

28 April 2009

## **Toward Global Leadership in the Digital Economy - A Key priority for the next term of the European Commission -**

**Contribution by DIGITALEUROPE**

### **Introduction**

The next European Commission will undoubtedly be confronted with unprecedented challenges: Not only will it have to take a leading role in swiftly overcoming the most severe global financial and economic crisis in decades. At the same time the new Commission will need to take firm actions to address longer term issues such as fostering European innovation and competitiveness in a globalized economy, enhancing energy efficiency, coping with the demographic change, ensuring public security and modernizing public services to citizens and businesses in Europe. In essence, the challenge will be to maintain the European social model and sustainable growth with a decreasing workforce in Europe in a highly competitive global economy.

Information and Communication Technologies (ICT) will be a key enabler for economic recovery as well as for addressing the long-term challenges of the European Union. In particular, high-speed broadband networks and the next generation of the Internet will drive innovation, jobs and growth in nearly all sectors of the economy. ICT will also have a profound impact on citizens and society as a whole. The Digital Economy has become a reality and will undoubtedly shape the future of Europe in the next decade.

Europe has all the credentials to establish a global leadership in the digital economy. However, the US is ahead of the game and emerging economies in Asia are catching up soon and are even surpassing Europe and the US in some areas. Europe must act quickly to exploit the potential of ICT in order not to fall behind other knowledge-based societies. Hence, ICT should be the cornerstone of the new Lisbon Strategy and at the top of the agenda of the next European Commission. The overarching objective should be to develop a clear roadmap for Europe to establish Global Leadership in the Digital Economy.

## ICT – key enabler for addressing future challenges of the EU

### Economic Recovery and long-term competitiveness

Investment in ICT is an important element of many economic stimulus packages around the globe. In particular, the new US administration strives to leverage the crucial role of ICT for a “smart” economic recovery. The European Economic Recovery Plan has also put an emphasis on ICT. And as the crisis continues to spread across the real economy, ICT will be essential in the structural adjustment that companies need to make to survive and to prepare for future growth.

ICT already today is a key enabler for growth, productivity and job creation in most segments of the European economy. The digital technology industry shows the highest rates of value-added growth in the European Union.<sup>1</sup> The impact of ICT on the economy is expected to increase significantly in the coming years since ICT is embedded in many industries. For example, ICT accounts for approximately 20% - 25% of the value of an automobile and car manufacturers predict that this will reach 40% by 2015.<sup>2</sup> In particular high-speed broadband access and the next generation of the Internet will lead to a wealth of value-added services, efficiency gains and the creation of new web-based industries. As access is increasingly wireless, citizens can use these services wherever, whenever and however they prefer. The next-generation Internet will become the engine for growth, productivity and job creation in all services economies. As services comprise two-thirds of European GDP, it is clear that Europe must forcefully drive the supply and demand of next-generation Internet services and the underlying infrastructure for creating sustainable growth.

There is a unique opportunity in the current economic downturn to reduce or even close the productivity gap with the US, provided European industries, consumers and public administrations become early adopters of these new technologies. Otherwise, the gap will widen, and it will widen quicker than ever before.

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<sup>1</sup> Source: OECD Key ICT Indicators

<sup>2</sup> <http://cordis.europa.eu/ictresults/index.cfm/section/news/tpl/article/id/89579>

## **Toward an energy-efficient and low-carbon economy**

The transformation into an energy-efficient and low-carbon economy will continue to be a policy objective of the next Commission, especially in light of the current crisis. Forrester predicts that ICT can lead to a 15% reduction of emissions.<sup>3</sup> Recent studies demonstrate that ICT-based monitoring and managing of resources can reduce energy consumption in buildings by 17% and reduce carbon emissions in transport logistics by up to 27%.<sup>4</sup> In addition, investment into ICT applications to improve industrial motors and automation as well as grid management can provide considerable savings in carbon emissions.<sup>5</sup>

Innovative ICT-enabled business models and working practices – such as tele-working -can further reduce the demand for energy.

Moreover, the monitoring and managing of energy consumption and carbon emissions through ICT will create new business opportunities for service providers. Europe has been leading the global policy debate on climate change. We must now ensure that European industry become global leaders in developing ICT solutions that will facilitate the transformation into a low-carbon economy.

## **Coping with the demographic change**

An aging society and, accordingly, a shrinking workforce will be one of the most salient social and economic challenges for Europe in the next decade. With the help of a well educated and e-skilled workforce, ICT can lead to productivity gains and hence address the economic issues related to the demographic change. ICT can also deal with the social implications of demographic change; e.g. by providing essential services for elderly citizen, especially in the areas of e-Working, e-Learning, e-Government and e-Health. In particular, ICT can help to significantly reduce the cost and improve services and mobility of healthcare systems in Europe.

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<sup>3</sup> (<http://www.forrester.com/Research/Document/0,7211,46761,00.html> )

<sup>4</sup> See Communication from the Commission on mobilizing Information and Communication Technologies to facilitate the transition to an energy-efficient, low-carbon economy, COM (2009) 111 final.

<sup>5</sup> A report by consulting firm McKinsey, published in June 2008 identifies four major areas where ICT could be more systematically applied: Industrial motors and automation (savings of 0.97 GtCO<sub>2</sub>e in 2020, worth €68 billion); Logistics (1.52 GtCO<sub>2</sub>e, with energy savings worth €208 billion); Buildings (1.68 GtCO<sub>2</sub>e, worth €216 billion), and Grid technologies (2.03 GtCO<sub>2</sub>e, worth €79 billion).

## **Ensuring Public Security**

Europe is facing significant challenges in the area of public security, in particular related to organised crime, illegal immigration and terrorist attacks. The diversity of these challenges will require European governments to develop state-of-the-art ICT based security solutions for border control, surveillance and law enforcement.

## **Modernization of Public Services**

European businesses and citizens more than ever depend on cost-effective and state-of-the-art public services. In fact, the modernization of public services should be high on the agenda of EU Member States and the European Commission. During the current economic crisis most Member States have realized how important efficient public administrations are to effectively implement governmental programs and measures on a timely basis. Pending large-scale retirement of civil servants, severe budget restrictions and the necessity of citizen-centric services ask for enhanced and increased use of ICT in public administrations. Furthermore, there is a need for pan-European e-Government services to respond to the increased mobility of businesses and citizens in the internal market.

## **Building Blocks for the Digital Economy**

Europe has all the credentials to establish a global leadership in the digital economy: a skilled workforce, excellent schools and universities, access to capital, political stability and the largest internal market worldwide. Europe must now leverage these strengths and further develop the building blocks for the digital economy. The US is ahead of the game and emerging economies in Asia are catching up soon. Europe must act quickly to exploit the potential of ICT in order not to fall behind other knowledge-based societies.

## **Investment in Next Generation ICT Infrastructure**

Next generation high-speed fixed and mobile broadband networks and services (such as e.g. cloud computing) will become the critical infrastructures for the digital economy. Future ICT infrastructures will have even higher importance for trade and economic activities than traditional infrastructures (railways, roads, waterways, etc.). Citizens, businesses and administrations in Europe must have access to state-of-the-art next generation networks to reap the full benefits of the digital economy. The creation of these future networks in Europe will require significant investments by the ICT industry. The regulatory framework must provide the necessary incentives and predictability for these investments, and provide for adequate spectrum resources and its flexible management. Public funds may be needed in addition to ensure universal access to future networks, especially in rural areas. The Commission has recognized the importance of broadband networks in its European

Economic Recovery Plan. It now needs to convince Member States to earmark most of the one billion Euros dedicated to rural areas to broadband projects.

## **Increased take-up and effective usage of ICT**

Currently, Europe is lagging behind the United States in terms of deployment and take-up of ICT. In particular, SMEs – the heart of the European economy - have a large potential to benefit from an increased and more effective adoption of ICT. The alarming productivity gap between the U.S. and Europe is largely due to the lack of investment in and effective use of ICT in Europe. While the average share of GDP invested in ICT from 2001 to 2006 equaled 3.78% in the U.S., the EU15 only invested, on average, the 2.46% of GDP.<sup>6</sup> Therefore, Europe must strive for a significant increase in up-take of ICT across all industries to establish leadership in the digital economy. Moreover, public administrations should become early adopters of innovative ICT.

## **Need for a strong European ICT Industry**

While enhanced take-up of ICT is essential, to exploit the full economic benefits of technology, the EU must also maintain a globally competitive European ICT industry. The European ICT industry with current revenues of 700 Billion € is a significant sector in its own right.<sup>7</sup> In addition, as ICT is increasingly embedded in most products and services, key European industries more than ever before depend on strong local ICT partners to innovate and grow their business. If these industries do not find suitable ICT partners in Europe, they will be required to move crucial parts of their business outside of Europe.

Europe has strong global players in telecommunications and manufacturing, embedded software and enterprise software. However, it is a strategic challenge for Europe to retain and advance leadership in the new areas of the digital economy. There are strong indications that, instead of Europe, the emerging next-generation Internet industries are being developed in the U.S. and Asia.

## **Increased Research and Development**

Global leadership in the digital economy requires massive investment in ICT research and development. In particular, Europe needs to address current shortcoming in its ICT R&D efforts: (i) Public and private investment in R&D must be increased significantly; (ii) R&D investment and programs need to cater for the short innovation cycles in the ICT industry and should be directed to a few large-scale pan-European projects, next to a number of fast-track projects of smaller size. Sizable lighthouse projects will reach a critical mass and have a major and direct impact on the economy. These projects should encompass ICT hardware, software and services; (iii) drastically cut the bureaucratic overhead associated with R&D programs such as FP 7; (iv) ICT user industries must be incorporated into R&D projects to

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<sup>6</sup> Source: OECD Key ICT Indicators

<sup>7</sup> Source: EITO, European Information Technology Observatory, 2007

take into account the embedded nature of ICT; (v) Each R&D project should seriously consider concepts of commercialization so that R&D efforts lead to marketable and competitive products. To this end, Europe needs more research and innovation ICT clusters to commercialize technologies from our esteemed research institutes into new large-scale industries in the digital economy. The next European Commission should support industry efforts for the creation of these ICT clusters by streamlining and aligning European R&D Instruments. The new European Institute for Technology and Innovation could become a suitable coordination platform.

## **Foster entrepreneurship to create high-tech start-ups**

While Europe benefits from truly world class talent and research institutes, most successful ICT startup companies come from US and increasingly from Asia. The crucial triangle of Research Universities, Venture Capital and ambitious entrepreneurs needs to be improved in Europe. The European Commission should continue its efforts in this respect (e.g. the SME Act, Venture Capital Action Plans, Innovation scorecard etc), whereas the European Institute of Innovation and Technology could provide a coordinating platform.

## **Build trust in new ICT and the Digital Economy**

The Digital Economy will only rapidly reach a critical mass in Europe if the benefits are widely understood among businesses and citizens. It is thus important to maintain and continue to develop trust among consumers and in public opinion in relation to new ICT applications. Foremost are privacy and security concerns. These concerns must be addressed proactively. It will be the role of industry to continue to invest in secure technologies. EU policy-makers should ensure effective implementation and enforcement of existing privacy and security rules, and, when necessary and appropriate, adapt them to the new realities. Legislation needs to be harmonized across Europe and interoperability of ICT security applications must be enforced. Together we need to educate users in the safe and effective use of ICT applications.

## **A skilled and empowered workforce**

A skilled and empowered workforce is a decisive prerequisite for a competitive knowledge economy. Europe has excellent talents. However, both the ICT industry and other industries using ICT increasingly face difficulties in recruiting adequate numbers of skilled people in Europe. By 2010, the whole ICT sector in the EU expects a shortage of 300.000 qualified staff. Global companies may find ways to compensate for this through global recruitment. For European SMEs that depend on local recruitment, however, the shortage represents a major stumbling block to innovation and growth of their businesses. Over two thirds of EU employment is in the services sector and this figure is set to rise in the coming years. Europe needs to adapt to this economic outlook to focus essentially on service oriented and knowledge intensive skills.

Europe needs to pursue a twofold strategy to counter this overall development. First, there needs to be a balanced and forward-looking migration policy to attract the best talents from around the world. Second, it is essential to improve education programs in mathematics and science, beginning from primary and secondary education, to attract young people to engage in ICT-related careers.

## **A truly Internal Market for the Digital Economy**

One of the major stumbling blocks for the European ICT industry is the fragmented market structure in Europe. National markets differ significantly in terms of regulations, labor law, culture, and so forth. This puts European ICT companies at a disadvantage to their U.S. based competitors, which benefit from a large homogenous home market. Especially in the value-added services sector the lack of harmonization hinders the creation of a competitive European services economy. Therefore, from the outset, Europe should strive to establish a single market especially for the emerging ICT applications in the Digital Economy. The single market approach is a pre-condition for creating large-scale web-based industries that can compete in global markets.

## **Free, balanced, open and fair trade in ICT products and services**

The increasing trend towards global businesses, supply chains and operations require a trade barrier free world. It is important to European ICT industry as well as to ICT users that government leaders work together to expand trade and deployment of digital technologies. This entails maintenance of the ITA, achieving a breakthrough with regards to the Doha negotiations and a sectoral agreement on electronic goods to address tariffs and non-tariff barriers in our sector.

## **Proposed next steps**

It is advised that the next President of the European Commission as a first priority develops a comprehensive policy agenda for establishing Global Leadership in the Digital Economy. The cornerstones of this policy agenda could include:

- Definition of clear goals: Where do we want to be in 2015? World-class productivity, ubiquitous high-speed network infrastructure, addressing skills shortage; etc.;
- Identification of policy measures aimed at developing the Digital Economy;
- Creation of European Lighthouse Projects to establish lead markets in the Digital Economy, such as ICT-enabled energy generation and transmission systems, health informatics and IT-based logistics and traffic management;

- Adoption of organizational measures for swift execution of the policy agenda.
- Creation of key performance indicators (KPIs) to measure success

In order to prepare the new policy agenda, the Commission could organize workshops with the ICT sector and user industries. A delegation of CEOs of DIGITALEUROPE member companies would be willing to meet with the new President of the European Commission in September 2009. By then DIGITALEUROPE will have prepared a White Paper backed by an economic study with concrete recommendations for a new European policy agenda in the digital economy.

DIGITALEUROPE also plans to host the first European ICT Summit in early 2010. The summit could be attended by the President of the European Commission, other relevant Commissioners, high-level representatives from Member States and the European Parliament and industry. Hence, this event will provide an ideal platform for the new President of the Commission to present his Policy Agenda for the Digital Economy.

The new policy agenda for the Digital Economy should be a horizontal priority of the entire college and spearhead especially the new Lisbon Strategy. Accordingly, each Commissioner should receive KPIs on how to advance ICT, within his/her portfolio and set up a unit for the proper Implementation. A high-level expert in the Secretariat General reporting directly to the Commission President should hold the strings and co-ordinate the activities between DG Information Society and these strategic units.

Moreover, the buy-in of Member States will be essential for the successful implementation of the new policy. Therefore, it is proposed that wherever Member States appoint a high-level coordinator for the Digital Economy, these representatives should then form an EU Group of Coordinators for the Digital Economy that would foster the implementation and further development of the EU Policy agenda for the Digital Economy. The i2010 High-Level Group should continue to address the rather detailed and technical ICT policy agenda, whereas the new Group of Coordinators would focus on the macro-economic implications of ICT and hence take a rather strategic approach.

Finally, it is recommended that the new President establishes a high-level advisory Council for the Digital Economy. This Council could be made up of CEOs from ICT and user industries as well as leading academics in this field.

## ABOUT DIGITALEUROPE

DIGITALEUROPE, the organisation formerly known as EICTA, is the voice of the European digital technology industry, which includes large and small companies in the Information and Communications Technology and Consumer Electronics Industry sectors. It is composed of 61 major multinational companies and 40 national associations from 28 European countries. In all, DIGITALEUROPE represents more than 10,000 companies all over Europe with more than 2 million employees and over EUR 1,000 billion in revenues.

## THE MEMBERSHIP OF DIGITALEUROPE

### COMPANY MEMBERS:

Adobe, Agilent, Alcatel-Lucent, AMD, Apple, Bang & Olufsen, Bose, Brother, Canon, Cisco, Corning, Dell, EADS, Elcoteq, Epson, Ericsson, Fujitsu, Hitachi, HP, IBM, Infineon, Ingram Micro, Intel, JVC, Kenwood, Kodak, Konica Minolta, Lexmark, LG, Loewe, Micronas, Microsoft, Mitsubishi, Motorola, NEC, Nokia, Nokia Siemens Networks, Nortel, NXP, Océ, Oki, Oracle, Panasonic, Philips, Pioneer, Qualcomm, Research In Motion, Samsung, Sanyo, SAP, Sharp, Siemens, Sony, Sony Ericsson, STMicroelectronics, Sun Microsystems, Texas Instruments, Thales, Thomson, Toshiba, Xerox.

### NATIONAL TRADE ASSOCIATIONS:

**Austria:** FEEI; **Belarus:** INFOPARK; **Belgium:** AGORIA; **Bulgaria:** BAIT; **Cyprus:** CITEA; **Czech Republic:** ASE, SPIS; **Denmark:** DI ITEK, IT-BRANCHEN; **Estonia:** ITL; **Finland:** FFTI; **France:** ALLIANCE TICS, SIMAVELEC; **Germany:** BITKOM, ZVEI; **Greece:** SEPE; **Hungary:** IVSZ; **Ireland:** ICT IRELAND; **Italy:** ANITEC, ASSINFORM; **Netherlands:** ICT OFFICE, FIAR; **Norway:** ABELIA, IKT NORGE; **Poland:** KIGEIT, PIIT; **Portugal:** AGEFE, APDC; **Romania:** APDETIC; **Slovakia:** ITAS; **Slovenia:** GZS; **Spain:** AETIC, ASIMELEC; **Sweden:** ALMEGA; **Switzerland:** SWICO; **Turkey:** ECID, TESID, TÜBISAD; **Ukraine:** IT UKRAINE; **United Kingdom:** INTELLECT.