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Competitiveness and Technological Development in Europe – The Next 10 Years: *Interview with Neelie Kroes*, Vice President of the European Commission and European Digital Agenda Commissioner

UP**GRADE* **Editorial Team

In these times of uncertainty, many of us are concerned that Europe may be losing the technological race and, consequently, a large part of our competitiveness, to other technologically powerful blocks like North America and the Asian countries. This is also a major concern for the European Commission. Thus, in 2009, the then Commissioner for Competition, Neelie Kroes, received an explicit mandate from the President of the Commission, José Manuel Durão Barroso, to develop and implement a long-term European Digital Agenda (2010-2020) with a strategic vision and wide-ranging powers[1]. Ms. Kroes's answers in the extensive interview she granted us just before the texts of the Agenda were published[2] outline a series of joint and coordinated actions aimed at safeguarding European competitiveness through the use of Information and Communication Technologies.

Keywords: European Digital Agenda, Broadband, Competitiveness, Digital Literacy, ICT Economic Impact, ICT Skills, Informatics Profession, Information Society, Innovation, Young Professionals, Women.

European Digital Agenda

Question: *Could you give us some insights about the European Digital Agenda?*

Answer: The Digital Agenda for Europe is the European Commission's policy programme supporting the Europe 2020 strategy. Its main objective is to make best use of information and communication technologies (ICTs) for the benefit of European citizens and businesses. It identifies a number of priority areas in which we will focus our efforts over the next years.

These are creating a digital Single Market; increasing the levels of trust and security online; bringing fast and ultra fast internet access to all; offering citizens the skills they would need to fully participate in our digital society; using ICTs to tackle challenges like climate change and the ageing population; make sure Europe has the right tools to support ICT research and innovation; and improve the framework conditions for interoperability between ICT services, applications and devices. The Commission and Member States have committed to work together to achieve significant progress in these areas. We will also need strong support across the private sector and local levels of government. We think both citizens and businesses stand to gain a great deal from the actions we are proposing.

The Interviewee

Neelie Kroes was born in 1941 in Rotterdam, The Netherlands, where she also attended school and helped to build her family's transport business. She studied Economics at Erasmus University, before working there for six years as an Assistant Professor. Her political career started on the Rotterdam Municipal Council, and in 1971 she was elected as a Member of the Dutch Parliament for the liberal VVD party. From 1982-1989 she served as Minister for Transport, Public Works and Telecommunication in The Netherlands. After politics she was appointed President of Nyenrode University from 1991-2000, and served on various company boards, including Lucent Technologies, Volvo, P&O Nedlloyd. Prior to serving as European Commissioner for Competition from 2004-2009, her charity work included advising the Nelson Mandela Children's Fund and World Cancer Research Fund, and she has an ongoing interest in mental health issues. <Cab-Kroes-NK@ec.europa.eu>

What are the main challenges or barriers that European Union faces to implement its Digital Agenda?

The main challenge to the implementation of the Digital Agenda is to get all interested parties – the European Commission, the other EU institutions, national governments, businesses, NGOs and even individual users like you and me – understand they must work together to achieve its objectives. National governments already showed their commitment to reach the Digital Agenda goals at the 17th

[1] The mandate letter from President Barroso is available at <http://ec.europa.eu/commission_2010-2014/kroes/about/mandate/index_en.htm>.

[2] At <http://ec.europa.eu/information_society/digital-agenda/index_en.htm>.

June European Council in Brussels, which endorsed "the establishment of an ambitious action agenda based on concrete proposals" and called upon all EU institutions "to engage in its full implementation, including the creation of a fully functioning digital single market by 2015".This is a useful commitment to overcoming potential obstacles and getting every European digital. The European Parliament has also been influential in contributing to the Digital Agenda and now we need a concerted effort by all to ensure its successful implementation.

ICT Economic Impact

What is the most relevant economic impact of ICT in Europe?

ICTs are a key driver for the development of the European economy. They have contributed to half of Europe's productivity growth in the past few years and are the way to achieve many other policy goals that feed into the Europe 2020 strategy, the overarching political strategy of this Commission. Better use of ICT can mean lower carbon emissions, better value for healthcare or less money wasted on red tape. I therefore believe that we have to make best use of ICTs to boost the growth of our economy in the future.

To what extent will ICT drive the economic recovery of Europe in the next years?

The European economic recovery will not be possible without increased investment in ICTs. Such investments generate around half of our productivity growth, and it is productivity which give us hopes of wealth creation in the future. It is what will allow us to compete on the global stage without sacrificing our standards of living. The Digital Agenda sets ambitious targets to put our economy back on track. In the area of broadband there are three goals. By 2013 all Europeans should have broadband access and by 2020, access to internet speeds of 30 Mbps or above and 50% or more of European households should subscribe to internet connections at a speed of above 100 Mbps. I believe that internet access to all citizens and businesses at greater speeds, combined with ICT skills and innovative solutions and services discovered and developed thanks to the European research, will contribute to the recovery and future growth of the European economy.

The provision of broadband for all is an important step in Europe's recovery, however access to the infrastructure is most effective when combined with support for a skills infrastructure that enables Europeans to gain the skills needed to use the technology. What measures are planned to ensure that Europeans are provided with not only the access but also the skills to maximise the benefit of broadband penetration?

One of the key objectives of the Digital Agenda is to enhance the digital literacy of Europeans. The Commission will include measures to achieve this goal in many of its initiatives for the following years. We will also closely work with the Member States to ensure that they implement long-term e-skills and digital literacy policies. These should focus in particular on strengthening ICT skills among employees of small and medium-size companies and disadvantaged groups.

What would you consider to be the major benefits for the creation of an integrated single market for the delivery of electronic services in the European Union?

Instead of a patchwork of different national markets, citizens will have easy access to a wider choice of products and services. Businesses will benefit from an additional channel to distribute their goods. Small and medium-size firms will be the big winners from the Digital Single Market. In this way, they will be able to grow in scale, as well as deliver better and cheaper services for all European citizens.

For example, citizens would be able to legally buy a much greater range of music online, and would not have problems getting products delivered even if they bought them from an online retailer based in another country. Copyright laws have been useful in securing revenues for creators of all sorts, notably in the cultural sector, but unless we help them move out of their national borders, people will always be tempted to circumvent them.

If you had to identify the five technologies with the maximal economic impact in the next decade (in Europe), what would they be?

It is hard to predict how technologies will evolve and what their impact on the economy over the following years will be. However, I am sure that broadband technology will be the backbone of the European economy over the next decade. If all European citizens have access to high-speed internet, this will boost the development of the economy and contribute to its recovery more than anything else because it will enable new services that are simply unthinkable today, for example in the area of telemedicine. The infrastructure is a sine qua non and therefore I would say: high-speed broadband and everything else will follow on.

Information Society

What are the key challenges for the EU Information Society development in 2010-2015?

The internet should be fast, people must have the right skills to be able to use it not only to access information or have fun, but to also shop and work and offer or consume services online. This is the key to a vibrant Digital Single Market where goods can be exchanged rapidly across borders. At the moment, too many Europeans find themselves stuck with slow internet connections, an underdeveloped Digital Single Market, or lack of confidence to go online. For example, although more than half of internet users buy or sell goods via the internet, only one out of five do so from another EU country. This means that our main challenges for the next five years are to achieve the Digital Sin-

gle Market and to ensure internet access for all. The Digital Agenda for Europe provides a road map to tackle these challenges.

Digital literacy programmes such as ECDL, created out of the European funded research project undertaken by CEPIS (Council of European Professional Informatics Societies), are often said to form the foundation stones for ensuring both the inclusion of marginalised groups as well as empowering citizens to participate and advance in the job market. How important is it for the Europe to ensure that we provide our citizens with the skills they need?

Europeans need ICT skills to be able to access the internet and improve their skills for current and future requirements on the job market. The Commission recognises the importance of strengthening our citizens' ICT skills, which is why digital literacy is one of the priorities of the Digital Agenda for Europe. We will work closely with Member States to develop training and include digital competences in school curricula. Although in some countries (for example Sweden, Ireland, the UK) media literacy is already part of the school curriculum, the Commission wants media literacy to be taught in all schools in the EU. I believe our joint efforts in this area will empower citizens to enjoy the benefits of the digital age. This is particularly important for young girls – we need all young Europeans to be digitally literate and competent in order to meet the needs of the future.

What policies will be implemented at a European and at the nation levels in order to prevent any further 'digital divide' between and within EU countries?

Nearly 150 million Europeans, or just under one third of the EU population, have never been online. Europe's educational and training systems have not kept up with the ICT skills needed in today's digital job market. Important socio-economic and geographical divides exist. In particular, the elderly, the less educated and those on low incomes use the internet less and have lower skill levels. We need to improve digital skills to build an inclusive European digital society. The Digital Agenda for Europe aims to achieve this goal. One of its key objectives is to increase and upgrade the digital skills of all EU citizens irrespective of their age, location or economic situation so that they can participate fully in the digital society and the job market.

How will they be funded?

The European Commission wants to make sure that all citizens have the necessary digital skills. The EU will call on Member States to make digital literacy and competences a priority for the European Social Fund regulation (2014-2020). This will ensure that funding is available to help people improve their digital skills.

Informatics Profession

Many studies predict that Europe will face a shortage of IT professionals. What steps can be taken to address this shortage?

Europe could indeed lack the skills to fill up to 700,000 IT jobs by 2015. So action is needed now, especially amongst the young and women to enhance their opportunities and incentives to convert everyday ICT skills into ones that can be used professionally.

We need to make digital literacy and skills a funding priority for the European Social Fund, to work with the sector to make it more attractive for women, and to better embed ICT training in school curriculums.

CEPIS has developed a vision of professionalism by IT professionals and for IT professionals in Europe. How does the EC envision the need for professionalism in IT and what role will the European e-Competence Framework play?

It is important that ICT professionals have clear ways to understand and promote their competences. For example, for public sector ICT jobs to be attractive in the face of higher paying jobs in the private sector, ICT professionals should have access to a clear career path.

The e-Competence Framework is a tool of reference that defines 32 ICT competences. These can be used and understood by ICT users, ICT companies, the public sector, educational and social partners across Europe. It provides a set of Europe-wide jointly defined ICT skills that are needed and applied on the work floor. As such, the development of the e-Competence Framework contributes to the establishment of professional standards for IT jobs across national boundaries.

How does the EC plan to encourage participation of pan-European associations of professionals, like CEPIS, in the implementation of EU Digital Agenda?

Through multi-stakeholder partnerships mostly. Addressing the emerging skills shortage will be hard without EU involvement but it certainly can't be done only at the EU level. Public authorities, ICT companies, schools and media all need to work together to inform youngsters about the career opportunities in the ICT sector and encourage them to take up ICT studies. A good example of cooperation is the first e-Skills Week organised by the Commission and Digital Europe in March 2010.

Women are underrepresented in the ICT profession, what measures are planned to help Europe address this imbalance and at the same time tackle the skills shortage?

The Digital Agenda promotes higher participation of women in the ICT workforce. There are 30 million women aged 15 to 24 in Europe that could be motivated to become professionally involved in the ICT sector. They are "digital natives" who already have some of the basic skills and knowledge of internet use. To promote the participation of women, it is necessary to improve the attractiveness of careers in ICT. For this purpose, we are supporting web-based training resources, game-based eLearning, shopping online, and even social networking. We currently run a successful

pilot-scale shadowing programme for young women interested in ICT careers, but we are aware that much more needs to be done.

Innovation

How do we continue to foster ICT innovation within the ICT sector as well as across all other sectors of the economy?

Europe is currently under-investing in ICT research and development (R&D), and we still lack an entrepreneurial mindset to match Silicon Valley. As a result, we are lagging behind our global competitors. We therefore need to act to bring the great ideas of our researchers to the market so that citizens and businesses can benefit from the impact of innovation. To achieve this goal, we are investing EUR 1 billion EU funds in six ICT-related public-private partnerships which we hope will attract about EUR 2 billion private investment. The EU will also increase its ICT R&D budget until 2013, which will create more opportunities for European knowledge institutions. Member States have been invited by the European Council to double their total annual spending to EUR 11 billion by 2020. We are working to reduce the paperwork to give young researchers and small and medium companies easier and quicker access to EU research funds.