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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**

**A Digital Agenda for Europe –
A policy for smart growth and innovation in a digital society**

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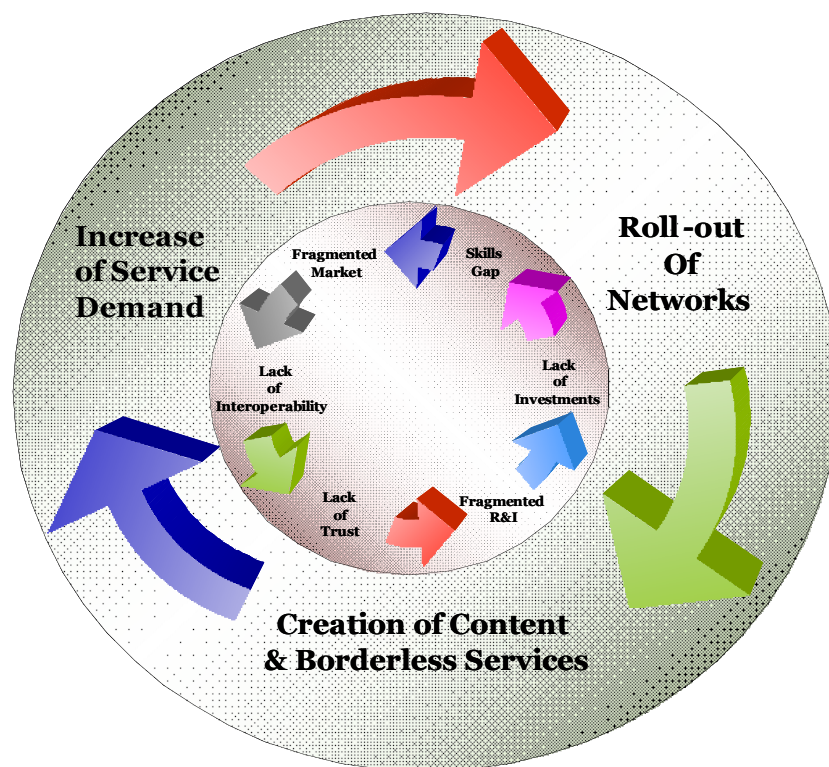
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1. INTRODUCTION – WHY A DIGITAL AGENDA FOR EUROPE?

The **Digital Agenda for Europe** is a flagship initiative under the Europe 2020 strategy for smart, sustainable and inclusive growth¹, to develop an economy based on knowledge and innovation.

The Information and Communication Technologies (ICT) market value in Europe is over €660 bn. More importantly, the ICT sector contributes 20% and ICT investment drives 30% of EU productivity growth. More growth in the ICT industry and wider ICT take-up would boost economic recovery and long-term competitiveness.

A key element is the internet. It turns a simple computer or mobile device into a gateway to global information exchange. It empowers citizens and brings a better quality of life through, for example, better health care, safer transport and easier access to public services. Attractive content and services stimulate demand, which creates the business case for investment in faster networks. However, a number of obstacles prevent this "virtuous circle" from functioning fully: low investment in network roll-out, a fragmented European online market, ill-adapted copyright legislation, lack of trust and interoperability, and a lack of digital skills.



To translate fully the potential of ICT into growth and innovation, Europe must develop a coordinated and forceful response. For this reason, the European Commission proposes this Digital Agenda. Europe succeeds through a coordinated and future oriented approach, as was done for mobile telephony.

¹ COM (2010)2020

The Digital Agenda outlines a set of crucial policy actions, including legal measures and programmes that must be launched or upgraded to get the Union on track. The actions are clustered in six areas:

- (1) Very fast internet access;
- (2) A digital single market;
- (3) A sustainable digital society;
- (4) Trust and security;
- (5) Research and innovation;
- (6) Open standards and interoperability.

2. THE ACTION AREAS OF THE DIGITAL AGENDA

2.1. Very Fast Internet Access

Fast and very fast internet access networks are a pre-requisite for efficient functioning of the digital economy and the development of innovative e-services for European citizens and businesses.

The internet is changing fast. Both fixed and wireless network need to be upgraded to higher speeds to allow all Europeans to access internet-based services. However, some parts of the world are well ahead of Europe on these trends and the Digital Agenda will make it a priority to catch up, so that by 2020 Europe has the **internet infrastructure it needs to compete in world markets**.

Fixed-line copper networks must be replaced to enable very fast internet access (known as Next Generation Access/NGA). This requires extensive civil engineering work which is costly and commercially viable only in dense urban areas. Also, the long pay back times required from infrastructure investments are in opposition to short term market expectations, thus deterring investments. The deployment of high-speed wireless broadband allowing wider coverage, including remote areas, is equally important.

Without strong policy intervention there is a risk of a sub-optimal outcome, with fast and very fast networks concentrated in a few high density zones with significant entry costs and high prices. The spill-over benefits for the economy and society justify public policies to foster the deployment of fixed and wireless networks allowing the provision of competitive high-speed services.

Therefore, it is essential (i) to establish clear regulatory guidelines incentivising private investments in open and competitive networks; (ii) to develop an efficient EU spectrum policy; (iii) to put in place policies and funding instruments facilitating access to finance where market forces are not sufficient; and (iv) to support the development of national broadband plans. Moreover, a reflection concerning the EU electronic communication rules on Universal Service is currently ongoing.

In the forthcoming broadband strategy the Commission will propose a comprehensive policy along these lines. The headline target for this action area of the Digital Agenda is broadband for all by 2013, and that by **2020 all Europeans should have access to much higher internet speeds (30Mbps or more) and 50% or more of European households should have subscriptions above 100Mbps.**

KEY ACTIONS

Develop an ambitious broadband strategy to:

- Incentivise investment in fast **NGA** by clear and effective regulatory measures;
- Implement a **European Spectrum Strategy** that encourages Member States to allocate the spectrum needed for new wireless broadband markets;
- Attract capital into the sector through credit enhancement backed by the EIB and EU funds for low risk/long term passive infrastructures and reinforce funding of **high-speed broadband** through Community Instruments (e.g. ERDF, ERDP, TEN, CIP);
- Support Member States to develop and make operational **national broadband plans** to meet **coverage and speed targets** through public financing in line with EU rules and measures such as co-ordination of infrastructure works, clearing rights of way, mapping infrastructure and upgrading in-building wiring.

2.2. A Digital Single Market

eCommerce figures show that Europeans are not able to take full advantage of the potential of the biggest market in the world and, similarly, online traders choose not to extend their business beyond national borders.² The internet is borderless, but online markets in the EU are still separated by **artificial barriers**.

European cultural diversity and creativity rank highest in the world but struggle to keep up in the online environment and, as a result, most of the recent successful media or content distributive platforms online were developed across the Atlantic.³

A genuine Digital Single Market is essential to drive demand, attract investments and deliver the benefits of the European dimension to citizens and businesses. The headline target for this action area of the Digital Agenda is to **double the take-up of eCommerce transactions by [...], including cross-border transactions.**

- *Reinforce the Single Market for telecom services*

Despite a common regulatory framework Europe's **telecom services remain fragmented** into 27 national markets. As a result, Europe is losing out on economies of scale. Along with assuring a coherent and swift implementation of new regulatory framework, the Commission will assess the cost of non-Europe in telecom and

² Cf. [Dismantling barriers to cross-border online shopping. Frequently Asked Questions](#), European Commission 2009

³ In 2008, less than 230 million music tracks and 6.6 million movies were downloaded in Europe, in the US over a billion and over 28.6 million respectively. Distribution channels are multiplying in the US, where iTunes, YouTube, Facebook, Hulu and all the major content distribution platforms used in Europe were born, cf. Screen Digest 2008.

audiovisual markets in order to further reduce regulatory barriers to the internal market for electronic communications services and ensure open and non-discriminatory access to web services.

- *Removing obstacles to cross border online retailing*

Consumer protection law in Europe is fragmented. Beyond the Unfair Commercial Practice Directive⁴ and the proposed Directive on Consumers Rights⁵, simpler and harmonised consumer protection across the Union can only be achieved by effective implementation and support measures, such as EU-wide alternative dispute resolution systems.

- *Simplify copyright clearance and management*

Copyright clearance and management in Europe is complex and lacks transparency. This raises transaction costs and hinders cross-border licensing for music and audiovisual content. Easier and more uniform processes for digital licensing would stimulate creativity and the content industry to the benefit of European consumers.

- *Digitise European cultural heritage*

Fragmentation and complexity in the current licensing system also hinders the digitisation of a large part of **Europe's recent cultural heritage**, due to the costly and time-consuming procedures needed to get the necessary authorisation. It is necessary to facilitate access through Europeana, the European digital Library, and finance large-scale digitisation in Europe. Europe may otherwise be confronted with initiatives that will put Europe's cultural heritage online but on more restrictive conditions.

- *Stimulate digital business by making available public sector information*

Public sector information, such as geographic information or traffic data, is worth €27 billion⁶. Made available on transparent, effective, and non-discriminatory terms, it could be the basis for new online services. The re-use of these information resources has been harmonised in law⁷ but so far public bodies do not systematically open up data resources to facilitate cross-border applications and services.⁸

KEY ACTIONS

- Establish an **EU-wide Online Dispute Resolution** system for eCommerce transactions;
- **Facilitate** streamlined, pan-European content **licensing**, establish **rights information databases** and explore the possibilities for **EU-wide copyright rules**;

⁴ [Directive 2005/29/EC](#)

⁵ Cf. http://ec.europa.eu/consumers/rights/cons_acquis_en.htm

⁶ [MEPSIR - Measuring European Public Sector Information Resources](#), European Commission 2006

⁷ [Directive 2003/98/EC on the re-use of public sector information](#)

⁸ This revision will also take into account the recent [OECD Recommendation of the Council for Enhanced Access and More Effective Use of Public Sector Information](#).

- Propose legal measures to foster EU-wide **online broadcasting**;
- Establish a legal framework to facilitate digitisation and dissemination of European **orphan works, take forward the work of the High Level Group on Digital Libraries on out-of print works**, complemented by rights information databases;
- Establish a legal instrument to fund *Europeana* and digitisation;
- Review the **Directive on Re-Use of Public Sector Information**.

2.3. A Sustainable Digital Society

As more daily tasks are carried out online, from applying for a job to paying taxes or booking tickets, being able to use the internet has become an integral part of daily life. Europeans must be empowered in the digital environment so they can lead sustainable and independent lives.

- *Empower Europeans with ICT skills*

Digital literacy and media literacy are crucial components of **ICT user skills**: access to and use of computers and the internet is essential, but so is the ability to analyse and evaluate the vast information available and to be safe online. Older people, the disabled, the less educated, the unemployed, people on low incomes, and marginalised youngsters are currently at risk of being left out of the digital society. The Competitiveness and Innovation Programme (CIP) will be used to promote good practices and neutral certification schemes. The headline target for this action area of the Digital Agenda is to **increase regular internet use from 60% to 75% by [...]** and **from 41% to 60% for disadvantaged people**.

Also, the EU economy is potentially hampered by a shortage of qualified ICT skills, set to rise to as much as 700.000 jobs.⁹ **ICT practitioner skills** need to be upgraded. This calls for activities at the level of universities and schools, as well as open and effective ICT training and certification outside the formal education system, including the use of online tools and digital media for re-skilling.

KEY ACTIONS

- Propose **digital literacy** as a priority for the **European Employment Strategy** and the **European Social Fund regulation (2014-2020)**;
- Develop stakeholder-validated and accredited schemes for **ICT practitioner skills**, linked to the European Qualifications Framework.

- *Better eGovernment services*

European governments are committed to making user-centric eGovernment services a wide-spread reality by 2015¹⁰. The Commission will propose appropriate actions in the forthcoming eGovernment Action Plan 2010-2015 and benchmark the provision

⁹ *eSkills Monitor study. Monitoring eskills supply and demand in Europe* European Commission (forthcoming) for a preliminary report see <http://www.eskills-monitor.eu/>

¹⁰ Cf. [eGovernment Declaration Malmö](#)

and take-up of these services by citizens and businesses. Take-up by citizens should **increase from 30% to 40%** and by business **from 70% to 80%**; while the **accessibility of public websites** for disabled persons in the EU must be brought in line with international accessibility standards¹¹.

Most **public online services do not work across borders**. Better cooperation between administrations would make mobility for citizens and companies easier and less costly and underpin policies in areas like justice, transport, healthcare and public procurement. An eID management infrastructure and an upgrade of the European Interoperability Framework would be key enablers for secure, trustworthy and effective public services and electronic transactions. The EU institutions must lead through an ambitious update of the **eCommission agenda**¹².

KEY ACTIONS

- Use CIP support **seamless cross-border public services**, based on open and internationally recognised standards, and a **European eID management infrastructure**;
- Propose an **EU Accessibility Act** to make public websites (and websites providing basic services) fully accessible by 2015.
- Speed up the implementation of **eCommission** and adopt internet-based procurement solutions.

- *ICT for sustainable healthcare and independent living*

eHealth can improve the quality of care, reduce medical costs and foster independent living while contributing to an important emerging lead market. The full potential of eHealth requires legal and organisational barriers to be addressed, particularly pan-European interoperability.

An **"EU eHealth Passport"** could give citizens secure online access to their personal health data. On such a platform, improved medical services can be developed raising efficiency and patient empowerment. The Commission will work with the competent authorities to equip **15% of Europeans** with such passports **by 2015**. The eHealth Lead Market Initiative¹³ will promote standardisation and interoperability testing and certification.

The **Ambient Assisted Living (AAL) Joint Programme** and related advanced research, as well as deployment activities to foster independent living and quality of care (e.g. telemedicine), will be reinforced to cover certification of carers, open standards for ICT- service delivery, etc. It will aim to **double the take-up of independent living solutions for the elderly by 2015**.

KEY ACTIONS

- Set-up an **EU-wide eHealth passport**, by upgrading and extending relevant CIP

¹¹ Notably the [Web Content Accessibility Guidelines \(WCAG\) 2.0](#)

¹² Cf. http://ec.europa.eu/dgs/informatics/ecommission/index_en.htm

¹³ Cf. [COM\(2007\) 860 final](#) and [SEC\(2009\) 1198 final](#)

projects and strengthening cooperation at Member State level;

- Deploy a new generation of **standardised telemedicine services** and **develop Europe's lead market for state-of-the-art eHealth systems and services**.

- *ICT for reducing carbon emissions*

The EU's commitment to cut CO₂ emissions by 2020 means running the European economy on 20-30% less energy than today. In the next 5 years mechanisms must be found that enable significant greenhouse gas (GHG) savings¹⁴. The ICT challenge is twofold: 1) ICT offers potential for **structural change** towards less resource-intensive products and services and energy savings in buildings, transport, electricity networks, etc; 2) the **ICT sector** should lead the way by reporting its own emissions and reducing the energy use of all ICT products and services.

The Commission will also seek to **empower individuals and businesses** to reduce their own emissions by making emissions **measurable, transparent and visible**, as globally 72% of GHG emissions are estimated to relate to household consumption.¹⁵

KEY ACTIONS

- Ensure implementation of a common measurement framework for carbon emissions by the ICT sector and support partnerships between the ICT sector and major emitting sectors (e.g. transport, logistics and construction);
- Support concrete actions to make energy use more efficient, such as **open standards for smart metering** and the use of **Solid State Lighting** in all new commercial and public buildings and street lighting by 2015.

- *Digital User Rights*

Access to the internet is now recognised as necessary to take part fully in society. EU citizens enjoy today under EU law a series of specific digital user rights, including freedom of expression and information, requirements for transparency and data protection, universal telephone and functional internet service and minimum quality of service.

However, these rights are scattered across various laws and not always easy to grasp. It is therefore necessary that users find the relevant information in a transparent and understandable way, e.g. in the context of the eYou Guide initiative¹⁶. The Commission will also engage with stakeholders on the opportunity to launch **EU online trustmarks** for retail websites.

In the context of the public debate on an **open and neutral internet**, the Commission will also examine if the right to access and distribute information or run any legal applications and services requires further policy initiatives.

¹⁴ [Communication COM\(2009\) 111](#) and [Commission Recommendation C\(2009\) 7604 on mobilising Information and Communications Technologies to facilitate the transition to an energy-efficient, low-carbon economy](#)

¹⁵ http://www.carbonfootprintofnations.com/content/global_carbon_footprint/

¹⁶ <http://www.ec.europa.eu/eyouguide>

KEY ACTIONS

- Step-up the eYouGuide initiative and issue a **Charter of EU Online Rights**;
- Promote EU **online trustmarks** notably for retail websites;
- Monitor the implementation of the new telecom framework with regard to network management and **net neutrality**.

2.4. Trust and Security

The internet has shown itself to be resilient, but individual networks and end users terminals are vulnerable to a wide range of evolving threats. Strengthening trust and security in the information society **is a shared responsibility of everyone**. Raising awareness among users and closer cooperation at international and governmental level in implementing security principles should be a priority.

Electronic identity (eID) technologies and services are key to trust in electronic transactions and in e-payment systems, including mobile payments. A European framework for **eID and authentication**, and internationally agreed standards and practices can help the cross-border recognition of eID and increase citizens' trust and confidence. A **European eID and authentication framework by [...]** is the headline target for this action area.

To increase citizens' trust in the digital society, the laws protecting personal data and privacy must be **effectively enforced using dissuasive sanctions**. The EU's revised framework for electronic communications clarifies responsibilities of service providers, including the obligation to notify personal data breaches, which must be implemented effectively throughout the EU.

There is a need for stronger cooperation between all actors, in particular EU Member States. To this end, a well functioning **European network of CERTs**¹⁷ should be established. Internationally coordinated information security policies and joint actions on fighting computer crime should be pursued, with the support of a renewed European Network and Information Security Agency (ENISA).

KEY ACTIONS

- Develop a framework of rules and procedures to implement **security breach notification provisions** of the Telecommunications Framework;
- Develop legal instruments facilitating **cross-border recognition of eID, authentication and signature**;
- Establish a **well-functioning network of CERTs** covering all of Europe, including the EU institutions.

¹⁷

Computer Emergency Response Teams

2.5. Research and Innovation

- *Step up efforts and efficiency*

ICT is one of the most innovative and research-intensive economic sectors, yet Europe invests less than half as much as its major trading partners in ICT¹⁸. Building on the European strategy for leadership in ICT¹⁹, Europe must step up, focus and pool its investments to keep its competitive edge in ICT.

The **Community support to ICT research & innovation** should be increased, with better synergies between national efforts and private funding, systematically leveraged through pre-commercial procurement. A dialogue between investors and ICT innovators will promote strategic fields such as web-based services, low carbon economy or ICT for ageing. Public funding must be less bureaucratic and more attractive to dynamic businesses with "light and fast" schemes suited to high-growth SMEs.

Europe should also build its innovative advantage in key areas through reinforced eInfrastructures²⁰, which are now critical infrastructures for science and research, and targeted development of innovation clusters in key fields. Joint research infrastructures and innovation clusters should be promoted. A European EU cloud computing strategy will bring high performance computing systems to governments and science. New instruments will be needed such as the ICT Knowledge and Innovation Communities (KICs) of the European Institute of Technology.

- *Driving ICT innovation by exploiting the single market*

Europe is the world's largest ICT market, but it does not fully capitalise on its size and technological and industrial strengths to achieve global leadership and business innovation. Fragmentation and slow and outdated regimes of standardisation, intellectual property right (IPR) regimes and general regulations are dead-weights on growth.

Europe's large public sector expenditure should be used to spur innovation while raising the efficiency and quality of public services. European public authorities must therefore join forces to align regulation, certification, procurement and standardisation in favour of innovation. Public and private partnerships and stakeholder fora are needed that lay out joint technology roadmaps, from research to commercialisation, for harnessing innovation to social need. Knowledge transfer into industry should be supported by adequate financial instruments²¹. The headline target for this action area will be **[to be defined in the light of the evolving EU2020 R&D indicator]**.

KEY ACTIONS

- **Maintain the pace of increase in ICT research and innovation spending at EU level**

¹⁸ Cf. [The 2009 Report on R&D in ICT in the European Union](#)
¹⁹ [A strategy for ICT research and innovation in Europe - Raising the game](#), COM(2009) 116
²⁰ [GÉANT high-capacity electronic communication network](#) and the [EGEE Grid infrastructure](#)
²¹ e.g. investment guarantees from the European Investment Fund and other EIB instruments

and **match that pace at Member State** level;

- **Leverage more private investment** through strategic use of pre-commercial procurement, public-private partnerships and use of structural funds for research and innovation;
- Develop EU-wide schemes that combine financial guarantees and innovation procurement to facilitate access to **venture capital, private equity and loans**, especially for SMEs;
- Ensure better coordination and pooling of resources with Member States and industry and put greater focus on demand- and user-driven innovation, including ICT design;
- Simplify EU funding to offer "**light and fast**" schemes notably for SMEs;
- Promote **joint research infrastructures and innovation clusters** and establish a European EU **cloud computing strategy** to bring high performance computing systems to governments and science.

2.6. Open Standards and Interoperability

Consumers and public and private organisations should be able to interconnect their digital devices and applications simply and easily. While there is consensus that an open approach to technology stimulates economic growth²², guidelines on open standards and interoperability have proved hard to define. The following actions will build on the debate on **ICT standardisation**.²³

- *Promoting more open standards*

The headline target for this action area is to reform the EU standardisation regime by 2015 to reflect the rise and growing importance of ICT standards developed by various fora and consortia, in particular as regards the internet.

Another challenge is to ensure that public authorities – including the EU institutions – can make the best use of the full range of existing **open standards** when procuring hardware, software and IT services, for example to adhere to technology neutrality and to avoid technological lock-in to legacy ICT.

Transparent disclosure rules for intellectual property rights (IPR) and licensing conditions in the context of standard-setting can contribute to lower royalty demands for the use of standards and thus to lower market entry costs for SMEs. This can be achieved without a negative impact on the owners of IPRs. Therefore rules for ex-ante disclosure of **essential IPR** and **licensing terms and conditions** will be promoted.

A pragmatic approach is required to assess when and how measures can effectively lead significant market players to license interoperability information for de facto standards while promoting innovation and competition.

²² [Study on "Trends in connectivity technologies and their socioeconomic impacts: Policy Options for the Ubiquitous Internet Society"](#), European Commission 2009

²³ [Modernising ICT Standardisation in the EU - The Way Forward, COM\(2009\) 324](#)

- *Interoperable public infrastructures and services*

Procurement practices and rules for ICT products and services must be adapted to ensure that public authorities – including EU institutions – can make the best use of the full range of open standards. **Interoperability** across all policy fields, notably eHealth, eGovernment, Green ICT, and cloud computing-related initiatives must also systematically be promoted. An update of the **European Interoperability Framework** will be an important step in this regard.

- *Industry-led initiatives for open innovation*

ICT drives value creation and growth across the economy. It represents over 25% of value added in automotive, over 40% in consumer electronics and home appliances and 33% in health and medical equipment. This means that industry is increasingly in need of open and interoperable solutions to exploit ICT across all sectors. Industry-led platforms promoting **the development of open standards for new applications and services** will be supported as an integral part of EU-funded programmes.

KEY ACTIONS

- Reform the **governance system for ICT standards in Europe** to recognise ICT fora and consortia standards;
- Issue a Recommendation to streamline the **use of open standards** in public services and public procurement;
- Promote appropriate rules for **ex-ante disclosure** of intellectual property rights and license conditions in standard-setting;
- Update the **European Interoperability Framework** to promote an open approach to technology and interoperability;
- Examine the feasibility of measures to promote **interoperability** with applications based on de facto standards;
- Promote the **development of open standards for new applications and services** by supporting industry-led platforms through EU-funded programmes.

3. IMPLEMENTATION AND GOVERNANCE

The Commission will implement the priority actions identified in this Digital Agenda in cooperation with Member States, the European Parliament and other stakeholders.

To assess progress and implementation of the Digital Agenda priority actions, the Commission will set up an annual **"Digital Agenda Scoreboard"**, which will measure progress towards the six headline targets proposed in this Communication.

The implementation of the Digital Agenda will be reviewed at regular intervals by a **Digital Assembly** which brings together all the key stakeholders and the relevant EU institutions.

The Commission will carry out a strategic review in 2012 to ensure that the Digital Agenda continues to be a valid policy framework for the digital economy and society in the EU.