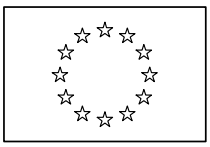

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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Challenges for the European Information Society beyond 2005

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1. INTRODUCTION

At the European Council in Lisbon in March 2000, Heads of State and Government of the European Union launched a strategy to prepare the EU for the challenges of the new century. This has become known as the "Lisbon strategy". The objectives set at Lisbon – higher growth, more and better jobs and greater social inclusion – were ambitious. Information and communication technologies (ICT) were identified as playing a key role in achieving them. This key role of the 'Information Society for all' was confirmed at the Spring Council 2004[1] and by the recent Kok report[2].

In response to this, the European Commission launched the eEurope initiative to give a political impulse to the development of the Information Society. Overall the eEurope initiative has been a success. It addressed the right issues at the right time and in so doing catalysed Information Society policy debate across Europe and beyond. The current eEurope Action Plan runs until the end of 2005, and the recent mid-term review has confirmed that its main targets are valid until then.

In this context it is now appropriate to take stock of the achievements, consider the coming challenges and identify policies to address them. This communication aims to launch a broad policy debate on an EU Information Society strategy beyond 2005[3]. It gives an indication of the main areas where EU level policy on ICT can make a difference.

2. THE CONTRIBUTION OF ICT TO THE LISBON GOALS

ICT are a key component of the Lisbon strategy. Their importance stems both from the contribution which they make to overall economic performance, and also from the benefits which they offer to society at large. The importance of ICT can be summarised as follows:

- First, the ICT equipment and services sector is an important sector in its own right. It has grown from 4 per cent of EU GDP in the early '90s to around 8 per cent, and accounted for 6 per cent of employment in the EU in 2000[4]. It is one of the most innovative sectors, accounting for 18 per cent of overall EU spending in Research and Development (R&D)[5]. It is also one of the most productive, with annual productivity growth of 9 per cent on average over the period 1996-2000[6].

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1 "Report from the Commission to the Spring European Council. Delivering Lisbon. Reforms for an Enlarged Union", COM(2004) 29.

2 "Facing the Challenge. The Lisbon strategy for growth and employment", report from the High Level Group chaired by Wim Kok, November 2004.

3 It also draws upon the recent Dutch Presidency Conference, Amsterdam 29-30 September 2004, www.ICTstrategy-eu2004.nl and upon input from the eEurope Advisory group.

4 See "OECD Measuring the Information Economy 2002"; "OECD Information Technology Outlook" 2004.

5 IDATE Comparaison de la recherche dans les TIC dans les grands pays industriels (Final Report 08.04.02).

6 Own calculations based on data collected by GGDC (Groningen Growth and Development Centre), presented in a Economic Paper from ECFIN (European Economy - European Commission Economic Paper Number 208, July 2004).

- Second, ICT are central to boosting productivity and improving competitiveness. 40 per cent of the productivity growth in the EU between 1995 and 2000 was due to ICT[7]. Economic gains from ICT stem directly from growth and innovation in markets for ICT goods and services and from the use of ICT in raising the performance of businesses. Also, ICT increasingly form an integral part of all industrial and service markets, either through the embedding of ICT components in goods (for example in consumer devices, automobiles, medical devices) or as part of the service offer (tracking of parcel deliveries, e-banking). Empirical evidence suggests Europe's productivity gap with the US is to a large extent explained by its weaker investment in ICT.

- Finally, ICT provide a boost to citizenship and to the quality of life. ICT allow more and better services to be provided to larger numbers of people. New information tools help to improve transparency and openness as well as government relations with citizens. ICT are also a powerful tool for preserving and promoting the European diversity and cultural heritage by making content widely available.

Several EU countries stand out in adopting and making gains from innovations in ICT[8]. But the average European performance in realising the potential of ICT needs to be substantially improved. In a context where Europe is falling short of the Lisbon goals it is essential that the opportunities of ICT are fully exploited[9].

3. THE CONTINUED NEED FOR INFORMATION SOCIETY POLICIES

The exploitation of the potential offered by ICT will require the implementation of ICT specific policies for many more years. We are still at an early phase in the deployment of these technologies. Promoting wider take up depends on our capacity to address many issues to which the use of these technologies gives rise. In general, ICT accelerate the pace of technological progress, modernisation and structural adjustment of our economies.

- Much has been achieved through the development and application of ICT. There is much more to come. For example, in the EU15 in July 2004 roughly 80 per cent of the population could be reached by broadband, but only 7.7 per cent on average were subscribers[10]. Along with the recent growth in third generation mobile services, this indicates considerable potential for future growth in the years to come. In addition, there may be new disruptive technologies in the pipeline[11]. Current policies, such as for regulation or spectrum policies, will therefore need to adjust to new developments.

- Important developments are taking place at the global level. The world ICT market is expanding rapidly. It is increasingly competitive with new players entering the market. Between 1992 and 2001, ICT expenditures in China, India and Brazil showed rapid

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7 "The EU Economy: 2003 Review", COM(2003) 729.

8 There are routinely at least three European countries in the top five of the various attempts to rank global performance on factors such e-readiness, information technology indices or digital access. See: for example WEF Global IT report; ITU digital access index.

9 "Report from the Commission to the Spring European Council. Delivering Lisbon. Reforms for an Enlarged Union", COM (2004) 29.

10 Source: Communications Committee.

11 The recent study commissioned by the Dutch Presidency "Rethinking the ICT-agenda" (Price Waterhouse Coopers, August 2004) mentions radio-frequency based identification (RFID) as possible example of such disruptive technologies.

growth, averaging between 20 per cent and 35 per cent a year over the period[12]. The EU must follow closely the developments in these countries to understand their implications. It will also be important for the EU to participate in decisions on the global structure and the management of networks.

- A strong presence in research and development is essential for the general strength of the ICT sector and for their take-up in the economy at large. Governments and the European Union are encouraging and supporting the research effort of European companies through the creation of a favourable scientific, financial and entrepreneurial environment. On a European level the Framework programme has played an important role. But the need for R&D in ICT increases continuously and research should be complemented by efforts to promote ICT driven innovations as foreseen in the proposed framework for innovation and competitiveness[13]. Similarly, there is an increasing need for research on the socio-economic impact of applying ICT in the various sectors, including stronger multi-stakeholder and public/private partnerships and a better coordination of national and regional initiatives.

- Regulation of ICT activities and in particular of electronic communications will remain crucial to the creation of an environment conducive to more investment, more innovation, newer services and lower prices. A new EU regulatory framework for electronic communications has been in place since 2003. There is a need to ensure that it is fully and effectively implemented, and that it remains appropriate in an environment where technologies evolve rapidly.

- There are many other regulatory issues which have important implications for the development of ICT. These include the protection of copyright, the rules applying to mobile and micro payments, the protection of privacy and the needs of law enforcement agencies. A concerted effort is needed to identify and implement solutions that will safeguard the legitimate concerns which appropriate business and regulatory environments must address, while allowing the full exploitation of the benefits of ICT.

- There is also a need to link up the different EU Information Society initiatives. A networked economy will only reach its full potential if sectoral boundaries are dismantled and an even take-up of ICT in society is ensured. For instance, the take-up of eBusiness will be greatly encouraged by an enhanced ability for businesses and administrations to communicate and conduct transactions with one another online.

- Considering today's growing dependency towards open networks and IT systems, weaknesses and vulnerabilities of these systems are posing serious threats. Close international co-operation across market sectors is needed to address security threats and to prevent cyber crime. Internet security will remain high on the agenda requiring activities to support Internet stability and robustness, such as risk preparedness and compliance, and it is used and governed.

- Governments themselves are important suppliers and users of ICT. Thus they influence the take up of ICT when using their own procurement policies to support state of the art products and services and by increasing their offer of on-line services (eGovernment,

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12 See "OECD Information Technology Outlook 2004".

13 See "Financial perspectives 2007-2013" COM(2004) 487.

eHealth, eLearning, etc.). They need to develop a comprehensive approach to exploit the potential of ICT to promote greater efficiency and effectiveness in the public sector, while tailoring on-line services to the needs of businesses and citizens.

- The effective use of ICT has become more and more complex over time. The quickly changing standards and tools and their interoperability require constant specialised attention. Thus, in order to make effective use of the advances in ICT, small businesses must have access to competent, affordable and targeted support services, tailored to their specific needs both for in-house as well as customer-oriented ICT solutions.

For these reasons, all countries should have coherent ICT related policies. This is the policy message that the European Union has been promoting in the current work of the World Summit on Information Society.

4. ISSUES FOR AN INFORMATION SOCIETY POLICY BEYOND 2005

The increasing diffusion of ICT promotes changes that are not just about technology. The use of ICT entails new ways of communication and interaction between citizens, businesses and the state, leading to new social and economic structures and new ways of governance.

Based on recent experiences with EU Information Society policy, the Commission has identified a number of issues that it considers relevant for the development of a coherent and forward-looking European Information Society policy beyond 2005[14].

4.1. Content and services

A large number of users now have access to infrastructure and services which allow the delivery of many types of digital content. This means that there are huge market opportunities in the development of attractive content and services that will benefit both the user and the economy. Yet, progress in this area is slow.

Audiovisual and multi-media content are driving forces for the success of the new technologies in general and broadband in particular. Therefore it is important for the European Union to play a pro active role by supporting content providers and fostering the emergence of innovative services. The development of new services and content is being slowed down by a variety of obstacles: Some are of a regulatory nature, such as the uncertainty surrounding the application of the rules for financial services to mobile payments or the development and acceptability of systems that allow the legitimate use of content compatible with existing rules on Intellectual Property Rights. Some are linked to the market place, such as the difficulty of establishing systems or problems of interoperability, lack of user friendliness and accessibility and situations where new services compete with already existing ones. Others still are linked to situations of dominance in the market place. The growth of the market for new services and content will depend on the capacity to find adequate solutions to this long list of issues, which concern both the public and the private sectors.

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[14] "eEurope Mid-term Review" COM(2004) 108, and "eEurope 2005 Action Plan: An Update", COM(2004) 380.

4.2. eInclusion and citizenship

The policies known as "eInclusion" aim at ensuring equal access to and the availability of ICT services for all, at an affordable cost. The importance of such polices increases as ICT permeate society. Citizenship is about the participation of all in society, but it faces new challenges with the increasing use of ICT in everyday life. New and complex technologies create the risk that some sectors of society will be unable to deal with them. eInclusion should be tackled at national, regional and local level.

Digital literacy is about ensuring that citizens have the necessary critical skills to be able to make full and effective use of ICT. eInclusion policies should ensure digital literacy for everyone in society. They should ensure that technologies are easy to use and provide content and services to prevent new digital divides from opening up. The challenge is made greater given the societal changes which the EU will face over the coming years. Forecasts indicate that in some Member States close to 40 per cent of the population will be older than 65 years in 2020[15].

These policies are an absolute necessity, yet they are complex to implement. They also require a substantial research effort that is unlikely to be provided by the private sector alone. The public sector can provide an important impetus for addressing these problems. The European Union is encouraging and supporting the research effort in this field through the Framework programme. In addition, the increasing cultural diversity, including at regional level, augments the urgency to address new digital divides.

4.3. Public services

The use of ICT in this area aims at improving the quality of the services provided, and at increasing democracy and transparency. There is currently strong political momentum for public sector reform in search of greater efficiency and effectiveness. This is driven by the need to face major societal challenges, such as ageing and immigration, while keeping public spending under control, particularly in the health and social services sectors, and improving the overall level of quality.

There are several policy challenges in this area. First, investment in ICT is not enough. As indicated below, this investment has to be accompanied by re-organisations which are often difficult to implement. Second, there are problems such as those related to the lack of interoperability of many of the services; to the diversity of administrative law and practices between countries, to issues of identity management, and to the sometimes insufficient degree of reliability and security of the available networks. Furthermore, improvements in this area are particularly important for SMEs, since these are being disproportionally hit by administrative burdens. Businesses, and especially small ones, need to be able to complete as many procedures as possible online. In order to achieve this, submission of documents with authorised electronic signatures must be possible. Finally, the cross-border dimension of public services remains a priority[16]. In particular, company registration and one-stop citizen mobility are examples of key pan-European services that could be pursued.

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15 See IPTS/ESTO "eHealth in the context of a European ageing society. A prospective study", final report, April 2004.

16 As indicated in trans-European programmes such as eTen or IDABC.

4.4. Skills and work

The analysis of the effects of the use of ICT shows that the best results are obtained by a combination of reorganisation of the processes and investment in ICT skills. This calls for strengthening the ICT component during all learning and training processes to demonstrate how working processes are affected and practices must be altered to obtain the full benefit for the user. But there is also a need to make ICT skills available to all citizens. This probably represents the biggest policy challenge of all.

At the same time, ICT facilitate the acquisition and updating of skills. They make it more economical, less linked to specific locations and times, and more easily customised to meet particular needs.

The employment challenge of Europe is reflected in the discussion on the productivity gap between the US and Europe. The key issue is to apply ICT in the workplace in ways that raise efficiency, improve the quality of work and provide better jobs. Part of the Lisbon agenda is to increase participation in the workforce. ICT can help in reaching this objective by making work more accessible, for instance to part-time workers and home workers, and possibly by delaying retirement.

At the same time, it is necessary for the European Union to respond to global competitive pressure by clarifying the strategic implications of global sourcing and focusing on the right future global positioning. This includes a thriving research and development base and the availability of a breadth and depth of skilled labour performing well in the latest ICT technologies. Public policies have to address all these aspects. This must be complemented with research to develop services and applications capable of doing this and with the implementation of appropriate technical solutions.

4.5. ICT as a key industrial sector

The ICT industry is a major economic sector in its own right, covering information technology, electronic communications and audio-visual markets. The EU has long recognised that this is a key sector whose development is to be encouraged. Recently, the spectacular growth of other markets, particularly in Asia and Latin America, is pulling production, research and standardisation activities towards these regions.

Therefore, there is a pressing need in general to make Europe a more attractive place to invest and to create high quality jobs. A central thrust of EC industrial policy is to create a pro-competitive enabling environment that is as clear and simple as possible[17]. In 2005, the Commission will analyse the sector's competitiveness and propose appropriate policy measures. Beyond this, ICT research plays a key role. The R&D effort is a main determinant of the contribution of ICT to productivity growth. The Commission has already presented guidelines for future European Union policy to support such research efforts[18].

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[17] To this end the Commission is currently studying ICT sector policies at national and regional level and intends soon to launch a high level stakeholder debate with Member States and Industry, see also "Fostering structural change: an industrial policy for an enlarged Europe" COM(2004) 274.

[18] See "Science and technology: the key to Europe's futures. Guidelines for future European Union policy to support research" COM(2004) 353.

4.6. Interoperability

As ICT based applications become more available, there is an increasing need to make them compatible: e.g. the convergence between fixed and wireless networks and between telecommunications and audiovisual provision. Interoperability has many facets: for network operators, it means to be able to interconnect with other networks; for content or service providers, it means being able to run a service over any suitable platform. For consumers, it means the ability to purchase a device and use it to access services and download content from different sources.

In general, interoperability and standards are elaborated and chosen by market operators. It is expected that the work of the European standardisation organisations, CEN, CENELEC and ETSI under eEurope 2002 and 2005 will continue in relation to the new priorities. In addition, governments must follow progress in this area attentively. In some circumstances, they may find it necessary to support stakeholders in their search for common solutions. In some areas, which have particular public policy relevance, it may be necessary to require the use of open standards.

4.7. Trust and dependability

The use of the internet is beginning to penetrate the daily life of citizens. A precondition for it to become more widespread is that it proves worthy of our trust. Security, privacy protection, property protection and general governance of the sector are indispensable for building citizens' confidence in the Information Society. This is particularly relevant in terms of consumer concerns regarding loss of privacy, unfair or illegal commercial practices, unsolicited communications as well as in relation to illegal and harmful content and the protection of minors. Many efforts are being implemented to move the internet into such a position, such as work on making the internet safer for children, systems for risk management and incident control, actions on spam. A further dimension relates to the dependability of systems and networks. The infrastructures of modern life, e.g. in banking, finance, healthcare, energy, transportation and others heavily rely on ICT and are mutually dependent and failures might have far-reaching consequences.

At the same time, privacy and data protection becomes more and more an issue with the powerful capabilities providing for relatively easy access to comprehensive information about both private individuals and intellectual property.

4.8. Exploitation of ICT by business

The efficient use of ICT by companies is recognised as being one of the success factors for improving European competitiveness. Yet the effective take up of new business processes and the adoption of new business models to exploit the potential of ICT remains a challenge, especially for the millions of European SMEs. The lower and slower investment in ICT in Europe is a clear macro-level indicator that Europe is not investing in productivity enhancing ICT as much as the USA. In addition, European performance is affected by the large proportion of SMEs, which are still lagging behind larger enterprises not only in terms of ICT infrastructure deployment but also in the level of sophistication of ICT use.

5. CONCLUSIONS

This communication argues the case for wider use of ICT, for continued policy attention to ICT related issues and presents some of the key policy challenges that the EU faces as it looks towards the last five years of the Lisbon Agenda. We must build upon the considerable work that has already been achieved in EU Information Society policy. There is a need to make explicit the huge positive effects of ICT, and – more generally - of the Information Society to overcome fears of new technologies and the concerns about the increase in the digital divide. On the economic side the central issue is not only to ensure that ICT are more widely adopted, but also how to make investment in ICT more secure and effective and how to build on experience in order to spread the benefits more widely.

This communication launches a process of reflection on a new vision of the Information Society that should be put into place at the start of 2006. The Commission will consult with stakeholders, including the European Parliament, the European Economic and Social Committee and the Committee of the Regions as well as the eEurope Advisory Group, over the coming year, and will bring forward a new policy agenda.

The Commission invites the Member States to play an active role in elaborating the new Information Society policy for the coming years and to respond to the issues identified in this document.