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

The Digital Agenda for Europe - Driving European growth digitally

(Text with EEA relevance)

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1. INTRODUCTION

Europe's future sustainable growth and competitiveness depends to a large extent on its ability to embrace the digital transformation in all its complexity. Information and communication technology (ICT) is increasingly impacting all segments of society and the economy. It is estimated that half of all productivity growth derives from investment in ICT. Internet traffic is doubling every 2–3 years and mobile internet traffic every year. By 2015 there will be 25 billion wirelessly connected devices globally; doubling to 50 billion in 2020[1]. Mobile data traffic will increase 12-fold between 2012 and 2018, and data traffic on smartphones will increase 14 times by 2018.[2] There are more than 4 million ICT workers across many sectors in Europe and their number is growing by 3% annually despite the crisis. The internet is empowering people to create and share their ideas, giving rise to new content, entrepreneurs and markets. ICT is the essential transformative technology that supports structural change in sectors like health care, energy, public services, and education.

But the EU is not positioning itself well enough to benefit from these digital developments. It risks losing out in global competitiveness, economic growth and societal development. In spite of rising unemployment especially among young people, by 2015, 700,000 to 1 million high-quality ICT jobs will not be filled.[3] EU investment in high speed internet is not dynamic enough, whereas elsewhere it is becoming the norm, with 57% of households subscribing to fibre in South Korea and 42% in Japan[4]. China is connecting 34 million households this year alone[5]. Investments in Europe in 4th generation mobile networks are only a small fraction of the world's total. Europe's past reputation as the 'mobile continent' is rapidly waning, as delays in allocation of mobile spectrum in the EU are holding back the opportunities created by new mobile services. The Digital Single Market remains fragmented, with public service infrastructures and online commerce still being determined by national territories. Investment in public and industrial research, development and innovation is falling well short of the target[6].

Inaction in any of these areas is not an option for the EU. The Digital Agenda for Europe (DAE)[7] was adopted in 2010, as an integral part of the Europe 2020 strategy, to remedy these shortcomings by stimulating the digital economy and addressing societal challenges through ICT. The European Council and the European Parliament have since called for further strengthening European digital leadership and completion of the Digital Single Market by 2015[8].

The Digital Agenda has delivered and is broadly on target. Since its inception clear results have been achieved. Regular internet usage is rising steadily, especially among disadvantaged groups. Fewer and fewer citizens have never used the internet. Similarly, online buying continues to increase, although the pace of growth in cross-border eCommerce is too slow. Importantly, high-speed broadband shows the first signs of taking off, including ultra-fast

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[1] The Internet of Things, Cisco 2011
[2] Ericsson Mobility Report, 2011
[3] eSkills Monitor study, European Commission 2009
[4] FTTH Council global ranking 2012
[5] As part the "broadband China" project.
[6] European Commission (2012PREDICT 2012 - An Analysis of ICT R&D - EU & beyond
[7] COM(2010) 245/2.
[8] European Council conclusions of 28/29 June 2012 (the "Compact for Growth and Jobs") and conclusions of 1/2 March 2012.

connections above 100 Mbps. However significant differences remain among different Member States.[9]

Notwithstanding this relative success, evolving market and technology trends call for more to be done to achieve a virtuous cycle linking infrastructure, content, services, market, and innovation towards more productivity and growth. The Digital Single Market is still far from being a reality and Member States still vary considerably in their pace of development. This implies the need to further spur investment in Next Generation Access (NGA) networks and technologies and to reduce the costs of rolling out mobile and fixed broadband infrastructure. To justify such investments, the supply and demand for content and services in an effective Digital Single Market are essential and this requires more harmonisation of single market rules, more often through Regulations rather than Directives. Innovation is crucial for nurturing growth, calling for flexible approaches to mainstream ICT-enabled solutions through private-public partnerships and support for local initiatives.

Media are converging, which changes traditional value chains. The availability and quantity of content and data is exploding. Cloud computing is offering a whole new value proposition for consumers and businesses, especially for small and medium enterprises (SMEs). The internet is going mobile, spurring development of new sectors such as mobile applications.

The internet is also transforming the production lifecycle of products and services. Manufacturing sectors are benefiting from the advances in supply chain management and logistics. Health care provision stands to be revolutionised, delivering more cost efficient and personalised service to patients and professionals. The internet economy injects an unprecedented efficiency gain in all production process liberating resources for new investments and growth; bringing about new divisions of labour that foster creativity, skills and specialisation. However, as the economy is becoming critically reliant on the internet, the threat of cybercrime and cyber-attacks is also increasing, which risks undermining people's trust in the online environment

Given these observations, this Communication refocuses the Digital Agenda to better stimulate the digital economy through mutually enhancing and complementary measures in the following key areas:

- Advancing the European borderless digital economy, creating the world's largest and richest digital single market for content and services, while fully guaranteeing consumer and creator's rights;

- Speeding up public sector innovation enabled through the deployment of interoperable ICT and a better exchange and use of information;

- Regaining world leadership for network services, by stimulating private investment in high-speed fixed and mobile broadband networks, enabled by legal predictability, improved planning and targeted private and public EU and national funding;

- Fostering a secure and trustworthy internet environment for users and operators, based on strengthened European and international collaboration in responding to global risks;

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[9]   Cf. SEC (2012)180.

- Establishing a coherent framework and conditions for cloud computing services in Europe creating the world's largest cloud enabled ICT market;

- Creating a favourable environment for transforming traditional business, and spurring innovative web-based ventures. Increase digital literacy and the proliferation of digital skills, to fill the gap between demand and supply of ICT professionals;

- Implementing an ambitious strategic research and innovation policy for industrial competitiveness based on funding key enabling technologies.

While all pending actions from the original Digital Agenda will be delivered, renewed commitment and targeted action are necessary in these seven domains. This Communication proposes a package of actions supporting one key transformative action per domain. These may vary in nature and design to optimise impacts in each of the specific policy areas. To achieve their full effect, they need to be complemented by other actions, as described in the measures below.

Full implementation of this updated Digital Agenda should increase European GDP by 5%, or 1500 euro per person, over the next eight years, by increasing investment in ICT, improving e-skill levels in the labour force and reforming the framework conditions for the internet economy[10]. Furthermore, this should create 1.2 million jobs in infrastructure construction[11] in the short term, rising to 3.8 million jobs throughout the economy in the long term[12]. In addition massive gains in productivity in traditional industry is expected by the introduction of internet-related processes.

2. A EUROPEAN BORDERLESS ECONOMY — THE DIGITAL SINGLE MARKET

The digital economy is borderless by nature, but the European Digital Single Market has been fragmented by national rules, their divergent application in practice and variations in market practices. If e-commerce were to grow to 15% of the total retail sector and Single Market barriers were eliminated, it is estimated that total consumer welfare gains would be around €204 billion, equivalent to 1.7% of EU GDP[13].

Thus the Commission will continue to forcefully address transformation and change of this current patchwork system to enable the development of a fully-fledged Digital Single Market. The Commission has delivered its part of many DAE actions identified under its Digital Single Market priority, including proposals for legislation on the re-use of public sector information[14], the European Common Sales Law[15], online dispute resolution[16], data protection[17], electronic identification and eSignatures[18], and collective rights management[19].

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[10] "Capturing the ICT dividend", Oxford Economics Research, 2011.
[11] The Impact of Broadband on the Economy: Research to Date and Policy Issues (ITU April 2012)
[12] "Quantitative estimates of the demand for cloud computing in Europe and the likely barriers to take-up", IDC 2012
[13] COM(2011) 942.
[14] COM(2011) 877.
[15] COM(2011) 636.
[16] COM(2011) 794.
[17] COM(2012) 09.
[18] COM(2012) 238.
[19] COM(2012) 372.

These proposals must be urgently adopted and implemented and remaining obstacles to online cross-border transaction need to be eliminated.

E-commerce, notably across borders, should be strengthened by following up on the proposals of the e-Commerce Action Plan[20], the Green Paper on Internet, Card and Mobile Payments[21], and the European Consumer Agenda[22]. Consumers should be able to compare more easily the prices, the quality and the sustainability of goods and services. The Commission will develop guidelines by 2014 to help enforcers correctly implement EU rules on consumer information requirements and the Consumer Rights Directive[23].

Moreover, the EU value added tax reform will address in 2013 the alignment of tax rates for digital content and similar physical goods, such as e-books and printed books.

The Digital Single Market should be fuelled by the free flow of data and access to and supply of content and services. The Commission will make proposals to strengthen the European data industry, beyond the proposed revision of the Directive on the re-use of public sector information, addressing issues such as common licensing conditions and the implementation of charging rules to enable public data to fuel the development of online content.

As to creative content, copyright is the universal means to reward creation. However, the internet and the digital revolution are challenging the copyright framework. Therefore, the on-going review of EU copyright policy needs to be completed, based on market studies and impact assessments and legal drafting work, with a view to a decision in 2014 whether to table legislative reform proposals. The following elements will be addressed: territoriality in the Internal Market; harmonisation, limitations and exceptions to copyright in the digital age; fragmentation of the EU copyright market; and how to improve effectiveness and efficiency of enforcement while underpinning its legitimacy in the wider context of copyright reform.

In parallel in 2013, a structured stakeholder dialogue is being launched to address six issues where rapid progress is needed: (i) cross-border portability of content; (ii) user-generated content (UGC); (iii) data- and text mining; (iv) private copying levies; (v) access to audiovisual works; and (vi) cultural heritage. The outcome of the stakeholders' dialogue will be reported by December 2013.

Part of the responses to the Green Paper on the online distribution of audiovisual works (to be presented in spring next year) will also feed into the discussion on convergence of audiovisual media services. This will be the focus of a debate to be launched in early 2013 by the Green Paper on "Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values". Worldwide, 570 million homes are predicted to have devices with inbuilt internet connectivity – TVs, Blu-ray players, set-top boxes, games consoles, and media streaming boxes – by 2016[24], so tackling technological, contractual and regulatory issues related to converged media services could bring significant benefits.

Key transformative action: Completing the on-going review of the Copyright Framework through the preparation for legal drafting work, with a view to a decision in 2014 whether to

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[20]   COM(2011) 942.
[21]   COM(2011) 941.
[22]   COM(2012) 225.
[23]   Directive 2011/83/EU.
[24]   http://www.informatandm.com/wp-content/uploads/2012/02/ITM-CES-Connected-TV-White-Paper.pdf

table legislative reform proposals and seek the resolution of copyright-related issues where rapid progress is needed via a structured stakeholder dialogue in 2013.

3. SPEEDING UP PUBLIC SECTOR INNOVATION

Austerity measures, population dynamics, rising energy costs and emission targets require innovative ways of delivering public services in the EU. ICT allows for them to be more efficient and effective, as well as more citizen- and business centric. Effective use of interoperable digital technologies enabling the exchange and processing of real time data is an important enabler. E-procurement alone can save EUR 100 billion per year[25] and eGovernment can reduce the costs of administration by 15-20%. The reuse of public sector data will empower people, drive business development and create €140 billion in economic value. Use of ICT to improve management of the energy system (including the network as well as consumption), can equally help reduce infrastructure related investment needs and operational costs in the energy sector by billions of euros while contributing to the decarbonisation of the electricity sector. Health care is becoming the largest expenditure of the future welfare state, as a result of an ageing population. Introduction of ICT and telemedicine is estimated to improve efficiency of healthcare by 20%, improving at the same time the quality of life of patients.

To support the necessary transitions within the health care sector, the Commission has presented an eHealth Action Plan up to 2020[26] to empower individuals to better manage and share their data, support e-health efficiency and promote combined organisational and technological innovation. The European Innovation Partnership on Active and Healthy Ageing[27] will reach full cruising speed delivering integrated care solutions across regions reaching 4 million EU citizens by 2015.

The Innovation Partnership approach will also be applied to bridge divides between transport, energy and ICT value chains; and between public and private actors to deliver innovative smart city solutions into the market[28].

The Commission highlighted in its "Annual Growth Survey 2013" that modernisation of public administration is one of the five priorities for the Member States in the next 12-18 months, and, in this context, calls for widespread, interoperable digitisation of public administration[29]. To underpin the digital transition in public services and to ensure they are available to all Europeans regardless of their place of residence, the Commission envisages deploying and rolling out digital services in key areas of public interest. These will be financed through the proposed Connecting Europe Facility (CEF) to support cross border interoperability of eIDs, e-procurement, business mobility, eJustice or electronic health records, Internet Security, Europeana, multilingual, eProcurement, eJustice, eHealth, Safer Internet for Children, and Smart Energy Services. CEF will build the bridges between national infrastructures that will then become hubs for innovation and new applications and for the benefits for mobile citizens and businesses.

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[25]   COM(2012) 179.
[26]   COM(2012) 736.
[27]   COM(2012) 83.
[28]   COM(2012) 4701.
[29]   COM(2012) 750.

- **Key transformative action:** Develop and implement public digital service infrastructures, policy and support in the framework of the Connecting Europe Facility.

4. VERY FAST INTERNET SUPPLY AND DEMAND

High-speed internet connectivity is the basis for the digital economy; without it, essential services such as cloud computing, eHealth, Smart cities, audio-visual services – and the benefits thereby derived – will simply not take off. A 10% increase in broadband penetration could yield a 1-1.5% increase in annual GDP[30] or could raise labour productivity by 1.5% over the next five years. For that reason the DAE set ambitious targets for universal internet access at increasingly high speeds[31].

Encouragingly, the coverage and penetration rates of high-speed networks in Europe are improving, but overall, Europe trails Asia and the US and is at risk of failing to meet the 2020 targets. There are several reasons, the most evident being the uncertain commercial viability of substantial network investments, due to prevailing investment models and the EU market structure. But also because of doubts about consumers' short-term willingness to pay more for higher speeds, as new high value-added digital content and services are not necessarily available yet throughout the EU, and because consumers' doubts about the real speeds they are provided with.

The Commission will present a comprehensive package to tackle market incentives to invest, provide targeted funding and reduce roll-out costs. Investors need to see the prospect of a healthy return that takes account of risks. More consistency within the Single Market, enabling fair competition, is vital - as is regulatory certainty to encourage long-term investment.

In early 2013 the Commission will adopt a Recommendation which will introduce more rigorous non-discrimination rules to ensure that alternative operators get truly equivalent access to incumbent networks. It will also ensure more stability and consistency between Member States in price regulation for wholesale access to incumbent networks and provide greater flexibility on how "next generation" wholesale access products can be priced. This measure should give durable signals to long-term investors at least until 2020. The Commission will also adopt a Recommendation on safeguarding the open internet for consumers, which will increase legal certainty for network operators, investors, content providers and consumers. As part of the Single Market Act II[32], the Commission – intends to make a legislative proposal to reduce the cost and increase efficiency in the deployment of high speed communications infrastructure, through mechanisms such as e.g. re-use of existing infrastructure, exploiting synergies across sectors, enabling better coordination of civil works and encouraging NGA ready in-house equipping. In 2014, the Commission will review the 2007 Recommendation on relevant markets susceptible to *ex ante* regulation.

In addition, the Commission has proposed EUR 9.2 billion (in constant 2011 prices) for ICT investments in the Connecting Europe Facility (CEF)[33] for the period of 2014-2020; a part of

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[30] Czernich et al. (2009), Broadband Infrastructure and Economic Growth
[31] 100% broadband coverage by 2013, access for all EU households to 30 Mbps by 2020, and subscriptions of 100 Mbps or more for 50% households.
[32] COM(2012) 573.
[33] COM(2011) 676.

this amount will be used for investments in broadband networks. The CEF will attract private co-investment and ease access to capital for high-speed internet by projects anywhere in Europe. The proposals for the Structural and the Rural Development Funds[34] for 2014-2020 are also expected to provide a new wave of incentives for investments in high-speed internet particularly in less developed regions and in rural areas. The proposal for the ERDF regulation 2014-2020 argues for extending broadband deployment and the roll-out of high-speed networks, but also for developing ICT products and services.

Europe should regain world leadership for mobile infrastructures and services, for which the availability of sufficient spectrum is essential. The Commission is working on overcoming the current fragmentation of spectrum allocation and licensing conditions and in freeing up more spectrum[35]. The Commission will propose a bold action plan on wireless communications in 2013.

- **Key Transformative Action:** Durable regulatory measures on non-discrimination and wholesale pricing to promote investments in high-speed networks and strengthen competition across all networks.

5. CLOUD COMPUTING

Cloud computing illustrates the paradigm shift being brought about by digital technologies, transforming sectors as diverse as music, healthcare and science, from the smallest businesses to the largest governments. Cloud technology is a disruptive innovation that enhances the use of digital platforms, content and services. It could drastically reduce ICT and energy costs and significantly increase the competitiveness of SMEs in global markets by providing unprecedented access to sophisticated customer and logistics management systems. The full deployment of Cloud services also poses new challenges for policy-makers and legislators concerning barriers such as interoperability, data protection and contractual liability.

Developments since the original DAE have shown the need for a comprehensive EU Strategy on cloud computing that goes beyond specific areas such as e-government or science. The European Cloud Computing Strategy[36] puts forward several key actions to make Europe cloud-active, i.e. promoting wider use of standards and certification for cloud services; ensuring safe and fair contract terms and conditions for cloud services; and harnessing the public sector's buying power to accelerate the development of a mature market for cloud computing through a European Cloud Partnership. The partnership will be aiming for common public sector requirements for cloud computing and the joint procurement of cloud computing to realise economies of scale. The European Cloud Partnership will also serve as an umbrella for related initiatives at Member State level. By the end of 2013, the Commission will also launch pilot actions to explore the efficiency gains from moving public services into the 'cloud'. The services developed under CEF will heavily rely on pan-European cloud platforms enabling interconnection of the various national public cloud initiatives.

- **Key Transformative Action:** Establishment of the European Cloud Partnership to harness public buying power to accelerate the development of the market for cloud computing.

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[34] COM (2011) 615/2.
[35] Decision 243/2012/EU.
[36] COM(2012) 529.

6. TRUST AND SECURITY

Digital media and technologies — including the internet — offer fantastic opportunities for innovation, trade, freedom of speech and democratic empowerment. But not every European is embracing them yet, often because of a lack of trust. According to a recent Eurobarometer survey, 40% of users are concerned about their personal data being compromised online, and 38% are worried about the security of online payments[37].

New threats appear every day: cybercrime is on the rise; there are risks of disruptions of networks and information systems used by operators of critical infrastructure potentially spreading across borders; there is a risk that online business activities, notably e-commerce, are disrupted; inappropriate on-line behaviour and content that is harmful to individuals including children is a real problem. Purely local approaches to combating these threats are no longer sufficient and stronger coordination is needed at EU level. The EU should become the leading region in the world in terms of network and information security, on-line safety, as well as protection of on-line privacy. This will also stimulate a European market for security products.

Securing networks and information systems requires proper risk management, including simulation exercises to test preparedness. The Commission will propose a Directive to strengthen network and information security across the EU and so contribute to the smooth functioning of the internal market. The capacity of the European Union to confront cybercrime will be reinforced with the establishment of the European Cybercrime Centre (EC3) at Europol and adoption of the Directive on attacks against information systems. These proposals will be part of the European Cyber Security Strategy, which will aim to reinforce the resilience and reliability of network and ICT systems, the fight against cyber-crime, and ensure a more coherent external cyber security policy.

Furthermore, the fraudulent online sale of fake goods, particularly fake pharmaceuticals and consumer products, continues to have a damaging effect on public health and is misleading both patients and consumers. In parallel with enforcement efforts by public authorities, the Commission continues to promote pan-European voluntary measures tackling problems throughout the whole supply chain, like for example the Memorandum of Understanding on the sale of counterfeit goods via the internet[38].

The European strategy for a better internet for children[39] sets out child safety actions built on empowerment and protection, thereby encouraging children to make responsible use of the internet. Measures to fight child sexual abuse images online follow the European legal framework in force, which provides the necessary safeguards for individual liberties. An international dimension will be added through the launch of a Global Alliance against Child Sexual Abuse Online in close cooperation with the EU Member States and the United States. The Commission will also evaluate the relevant self-regulation practices and their results.

- **Key Transformative Action:** A proposal for a Directive on network and information security to establish a common minimum level of preparedness at national level, to set up a cooperation mechanism to prevent and counter cross-border cyber incidents, risk management and incident reporting requirements for public

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[37] Special Eurobarometer 390, 'Cyber security'.
[38] http://ec.europa.eu/internal_market/iprenforcement/stakeholders/index_en.htm
[39] COM(2012) 196.

administrations; firms providing essential services (e.g. banking, energy, health and transport); and online platforms.

7.   ENTREPRENEURSHIP AND DIGITAL JOBS AND SKILLS

Youth unemployment is a massive concern and there is a need to strengthen the link between regular ICT use and formal ICT learning, and recognise this as vital to the success of young people. Digital skills should be the indispensable component of all professional training, business education and lifelong education programmes to ensure new generations as well as those currently in the workplace are able to acquire the skills they need. The Commission will issue a Communication on 'Opening up Education', which will address the role of ICT and open education resources as enablers of innovative learning and teaching practices to raise digital competences across the EU population.

The Commission signals that by 2015 700,000 to 1 million ICT jobs will not be filled in Europe, due to lack of skilled personnel. Additional action is needed to boost the overall number and the employability and mobility of ICT experts. Therefore the Commission will launch a 'Grand Coalition on Digital Skills and Jobs'. The Coalition consists of representatives from companies and administrations active in the ICT sector or with substantial ICT requirements. The aim is to secure firm commitments from members to increase the number of ICT training placements; to better align education with needs in the labour market; and increase transparency and mobility in the labour market by agreeing on standard job profiles and skill certification.

As an alternative career option to regular employment, more young people now choose to become an entrepreneur, driven by the unprecedented opportunities created by the web, the cloud, mobile platforms, social networks and the enormous amounts of data. These start-ups need a more business-friendly environment (a "licence to fail") with easier access to finance, markets, networks and skills; which must be encouraged through risk-sharing schemes, venture capital, favourable fiscal treatment and networking events. The Commission will launch an action plan to support web entrepreneurs in early 2013.

- **Key Transformative Action:** Grand Coalition on Digital Skills and Jobs — to take practical steps to address the shortage of ICT proficiency and the apparent mismatch between available ICT jobs and supply of appropriate digital skills.

8.   BEYOND R&D&I: AN INDUSTRIAL AGENDA FOR KEY ENABLING TECHNOLOGIES

Research, Development and Innovation are key for developing new products and services and getting them to market. ICT research, development and innovation and subsequent industrial investment and growth will ensure that Europe remains competitive in the mid to longer term. Europe needs a strong ICT industrial base, as ICT is both a major industrial sector itself and an enabler for innovation and productivity in many other sectors, from manufacturing to energy, transport and healthcare. For example, chip advances are leading to greater processing power and ever more applications, while photonics underlies innovations from cancer detection to zero-fault, customisable manufacturing. Japan, Taiwan, Korea, China and the US are all addressing these challenges. While Europe has every chance to be at the fore-front of future technology generations, it needs to take action to overcome the fragmented national policies, regulatory obstacles and lack of skilled engineers that are holding it back in too

many fields. Only then can the vision of repeating industrial successes such as the Airbus project in other areas, for example in semiconductors[40], become a reality.

As a basis, R&D&I funding at all levels (EU, Member States and industry) needs to be pooled and concentrated on strategic requirements, e.g. in the areas of photonics, robotics, high-performance computing[41], Factories of the Future[42], the Future Internet PPP[43] and electronics. It also needs to be brought closer to the market to address the societal challenge of creating a greener, more eco-efficient Europe that aims to improve the quality of life for all citizens. A further focus will therefore be on initiatives on Smart Cities, Active and Healthy Ageing, Green Cars[44] and Energy Efficient Buildings[45].

Following the horizontal Communication on KETs[46], the Commission will propose an industrial strategy for the area of micro- and nano-electronics, with the aim of increasing Europe's attractiveness for investment in design and production as well as growing its global market share.

> - **Key transformative action:** Pooling of European public and private resources for micro- and nano-electronics behind a common industrial strategy, with a strengthened Joint Undertaking at EU level[47] as the main vector for R&D&I support.

9. IMPLEMENTATION AND GOVERNANCE

The Commission will consolidate and strengthen the mechanisms to implement DAE actions, via increased cooperation with national and local authorities through the DAE High-Level Group of national representatives. A network of national "digital champions"[48] has also been established. Dialogue with stakeholders will continue, in particular through the Digital Agenda Assembly (DAA) and through further use of online collaboration tools. "Going Local" missions to all Member States will help to present the DAE review and related policy issues and gather information on digital policies and issues at stake in each Member State

The Commission gathers and shares data, in line with European policy on open data, notably through the DAE Scoreboard which will be merged with the DAE Annual Progress Report. It provides a consolidated input on the development of digital markets in the EU and in each Member State that will flow into the "European Semester of Economic Coordination"[49]

The Commission will ensure that all actions taken in the context of this Communication respects the Charter of fundamental rights of the European Union[50]. In line with the recent

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[40] "Shouldn't we be looking for an Airbus of Chips?", Vice-President Neelie Kroes on 24 May 2012, http://europa.eu/rapid/press-release_SPEECH-12-382_en.htm.

[41] COM(2012) 45

[42] ec.europa.eu/information_society/tl/ecowor/manuf/index_en.htm

[43] http://www.future-internet.eu/home/future-internet-ppp.html

[44] www.green-cars-initiative.eu

[45] www.e2b-ei.eu

[46] COM(2012) 341.

[47] Comprising at least the areas currently served by the Joint Undertakings ENIAC (http://www.eniac.eu/) and ARTEMIS (http://www.artemis-ju.eu/).

[48] On an initiative from Commission President Barroso, many Member States have appointed their digital champions to support the DAE by getting people online, tackling exclusion, promoting digital skills in the workforce.

[49] http://ec.europa.eu/europe2020/making-it-happen/index_en.htm

[50] COM(2010) 573.

recommendations of the [European Group on Ethics](#) the Commission has incorporated a commitment to the ethical and responsible deployment of new technology, including the need for inclusive access; the accommodation of children and other vulnerable groups; the protection of personal data and privacy; and continuing research on the psychological and societal implications of ICT.

Since the internet extends beyond Europe, global governance and international cooperation are also essential. The Commission will support the internet principles covered by the COMPACT[51] strategy by cooperating in international forums such as the OECD, the G8 and relevant United Nations platforms, including the Internet Governance Forum, and will continue to support and promote the values of internet freedom.

10. CONCLUSION

The objective is for the EU's economy and society to rejuvenate itself into a digital Europe, where digital technologies, media and content are embraced and exploited by the whole population. The explosive growth of the utilisation of ICT in our daily life is contributing more than any other technological innovation to a radical change in the economy and the society as a whole. In the next decade ICT can contribute to a paradigm shift in society and in production systems, enabling higher growth and welfare through more efficiency, new products, new services and smarter public services.

Europe has so far lagged behind other advanced economies in understanding that the strategic use of ICT is a fundamental policy instrument in driving the creation of value and societal change. The strategic use of ICT has the potential to quickly realise a virtuous cycle that transforms efficiency into growth. ICT technology allows to dramatically reducing the cost of providing the quality of the welfare State that has been the distinctive element of modern European society, bringing more personalised health care, better education and more democratic participation to public life. For companies, the massive introduction of ICT implies reaching their customers more effectively, boosting productivity and improving operational efficiency. It also creates unprecedented opportunities for young entrepreneurship and young professionals, while enabling the elderly to remain active and connected.

The proposals made in this Communication address concrete barriers to Europe's digital transformation; they may challenge existing systems and interests. But keeping the status quo will not secure Europe's long-term future. To sign up to the proposals is to commit to tackling the obstacles — and to prioritising prosperity and welfare.

These proposals are linked together, all addressing and boosting different critical parts of the DAE. They are designed to create breakthroughs in specific areas with considerable leverage effects. They are not intended to replace on-going DAE actions, but will be prioritised due to their expected short- to medium-term impacts.

All proposed actions in this Communication, requiring the EU financial contribution post 2013, will be financed within the budget, allocated for the relevant policy area in the

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[51] "Compact for the Internet": an Internet of Civic responsibility, One Internet, that is Multi-stakeholder, Pro-democracy, Architecturally sound, Confidence inspiring, and Transparently governed. Speech of Vice-President Neelie Kroes:
http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/11/479&format=HTML&aged=0&language=EN&guiLanguage=en

Commission's proposal for the EU Multi-Annual Financial Framework (MFF) 2014 2020, without prejudice to the final decision and the final amounts on the proposals for MFF 2014-2020 package as well as for CEF, Structural Funds and Horizon 2020 programmes.

All stakeholders in Europe's digital cause are urged to cooperate with the Commission to put into effect the outlined proposals, as they crucial to securing Europe's place in a globally competitive digital future.