



Position Paper on **Standardization in the Networked and** **Electronic Media field**

This document constitutes a position paper of the NEM Technology Platform

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Position Paper on Standardization in the Networked and Electronic Media field

1. Introduction.

This document tries to reflect the views of the NEM Community towards the enhancement of the standardization processes on technologies related to NEM.

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This document has been discussed by the NEM Steering Board at its meeting in June 2008 in Berlin. Since then, a call was made to all NEM participants in order to make contributions and define priorities for this kind of activities. The list of interested experts who have participated in the final drafting of the document and expressed interest on the subject is provided here below.

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2. NEM and Standardization

The NEM Initiative aims at building a sustainable European leadership in content production and networking technologies. Its objective is to promote a consistent European approach to the convergence of media and telecommunication which will be the heart of the Future Media Internet. The NEM European Technology Platform is an industry-led initiative which aims at fostering the convergence between the audiovisual and the telecom technologies.

The NEM constituency includes all organisations working in the area, among which content providers, broadcasters, network equipment manufacturers, networks and service providers, academia, standardisation bodies and government institutions. Those actors share a common Vision and produce a Strategic Research Agenda, as well as position papers in order to accelerate the development of the new sector in a harmonised and fruitful way, and place European industry at the forefront of the information era. One important area of the NEM efforts addresses the Standardization of NEM technologies and NEM related services and applications.

The NEM Vision sets the NEM research priorities for the coming years –short and midterm- They concern research on:

- ⇒ Digital Content – Design of rich media content by professionals and non-professionals supported by open and standardised tools for content creation, storage, representation, and indexing ensuring interoperability of various content formats, including efficient search and selection engines, and creation of new innovative media applications

- ⇒ Distributed Media Applications – Realisation of integrated multi-content communications, integration of classical and new media applications, and creation or adaptation of content dedicated to specific user groups, supported by novel open software and tools for integration of multimedia communications applications
- ⇒ Future Media Delivery Networks and Network Services – Establishment of autonomous networking and communications architectures, multidimensional network interoperability, universal and seamless service provisioning, Quality of Service and Quality of Experience in future service aware networks for media transport
- ⇒ New User Devices and Terminals - Integrated, scalable, and modular multimedia devices and gateways for home, portable and mobile devices with auto-configuration and auto-maintenance features and application programming interfaces for new media applications
- ⇒ NEM Enabling Technologies – Development of full set of necessary horizontal enabling technologies, ensuring realisation and implementation of NEM research objectives

The NEM would like to be instrumental to push, and when feasible, coordinate standardization efforts with the most relevant standards group to NEM:

⇒ ITU:

Besides the classical broadcast or CE-related standardisation bodies (DVB, CEA, ATIS) the awareness of this important change in the media world has led the ITU to establish the IPTV Focus Group.

While this has already been mentioned in the last report the visibility of the ITU-T IPTV FG has increased significantly. An important measure is that lots of confidential documents (ATIS IIF, Broadband Forum and also DVB documents) have been input to ITU and therewith now are in the public domain. In addition to the IPTV work, ITU SG4 (satellite services) and SG6 (terrestrial services), are crucial for standardization of NEM related technologies

⇒ CENELEC:

The CENELEC TC 206 committee is taking care of “Consumer equipment for entertainment and information and related sub-systems”

Most of work items are related to NEM activities. Among them, it can be mentioned:

- Equipment interfaces for set top boxes in the digital television domain
- Common interface specification for conditional access and other decoder applications
- Satellite channel router to control outdoor units in the receiving television systems with single dwelling and multiple dwelling units

⇒ ETSI:

Being the body that standardised the successful GSM standard, and being one of the three Standard Development Organisation (SDO's) that are officially recognised by the European Commission, ETSI is well known ICT-related standards body in Europe. It was established in 1988. At that moment, the standardisation of GSM was in fact already well on its way within CEPT, the European body of telecommunications administrations, but it was regarded desirable to take the GSM development out of CEPT and bring it into a new-to-be-established body. Nowadays, ETSI has approximately 700 ETSI member organisations, from some 60 countries world-wide. The institute focuses on *Information and Communications Technologies (ICT), including fixed, mobile, radio, converged, broadcast and internet technologies*. Recently, ETSI has called for a new Technical Committee on Media Content Delivery, which is launching activities.

⇒ DVB:

DVB has produced several specifications relevant to the NEM field of work: The DVB-SH, a hybrid satellite and terrestrial system working in the sub-3GHz frequency domain, enables reception of media related services also in areas that are not (yet) covered terrestrially. During the year, active participation has been made at the finalization of the new standard DVB-SH, which has the potential to extend the mobile television services to any corner in the European geography, by using hybrid interconnection between satellite and terrestrial.

DVB-S2 has established itself as the de facto standard for HD satellite transmission. Nearly all satellite HD programmes use H.264 video coding and rely on DVB-S2 transmission to keep the relative bandwidth requirements (portion of a 27 or 30MHz satellite transponder) about the same as for MPEG-2/ DVB-S-based SD transmission. Using those technologies implies the same costs for an HD channel as compared to an SD channel using older technology (which it has to do due to the installed receiver base).

DVB-IPI specifies the DVB-IPTV. The Handbook 1.3 and the HN Guidelines have been published during the course of this reporting period. They include several extensions to the available specifications and they suite as the connection to other international organisations like the ITU and the DLNA.

⇒ UPnP/ DLNA:

Also in the UPnP and DLNA arena lots of news have happened recently: DLNA has published its Expanded Guidelines in January 2007. Besides QoS (based on UPnP QoS) it includes link protection guidelines and therewith allows local distribution of premium content.

UPnP has started work on QoS 3.0 which for the first time will include the users' preferences into the policy enforcement. This is highly relevant to the NEM domain.

⇒ OMA:

OMA (Open Mobile Alliance): international organization, developing open, market driven interoperable specifications. The OMA focus is on services enablers, to offer functionalities to the application level for building the services to the end-users. TI involvement in almost all the OMA working group aimed to the standardization of several enablers, like Broadcast services, Digital Rights Management, Content Delivery, Rich Media Environment and many others.

⇒ MPEG:

ISO-IEC Moving Picture Experts Group (MPEG): Standardization of digital content representation dedicated to rich-media interactive and streamable services. NEMi and NEM/TP members are involved in MPEG-4, MPEG-7, MPEG-21 standardization area.

⇒ Open IPTV Forum:

The OIPF is a pan-industry initiative with the purpose of producing end to end specifications for IPTV, to take the next generation of IPTV into the mass market. The basis for this activity are the existing and emerging technologies and specifications from a number of other SDOs and interest groups. After publications, the OIPF specifications can be submitted to one or more relevant standard-setting organizations for acceptance as an IPTV Standard. At present the Forum has published an end-to-end Functional Architecture and seven volumes of technical specifications, covering: Protocols, Content Metadata, Media formats, Execution Environments and Content and Service Protection.

The specified technologies, together with the profiles that will be delivered in spring 2009, will allow the industry to deploy IPTV networks and devices that interoperate, both for basic and advanced services.

The Forum has started to work on Release 2 Specifications, which will extend the functionalities of Release 1: integration between fixed and mobile networks, extended functionalities for parental control and support for enhanced EPG including local contents are just a few examples of the planned extensions.

⇒ IEEE:

Originally called the Institute of Electrical and Electronics Engineers, the organization broadened its activities in such a way that it no longer uses this name but kept its initials. IEEE's Constitution defines the purposes of the organization as "scientific and educational, directed toward the advancement of the theory and practice of electrical, electronics, communications and computer engineering, as well as computer science, the allied branches of engineering and the related arts and sciences".

Standards-making in IEEE takes place in the so-called IEEE Standards Association (IEEE-SA). In the ICT field, the following standards are most probably the best known ones:

- the IEEE 802.3 Ethernet standard;
- the IEEE 802.11 Wireless Networking standards (popularly known as WiFi)

- the IEEE 1394 “Firewire” standard
- the IEEE 802.15.1 “Bluetooth standard”

Interesting recent standardization efforts include:

- IEEE 802.16 “WiMax” wireless networking standard
- IEEE 802.15.4 “ZigBee” standard for low-distance, low-power communications.

⇒ IETF:

The internet Engineering Task Force develops and promotes Internet standards, in particular the TCP/IP protocol suit. Initially government-funded researches joined its activities, but in 1991 doors were open to any interested party. The TCP/IP protocol is possibly one of the most used and most successful protocols in the world, and is also the basic building blocks for many other system standards, such as 3GPP.

Involvement and contribution to the IETF processes is on individual basis. There is no such thing as a formal membership or membership environment. People become active in IETF by participating in discussions on mailing lists, contributing drafts on technology, or simply showing up at meetings.. There is no formal voting mechanism: IETF uses the principle of “rough consensus”. IETF’s current shape and practices are, for a large part, the result of the rather specific culture and attitude of the individuals that were involved in the early development of the internet.

Open standards should be developed to allow the easiest market access (market base and customer acceptance).

The standardisation and regulation landscape for network electronic media comprises the whole value network including content generation, content protection, content distribution and content rendering (incl. storage).

3. R&D in the broader policy context

The relation between R&D and standardisation need to be taken account in the broader European policy context. One of the 3 pillars of i2010 focuses on innovation and investment in ICT research. This priority of i2010 focuses on the EU’s research and development instruments and sets priorities for cooperation with the private sector to promote innovation and technological leadership.

Actions implemented under this priority aim to strengthen European innovation and research in ICT through instruments such as the Seventh Research Framework Programme (FP7), the European Technology Platforms and Joint Technology Initiatives (JTIs). Other actions in this area aim to promote the take up of ICT by EU citizens, businesses and administrations, notably through projects supported by the ICT Policy Support Programme.

The objective of ICT research under the EU’s Seventh Framework Programme (FP7) is to improve the competitiveness of European industry as well as to

enable Europe to master and shape the future developments of these technologies so that the demands of its society and economy are met.

A more effective and responsive EU standardisation policy, integrating standard-setting fora and consortia, as recommended by recent studies made by the European Commission, would not only benefit the EU ICT industry, but also industry at large, the public sector, and public authorities. Public and private stakeholders, grouped around the NEM Technology Platform, reaffirmed the important role of R&D, innovation and standardisation.

4. The European Level

4.1. ICT Standardisation in FP7

In FP7, the **Cooperation specific programme**, the main source for funding R&D project, include pre-normative and co-normative research relevant to improving interoperability and the quality of standards and their implementation. In this context, platforms that bring together stakeholders with the research community to consider strategic research agendas relevant to other policy areas may play a role. The dissemination and transfer of knowledge is a key added-value of European research, dissemination towards standard defining organisation is an integral task of the programme.

The programme rules governing the **dissemination of research results** ensure that, where appropriate, the participants protect the intellectual property generated in actions, use and disseminate those results. Detailed provisions regarding dissemination and use of project results are generally covered by the consortium agreement in order to leave to the participants the choice on how to better exploit research results according to their business strategies.

In **FP7 contracts** standardisation activities can be considered within collaborative research, in which case costs related to standardisation activities can be reimbursed up to 100%, both in STREPs (strategic research projects) and IPs (large scale integrated projects). They can also take place subsequently, in which case they must be part of the dissemination and use plan produced at the end of the project, although with the risk that the powerful Consortium position to input Standardization is disbanded and non coordinated once the project ends.

Indeed, the potential impact through the development, dissemination and use of project results, (which includes standardisation when appropriate), is one of the 4 **evaluation criteria** for project proposals.

During the process of elaboration of the **multi annual work programmes** the research community, industry and member states are participating intensively in the consultations organised by the Commission. This provides an effective mechanism to arbitrate between the various needs (including standardisation)

in defining the priorities for the programme. Within the ICT 2007-2008 R&D work programme standardisation is part of many of the objectives. Whenever opportunities for standardisation should be exploited, specific measures, specific topics or objectives for standardisation are mentioned. As illustrated below the option chosen do vary according to the particular context of the strategic objectives. This diversity reflects the optimal choices for the sector concerned.

- *Global standards for a new generation of ubiquitous and extremely high capacity network and service infrastructures.*
- *Opportunities for standardisation should be exploited.*
- *Coordination and support actions for standardisation/for international standardisation and interoperability initiatives.*
- *Open tool frameworks facilitating new entrants and the integration of the tool chain including associated standardisation*
- *Support may also be provided to industry-driven initiatives for sharing software source code and for standardisation activities in the broader embedded systems domain.*
- *Global consensus towards standards*
- *Common pan-European architecture, standards*
- *systems and services for independent living, smart workplaces and mobility.*
- *Contribution to standards setting, and strategic international cooperation with US and Japan*
- *Interoperability roadmaps should be elaborated when developing competitive standards*

4.2. European Commission ICT Standardization Work Programme

The legal basis for European standardisation, including the ICT domain, is [Directive 98/34/EC](#). One of its main elements is constituted by the formal recognition of three European Standards Organisations (ESOs), CEN, CENELEC and ETSI, active in various degrees in the ICT domain. This recognition entails financial support at the European level. Standards resulting from an open consensus building process and published by recognised standardisation bodies are by nature voluntary and non binding documents.

ICT standardisation is part of the general standardisation activities, and contributes to policy objectives to improve the competitiveness of European industry, as specified in the Lisbon strategy. With the input of the study on ICT standardisation policy of 27 July 2007 the open event of 12 February 2008 set the framework of the revision of the ICT standardisation policy framework.

The 2007 ICT Standardisation Work Programme was launched at the beginning of the last year. It complemented the [Action Plan for European Standardisation 2007-2009](#) published by DG Enterprise and Industry in April 2006 dealing in more detail with ICT matters. Its aim was to consolidate the achievements of the 2006 ICT Standardisation Work Programme and to further promote the use of

standards in support of all related EU policies and legislation as set out in the Communication [COM\(2004\) 674](#).

4.3. Extracts from the ICT WP 2007-2008

FP7 provides a good opportunity for financial support of standardisation activities provided they fit within the strategic objectives of a collaborative project (STREP for targeted actions or IP for more ambitious and strategic activities). It remains up to the consortia to integrate such actions within the scope of their project proposals and budget, or to leave standardisation to individual participants, or to propose another organisation for standardisation (e.g. in a cross programme coordinated manner in some sectors). However, experiences of exploiting R&D results and standardization have demonstrated a gap which is making more inefficient the optimum exploitation of the R&D results. The problem is more acute when voluntary R&D projects achieve results suitable to become inputs to Standardization bodies, but when the project is ready to make relevant input to Standardization (this usually happen at the end of project life), the consortium is disbanded, thus making more difficult the continuation of the support activities to the standardization process.

The following figure depicts a typical timing of a European R&D project. Work packages naming are provided just for illustrative purposes. The activities of the project related to Standardization are usually lightly touched during the whole duration of the project, with some inefficiency, as the project has not achieved relevant results till the end of the project life. In this way, the project waste resources inefficiently connecting with Standard bodies at early stages of its research work plan and simultaneously, the project is not exploiting its results in the Standardization world because when available, the project would usually end.

Current typical timing R&D project and its Standardization activities

ACTIVITY	Year 1			Year 2			Year 3		
	M1	M2	M3	M1	M2	M3	M1	M2	M3
WP1: Project Management									
wp 1.1.- Reporting to EC									
WP 2.- Definition of Requirements and General Scenarios									
wp 2.1.- Reporting to EC									
wp 2.2.- Definition of Requirements and General Scenarios									
WP 3.- Development of Technology 1									
wp 3.1.- Definition of Specifications									
wp 3.2.- Development of Hardware									
wp 3.3.- Development of Middleware and Applications									
WP 4.- Development of Technology 2									
wp 4.1.- Definition of Specifications									
wp 4.2.- Development of Hardware									
wp 4.3.- Development of Middleware and Applications									
WP 5.- Demonstrator									
wp 5.1.- Definition of Specifications									
wp 5.2.- Development of Hardware									
wp 5.3.- Development of Middleware and Applications									
WP 6.- Contribution to Standardization and Regulatory bodies									
wp 6.1.- Contribution to Standardization and Regulatory bodies									

The outcome of the above situation is that many R&D projects, which voluntarily have decided to produce substantial outputs suitable to be input to standardization bodies, and for which activities they have got funds from public sources (FP7, Eureka, National R&D programmes), become frustrated as the consortium is disbanded at the just time they have got relevant results (usually the end of the project lifetime). Efforts continue to conduct standardization activities beyond the life of the Consortium but these efforts are less efficient because of pragmatic, legal, administrative or technical reasons, as the Consortium is not longer motivated to further cooperate beyond the project end and can not continue making use of the funds available because the project has ended beyond its lifetime.

In order to solve the above gap which represents a major inefficiency and wasting of available funds, projects should find more flexibility on the legal terms and administrative aspects of their contractual relationship with the authority managing the R&D programme. In the case for example of FP7 programme, when a project foresees the achievement of results potentially suitable for producing inputs to standardization bodies, the contract should foresee that some activities could be conducted after the project formally ends but assuming that funds will continue to be applicable during this extended period. The benefit of this approach is to avoid the current rejection of the whole Consortium to extend the life of the project for all partners (with the associated financial consequences, legal, administrative issues) thus not

facilitating the continuation of activities from some partners in the standardization domain under the framework of the project.

The proposed process would allow the project to formally end at its expected lifetime end, thus closing the regular legal, administrative, financial actions required to be completed by the project. But simultaneously, few activities would be allowed to continue after the project ends, thus ensuring the cooperation of few partners related to these activities and, even more, providing endorsement to the funding of these extended activities which are not necessarily spent during the regular lifetime of the project, but exactly when the efforts are really done (usually 1 to 2 years after the project end, when the project is capable to submit and exploit its results to Standardization bodies).

With respect to the legal framework of the R&D funding programmes, this proposed extension should not represent any reduction of liabilities of the partners being funded by public funds, as the typical contracts foresee the capability of the funding Organizations to conduct any review during a period of 5 years after the project end. This means that any irregular use, or not use at all, of the funds foreseen for the extended period by the partners concerned (clearly identified) will have the same guarantees of review and audit as any other activity concluded within the regular lifetime of the project. In addition, when necessary, extra small focused review of the project could be organized at the end of year 5 for this specific extended activity affecting only to the partners involved.

Proposed timing interfacing R&D and Standardization

ACTIVITY	Year 1	Year 2	Year 3			Year 4			Year 5		
			M1	M2	M3	M1	M2	M3	M1	M2	M3
WP1: Project Management											
WP 2.- Definition of Requirements and General Scenarios											
WP 3.- Development of Technology 1											
WP 4.- Development of Technology 2											
WP 5.- Demonstrator											
WP 6.- Contribution to Standardization and Regulatory bodies											
Effective contributions of the project to Standardization (During Years 4 and 5 the WP 6 would be allowed to automatically extend its activities if a plan for contribution to standardization bodies is prepared and approved at the latest review of the project)											

4.4. Beyond FP7 EU projects

The time span of a typical EU research project is typically between 3 and 5 years which in many cases only partially overlaps the timescale of standardisation actions related to related R&D results. Several initiatives can also prove to be useful for bridging the gap between EU funded R&D projects and standardisation:

European Technology Platforms (ETPs) provide a framework for stakeholders, led by industry, to define research and development priorities, timeframes and action plans on a number of strategically important issues. They play a key role in ensuring an adequate focus of research funding on areas with a high degree of industrial relevance, by covering the whole economic value chain and by mobilising public authorities at national and regional levels. The Strategic Research Agendas defined by those platforms have in some cases identified standardisation as one of their priorities, and in other cases are considering this aspect for up coming revisions of the SRAs. By providing access to a broader base of R&D stakeholders they could prove to be effective interlocutors. Some Technology Platforms are launching specialized groups dealing with international cooperation having the development of Standards at worldwide level as a priority goal.

Joint Technology Initiatives (JTIs) are public-private partnerships set up at European level to address strategic areas where research and innovation are essential to European competitiveness. A novel element of the Seventh Framework Programme for Research, Technological Development and Demonstration Activities, JTIs support large-scale multinational research activities. They bring together private and public partners to define common objectives of wide societal relevance and to combine funding and knowledge in order to fulfil these objectives. The first JTIs launched will start operating in 2008, and might be an efficient tool for linking research to standardisation activities.

Lead Market Initiatives are yet another instrument that might strengthen links between ICT research and standardisation. For example standardisation is expected to be a major concern in the **eHealth LM** initiative as a mean to effectively overcome the interoperability barriers. Furthermore such initiatives go beyond R&D and include other measures such as the provision of clarification and guidance for applying the legal framework, networking of public procurers, as well as information of users, doctors, health managers and public authorities on eHealth benefits.

Beyond such initiatives where standardisation and research have a clear role, in might be necessary in the longer term to consider other programmes such as the **Competitiveness and Innovation Framework Programme (CIP)**. The launch large scale pilots as currently envisaged in the ICT PSP operational programme may provide effective support to further link research and standardisation (in particular through the promotion of ICT standards).

Finally the research efforts supported by the European Union represent only a small percentage of the total effort in a given domain. In Europe the overall R&D effort is also involving many more actors than those participating in EU project consortia. It is necessary to consider the broader European research picture. An interesting example is the recent partnership signed up between ETSI and ERCIM to better consider standardization early in the R&D cycle. The generalisation and promotion of such initiatives may provide very effective means to reinforce the link between research and standardisation, spanning across all possible levels (corporate, regional, national and European).

5. Participants on discussions on Standardization in the NEM field

To be completed regularly, when further issues of the document.

6. Summary of Positions and Recommendations

Based on the views of NEM participants and particularly those directly related to the standardization activities, the following recommendations represent a

summary of actions that Europe should implement in order to exploit the most of research projects and their impact on the standardization processes.

➤ **NEM technology platform includes members all over Europe and can be a forum for discussion on Standardization priorities. NEM community is ready to provide inputs to the on going consultation processes of European Commission regarding the ways to improve the European standardization mechanism. Some ideas on the best connection of FP projects and their abilities to input standardization forum are described in this document. European Commission is invited to explore the contractual and legal mechanisms to facilitate the deepest and most active participation of FP projects in the standardization context, which should not be bound by the contractual limits of a typical FP project, particularly on scheduling, milestones, etc.**

NEM has a number of technologies and areas where standardization should be considered as a priority. Cooperation between NEM and ETSI new TC MCD committee will be kept

➤ **NEM considers that the primary aim for a new technology or service should move towards exploiting the feasibility of standardization, as a way to provoke mass markets and trust from end-users.**

➤ **NEM is ready to set Agreements with European Standardization Fora and Consortia in order to promote the acceptance of NEM related projects (FP, Eureka, Celtic, National programmes) outputs in the standardization domain.**

7. Annex: EU legislation, policies and actions for which ICT standardisation support is relevant

General policy framework

- 1.1) **Directive 1999/5/EC**: Radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.
- 1.2) **Directive 2002/21/EC**: A common regulatory framework for electronic communication networks and services.
- 1.3) **Directive 2004/108/EC**: Approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC
- 1.4) **COM(2002) 96**: Next Generation Internet – priorities for action in migrating to the new Internet protocol IPv6.

- 1.5) [COM\(2005\) 229](#): i2010- A European Information Society for growth and employment.
- 1.6) [COM\(2005\) 474](#): Implementing the Community Lisbon Programme: A policy framework to strengthen EU manufacturing – towards a more integrated approach for industry.
- 1.7) [COM\(2005\) 229 final](#): – "i2010 – A European Society for growth and employment"
- 1.8) [COM\(2007\) 56](#): Scientific information in the digital age: access, dissemination and preservation
- 1.9) [European Parliament resolution](#) of 19th June 2007 on “Building a European Policy on broadband”
- 1.10) [Regulation \(EC\) No 717/2007](#) of the European Parliament and of the Council of 27 June 2007 on roaming on public mobile telephone networks within the Community and amending Directive 2002/21/EC (Text with EEA relevance)

e-Business

- 2.1) [COM\(2001\) 161](#): Widening consumer access to alternative dispute resolution.
- 2.2) [COM\(2001\) 665](#): Working together for the future of European tourism and the subsequent report on the impact of the new generation of mobile information society services on the tourism sector.
- 2.3) [COM\(2002\) 196](#): Green Paper on alternative dispute resolution in civil and commercial law.
- 2.4) [COM\(2003\) 148](#): Adapting e-business policies in a changing environment: The lessons of the Go Digital initiative and the challenges ahead.
- 2.5) [COM\(2004\) 718](#): Proposal for a Directive on certain aspects of mediation in civil and commercial matters¹.
- 2.6) [COM\(2005\) 603](#): Proposal for a Directive on payment services in the internal market and amending Directives 97/7/EC, 2000/12/EC and 2002/65/EC.

¹ The Council reached in December 2005 a common understanding on the text of a draft Directive, subject to the definition of cross-border crisis and the application of the principle of subsidiarity. The European Parliament has not yet delivered its opinion at first reading.

- 2.7) [**Recommendation 98/257/EC**](#): Principles applicable to the bodies responsible for out-of-court settlement of consumer disputes.
- 2.8) [**Recommendation 2001/310/EC**](#): Principles for out-of-court bodies involved in the consensual resolution of consumer disputes.
- 2.9) [**e-Business W@tch Special Report No 03**](#): e-Business, Interoperability and Standards: A cross-sector Perspective and Outlook.
- 2.10) [**e-Business W@tch Sector Study No 09**](#): ICT and Electronic Business in the Tourism Industry.
- 2.11) [**COM\(2007\)860**](#): Communication "A lead market initiative for Europe" - (21.12.2007)
- 2.12) [**Directive 2004/18/EC**](#) of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts
- 2.13) [**Directive 2004/17/EC**](#) of the European Parliament and of the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors

e-Inclusion

- 3.1) [**COM\(2005\) 425**](#): e-Accessibility.
- 3.2) [**COM\(2005\) 604**](#): The situation of disabled people in the enlarged EU: the European Action Plan 2006-2007.
- 3.3) [**e-Inclusion Riga Ministerial Declaration**](#) of 12 June 2006 on the promotion of an inclusive and barrier-free Information Society which fosters social and economic inclusion.
- 3.4) [**COM\(2007\) 332**](#): Ageing Well in the Information Society, an i2010 Initiative: Action plan on Information and Communication Technologies and Ageing
- 3.5) [**COM\(2007\) 694**](#): European i2010 initiative on eInclusion, "to be part of the Information Society"

e-Health

- 4.1) [**Regulation \(EC\) No 726/2004**](#) of the European Parliament and of the Council of 31 March 2004 laying down Community procedures for the authorisation and supervision of medicinal products for human and veterinary use and establishing a European Medicines Agency (Text with EEA relevance).

- 4.2) [Directive 2001/20/EC](#) of the European Parliament and of the Council of 4 April 2001 on the approximation of the laws, regulations and administrative provisions of the Member States relating to the implementation of good clinical practice in the conduct of clinical trials on medicinal products for human use.
- 4.3) [Directive 2001/82/EC](#) of the European Parliament and of the Council of 6 November 2001 on the Community code relating to veterinary medicinal products.
- 4.4) [Directive 2001/83/EC](#) of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use.
- 4.5) [Directive 2004/23/EC](#): Setting standards of quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells.
- 4.6) [Directive 2004/27/EC](#) of the European Parliament and of the Council of 31 March 2004 amending Directive 2001/83/EC on the Community code relating to medicinal products for human use.
- 4.7) [Directive 2004/28/EC](#) of the European Parliament and of the Council of 31 March 2004 amending Directive 2001/82/EC on the Community code relating to veterinary medicinal products.
- 4.8) [Directive 2006/86/EC](#): implementing Directive 2004/23/EC *as regards traceability requirements, notification of serious adverse reactions and events and certain technical requirements for the coding, processing, preservation, storage and distribution of human tissues and cells.*
- 4.9) [COM\(2003\) 73](#): Communication from the Commission concerning the introduction of a European health insurance card.
- 4.10) [COM\(2004\) 356](#): Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions -e-Health- making healthcare better for European citizens: an action plan for a European e-Health Area.
- 4.11) [Connected health: Quality and safety for European Citizens](#): Report of the Unit ICT for Health in collaboration with the i2010 sub-group on eHealth and the eHealth stakeholders' group.
- 4.12) [Council Regulation \(EC\) 1383/2003](#): *Customs* action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights.

- 4.13) [**Directive 2001/029/EC**](#): Copyright and related rights in the information society.
- 4.14) [**Directive 2004/48/EC**](#): The enforcement of intellectual property rights.
- 4.15) [**COM\(2004\) 261**](#): Management of copyright and related rights in the internal market.
- 4.16) [**Recommendation 2005/737/EC**](#): Collective cross-border management of copyright and related rights for legitimate online music services.

e-Learning and e-Skills

- 5.1) [**Decision 2318/2003/EC**](#): Adoption of a multi-annual programme for the effective integration of information and communication technologies (ICT) in education and training systems in Europe (e-Learning Programme).
- 5.2) [**COM\(2001\) 172**](#): The e-Learning Action Plan.
- 5.3) [**Council Resolution 2001/C 204/02**](#): e-Learning.
- 5.4) [**Council Conclusions on ICT and e-business skills**](#): December 2002.
- 5.5) [**European e-Skills Summit Declaration**](#): October 2002.
- 5.6) [**e-Skills in Europe: Towards 2010 and Beyond**](#): Synthesis report of the European e-Skills Forum presented at the European e-Skills Conference on 20-21 September 2004 in Thessalonica. A Declaration was adopted recognising that the way forward is through multi-stakeholder partnerships.
- 5.7) [**Report of the ICT Task Force**](#): topic paper of the working group on skills and employability presented at the European e-Skills Conference on 5-6 October 2006 in Thessalonica. [**A Declaration**](#) was adopted formulated recommendations for a long term EU e-skills agenda
- 5.8) [**Joint Statement**](#) by European Commissioners responsible for Information Society and Media, and Education, Training, Culture and Multilingualism at the [**e-Learning 2005 Conference**](#) (Brussels, 19-20 May 2005) and follow up [**EU e-Learning Conference 2006**](#) organised by the Finnish Presidency (Helsinki, 4-5 July 2006)
- 5.9) [**eEurope 2005**](#): e-Learning.
- 5.10) [**Communication of the European Commission**](#) of 7 September 2007 on “e-Skills in the 21st Century: Fostering Competitiveness, Growth and Jobs” COM 469 final and Competitiveness Council Conclusions of 23 November 2007 on a long-term e-skills strategy
- 5.11) Conclusions of the [**“e-Learning Lisboa Conference”**](#) organised under the Portuguese Presidency on 15-16 October 2007 in Lisbon
- 5.12) [**Decision No 456/2005/EC of the European Parliament and of the Council of 9 March 2005**](#): establishing a multiannual Community programme to make digital content in Europe more accessible, usable and exploitable. (eContentplus)

Intelligent Transport

- 6.1) [**Directive 2004/52/EC**](#): Electronic road tolling systems in the Community.
- 6.2) [**COM\(2003\) 542**](#): Information and Communication technologies for safe and intelligent vehicles.
- 6.3) [**COM\(2005\) 431**](#): Bringing eCall to the citizen.
- 6.4) [**COM\(2006\) 59**](#): The Intelligent Car Initiative – “Raising awareness of ICT for smarter, safer and cleaner vehicles”.
- 6.5) [**COM\(2006\) 723**](#): *Bringing eCall back on track - Action Plan.*
- 6.6) [**Recommendation C/2006/7125**](#): *Safe and efficient in-vehicle information and communication systems: update of the European statement of principles on human machine interface.*
- 6.7) [**Commission Decision 2008/nnn/EC**](#) *on the definition of the European electronic toll service².*
- 6.8) [**COM\(2007\) 607**](#): *Freight Logistics Action Plan.*
- 6.9) [**COM\(2006\)314**](#): *The EU Transport Policy mid-term review document "Keep Europe moving - Sustainable mobility for our continent"*
- 6.10) *The Commission Communication on an ITS action plan foreseen for June 2008*
- 6.11) [**COM\(2007\)541**](#): *"Towards Europe-wide Safer, Cleaner and Efficient Mobility: The First Intelligent Car Report"*

Data Protection, Privacy and Security

- 7.1) [**Regulation \(EC\) 2252/2004**](#): Standards for security features and biometrics in passports and travel documents issued by Member States.
- 7.2) [**Directive 95/46/EC**](#): Protection of individuals with regard to the processing of personal data and on the free movement of such data.

² The Commission Decision will likely be adopted in 2008. Its draft version was submitted to inter-service consultation in December 2006.

- 7.3) [**Directive 2002/58/EC**](#): The processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).
- 7.4) [**Directive 2006/24/EC**](#): retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending Directive 2002/58/EC.
- 7.5) [**COM\(2006\) 251**](#): A strategy for a Secure Information Society – “Dialogue, partnership and empowerment”.
- 7.6) [**COM\(2006\) 688**](#): Fighting spam, spyware and malicious software.
- 7.7) [**COM\(2007\) 96**](#): Radio Frequency Identification (RFID) in Europe: steps towards a policy framework
- 7.8) [**COM\(2007\) 228**](#): Promoting Data Protection by Privacy Enhancing Technologies (PETs)
- 7.9) [**COM\(2007\) 267**](#): Towards a general policy on the fight against cyber crime
- 7.10) [**Directive 2001/29/EC**](#): of 22 May 2001, on harmonising certain aspects of copyright and related rights in the information society, states the penalties that member States can implement in the event that a measure ensuring the protection of a work is bypassed;
- 7.11) [**Directive 2004/48/EC**](#) of the European Parliament and the Council of 29 April 2004 on to the enforcement of intellectual property rights.
- 7.12) [**Regulation 1383/2003/EC**](#): of 22 July 2003 concerning customs action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights.

ICT For The Environment And Sustainable Development

- 8.1) [**COM \(2007\) 2 final**](#) from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions of 10 January 2007 - Limiting global climate change to 2 degrees Celsius - The way ahead for 2020 and beyond
- 8.2) [**COM\(2007\) 162 final**](#) from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: Report of the Environmental Technologies Action Plan (2005-2006)

8.3) [COM\(2006\)545 final](#) from the Commission. Action Plan for Energy Efficiency:
Realising the Potential

