Directive in 2005 and the directive as a whole in 2006. In 2006, the Commission will also review the contribution of ICT and digital literacy to key competences targets in the 'Education and training 2010' initiative.

In addition, the Commission intends to propose a **European Initiative on e-Inclusion** in 2008, addressing issues such as equal opportunities, ICT skills and regional divides. It will be prepared through actions on active monitoring, digital literacy and research into accessible technological solutions. All available instruments should be deployed, including integration in the strategic guidelines for the Structural Funds, rural development funds, national support, regulatory intervention and research.

The Commission intends to promote **ICT-enabled public services**, not least through its own e-Commission project, that are more transparent, accessible and cost-effective. However, considerable challenges remain. Technically there is a need for common interfaces, portability of identity from one system to another and authentication systems. Organisational changes needed include new practices, new skills and different rules. These issues are best tackled in an integrated way through initiatives such as the recent e-Health and e-Procurement Action Plans. The Commission will also propose an **Action Plan on e-Government** and strategic orientations on ICT-enabled public services. The Commission will support these efforts using a limited set of high profile demonstrators to test technical, legal and organisational solutions. The priorities and scope of these projects will be decided in partnership with Member States.

¹² i2010 will exploit these opportunities jointly with the Environmental Technologies Action Plan (ETAP).

The vital contribution of ICT to the **quality of life** often goes unrecognised and take-up is limited. To raise visibility, the Commission proposes to launch **flagship ICT initiatives** on key social challenges. The three initial priorities are **the needs of the ageing society, safe and clean transport and cultural diversity**. The first initiative will be on **caring for people in an ageing society** addressing technologies for wellbeing, independent living and health. The second will be on the **intelligent car: smarter, safer and cleaner** addressing environmental and safety issues arising from increased road use. The third will be on **digital libraries** making multimedia sources easier and more interesting to use. It will build on Europe's rich heritage combining multicultural and multilingual environments with technological advances and new business models.

In summary, to launch i2010's societal agenda the Commission will:

Issue policy guidance on e-accessibility and coverage of broadband (2005)

Propose a European Initiative on e-Inclusion (2008)

Adopt an Action Plan on e-Government and strategic orientations on ICT-enabled public services (2006)

Launch demonstrator projects to test, at an operational scale, technological, legal and organisational solutions to bringing public services on-line (2007)

Set-up three 'quality of life' ICT flagship initiatives as initial steps (2007)

5. CONCLUSION: i2010 WITHIN THE NEW LISBON GOVERNANCE CYCLE

The European Union has given a new start to the Lisbon Strategy emphasising the partnership for growth and jobs. **i2010** will contribute in making Europe more attractive to investment and innovation in knowledge-based goods and services. Each actor has a role to play within his field of responsibilities:

- The *European Commission*, through the Community Lisbon Programme and in particular i2010, will lead in:
 - developing proposals to update the regulatory frameworks for electronic communications, information society and media services to exploit to the full the internal market;
 - using the Community financial instruments to stimulate investment in strategic research and to overcome bottlenecks to widespread ICT innovation;
 - supporting policies to address eInclusion and quality of life.
- *Member States* through the National Reform Programmes to be adopted by mid-October 2005 should define **Information Society priorities** in line with the Integrated Guidelines for growth and jobs, which stress the importance of ICT uptake, ICT infrastructure and ICT for jobs and education. These programmes could help Member States to:

- ensure rapid and thorough transposition of the new regulatory frameworks affecting digital convergence with an emphasis on open and competitive markets;
- increase ICT research in national spending;
- develop modern and interoperable ICT-enabled public services;
- use their considerable purchasing power as a force for innovation in ICT;
- adopt ambitious targets for developments of the information society at national level.
- Other stakeholders should be engaged in open and constructive dialogue in support of an innovative knowledge society. In particular, industrial partners should aim at raising investments in ICT research and technologies, while constructive efforts should be made in areas where there are critical bottlenecks to developments in the digital economy.

Member States should subsequently report annually on achievements in their Implementation Reports on the National Reform Programmes according to the new Lisbon governance cycle. Progress on these will be analysed in the Commission's Annual Lisbon Progress Report.

The Commission will at the same time widen and strengthen dialogue with stakeholders and work with Member States to address these, notably through the open method of coordination¹³. The Commission may, for example, promote exchange of good practice and monitor the take-up of broadband services, eBusiness and eGovernment services, investment in ICT research, social and economic disparities and digital literacy through progress reports. This will not entail new reporting mechanisms for Member States outside their Implementation Reports on the National Reform Programmes.

With i2010, the Commission launches a new integrated Information Society policy approach. Fully in-line with the new governance cycle of the re-launched Lisbon Strategy, i2010 will contribute to the core Lisbon goal of sustained growth and jobs.

¹³ Working together for growth and jobs. Next steps in implementing the revised Lisbon strategy - SEC(2005) 622.