THE STANDARD

ETSI 2013 Celebrating 25 years

MADE IN EUROPE FOR GLOBAL USE

ETSI Newsletter • February 2013

Welcome to the World of Standards

Welcome once again to the latest edition of 'The Standard', the first of our 25th anniversary year. Without giving anything away, you will hear much more about this important milestone later in the year and in our September edition. This month we will simply introduce the subject and remind you of what we have achieved since 1988. In this issue we also report as usual on our current standardization topics. We cover some latest developments in Europe, and update you on recent improvements at the Secretariat.

Each issue we focus on a particular technology cluster. This issue is no exception, when we turn our attention to our Public Safety cluster. TETRA is a huge success story for ETSI in this field, but now attention is turning towards future systems with higher data rates. LTE is increasingly championed as a suitable choice, and you will read about efforts to adapt this technology to the needs of public safety users. We also feature our Cloud Standards Coordination activity and our recently established Industry Specification Group on Network Functions Virtualization.

Developments in Brussels will be of interest to many readers. Gavin Craik has provided an analysis of how the recently adopted reform of EU standardization will have an impact on ETSI. The R&TTE Directive, for which ETSI develops numerous Harmonized Standards, will also undergo revision during 2013. Expect more on this subject in later issues.

We have also been working to improve the services provided by the Secretariat. You will read about the refurbishment of our meeting rooms, providing improved facilities for our delegates. And finally we have updated our website with a refreshed design and new functionality. You should visit it, after reading about it!

I hope that you enjoy this issue and remain yours sincerely,

Luis Jorge Romero, Director General, ETSI

'The Standard' provides an information platform for ETSI Members, to inform you of the latest developments - both within our technical committees and the Secretariat - and offers a space for our Members to communicate with each other.

New Seconded European Standardization Expert for India appointed

On 14 January 2013 the new Seconded European Standardization Expert for India (SESEI) was formally appointed with the signature of the contract by Mr. Dinesh Chand Sharma.

ETSI Director General, Luis Jorge Romero, welcomes Mr. Dinesh Chand Sharma, the new Seconded European Standardization Expert for India

The SESEI project will establish a European Standardization Expert in India for the next three years with the tasks of increasing the visibility of European standardization and promoting cooperation between Europe and India on standards related issues. The project is co-financed by the European Commission, European Free Trade Association (EFTA) and the European Standards Organizations, CEN, CENELEC and ETSI.

Mr. Sharma, an Indian national, has over 20 years experience in the telecoms and standards sector. His task will be to open up channels of communication and increase cooperation between the project partners and Indian decision makers and stakeholders in the standardization and regulatory system, both at the policy making level as well as in a number of industrial sectors including telecoms and ICT.

The European Commission, EFTA and the three ESOs have run a similar project in China (the Seconded European Standardization Expert for China, SESEC, www.eustandards.cn) for the past six years. This project has been particularly successful at enabling ETSI to develop its contacts with Chinese institutions and is about to be extended for a further three years. The SESEI project will build on the experience gained in China.

The project will be overseen by a steering committee composed of representatives from CEN, CENELEC, ETSI, the EC and EFTA, while the day-to-day operations will be managed by ETSI, who acts as overall project manager.

Meet ETSI and 3GPP at Critical Communications World

21-24 May 2013 (21-24 May: Conference, 22-24 May: Exhibition),
Paris, France. ETSI/3GPP booth C503 & C504

The impact on ETSI of the new Regulation on European Standardization

By Gavin Craik, EC/EFTA Relations Officer at ETSI

Following a period of more than a year of discussions, drafts, reviews and hearings, the new Regulation on European Standardization (Regulation 1025/2012) has been adopted by the European Parliament and the Council of the European Union, was published in the Official Journal of the European Union and applies since 1 January 2013.

ETSI has warmly welcomed the finalization of the new Regulation on European Standardization and we have proactively supported the reform proposals, especially those relating to the ICT standardization policy, since its inception. We strongly support an EU standardization system which is more responsive to very challenging ICT markets as well as increasing the role of standards to further support the single market for ICT goods and services and support EU competitiveness on the global market. Other than the specific distinction given to ICT we do not believe that this Regulation is a major reform in that it has maintained the strengths of the existing system but brings in aspects to increase the relevance of European standardization for the coming years. We recognize the desire to achieve greater efficiency to achieve the faster development of standards and we are confident that ETSI will continue to improve our processes and methods of working.

ETSI is pleased to continue our role as a recognized European Standardization Organization under this Regulation and also notes the explicit recognition that the direct participation model which characterizes ETSI is clearly part of European standardization. We also strongly welcome the improved definitions provided in Article 2 of the Regulation where the term "European standardization deliverable" now has a clear definition and now recognizes the role to be played by the portfolio of our deliverables in support of public policies. We also accept that the definition of "ICT technical specification" clarifies issues.

ETSI will participate as a member of the ICT Multi-Stakeholder Platform (MSP) and will work with the EC to put the necessary processes into place in order to obtain a successful outcome.

In particular, ETSI supports the following elements - some of which are already included in ETSI's modus operandi:

- Extension of the scope of the legal framework to standards and interoperability tools for services
- Recognition of eligible standards developed by ICT fora and consortia to enhance efficiency of the standardization system in the EU (articles 13 and 14 plus Annex II)
- Provision of means to contribute to standards-making for all relevant economic agents (in particular SMEs) and societal stakeholders.
- Overall streamlining of the processes

With regard to the prospect of the direct referencing of ICT fora and consortia specifications in EU policies and public procurement in areas where no significant standards development work has taken place within the ESOs, we would emphasize that in its daily work, ETSI operates with a network of partners – SDOs, fora, consortia - and is at the origin of the creation of some global partnerships such as 3GPP or oneM2M. Therefore we support the option to allow the referencing of ICT fora and consortia specifications that meet eligibility criteria. We also support the view that such specifications can be used to complement European standards/standardization deliverables.

ETSI believes that the procedure for the selection of ICT fora and consortia specifications is pivotal to the effectiveness of the reform. In particular, it will be crucial to define the operating processes (e.g. eligibility assessment) as well as the decision-making processes within the ICT Multi-Stakeholder Platform (MSP). ICT is a sector with specific characteristics even in standardization because of ever shortening time-to-market and the variety of variables that contribute to the success of a standard: interoperability and backwards compatibility, IPR regime, etc. In addition there must be a mechanism to ensure specification providers are responsible and accountable for maintaining the specifications selected.

EU policy should ensure that the EU standards production system has the means to be a relevant player in the international standardization arena.

ETSI will participate as a member of the ICT MSP and will work with the EC to put the necessary processes into place in order to obtain a successful outcome.

The provisions in the Regulation related to the representation and participation of societal stakeholders, and SMEs in particular, is continually addressed by the ETSI model which provides opportunities through membership – especially to those who are innovative and contribute to standards rather than just being standards takers. Company size is not an issue as all ETSI members work together within our Technical Bodies and consensus is paramount to the agreement of all of our deliverables. ETSI will continue to examine different routes to enable all stakeholders to be involved throughout.

As mentioned previously, ICT is a global industry and this industry does favour global standards; for that matter ETSI has produced and continues to produce globally applicable standards. Several standards production systems co-exist within the ICT industry with differences regarding their international, regional or national scopes as well as differences between the roles of "formal" organizations fora/consortia. The reform should not ignore the fact that global standards can and do happen regardless of the legal status of the originator or its geographical scope. The objective of reinforcing the visibility, transparency and "formality" of standards production in particular for the EU internal market should not take precedence over that of enhancing EU competitiveness.

In addition, the standards production market is subject to a fundamental tension between the need for global standards and the logic of reinforcing regional standards producers. EU policy should ensure that the EU standards production system has the means to be a relevant player in the international standardization arena. It must support the fact that in some areas we have the ambition that European standards are taken as a basis and are "made in Europe for global use".

Revised radio equipment regulations proposed

In October 2012 the European Commission proposed an update of the R&TTE Directive. The R&TTE Directive, adopted in 1999, introduced a market-led approach to the radio and telecommunications terminal equipment sector, created a single European market for radio and telecommunications terminal equipment and removed the regime of type approvals. It covers apparatus that is either telecommunications terminal equipment (TTE) or radio equipment (RE) or both, but with some exclusions listed in an annex (radio amateur kits, certain marine equipment, cabling and wiring, receive-only radio/TV, certain civil aviation equipment and certain air-traffic-management equipment, and equipment used exclusively for activities of the state). The directive also applies to the communication aspects of vehicles and of certain medical devices.

The R&TTE Directive identifies essential requirements that equipment must meet. Conformity with these essential requirements is declared by the manufacturer and may be based on Harmonized Standards or using other means. One of ETSI's main activities is to develop the Harmonized Standards used under article 3.1b and article 3.2 of the directive. ETSI's Harmonized Standards allow equipment to be sold anywhere in the European Union and in other states that have adopted the Directive, representing the biggest single market in the world.

The Commission proposes:

- to strengthen the level of compliance with the directive, ensuring that citizens have access to radio products which operate without interference. For example, market surveillance and customs officers could better check the safety of products using more effective tools.
- to clarify the directive, in particular clearly spelling out the obligations for every market player, be it manufacturer or importer, and also by limited adaptations of scope.
- to simplify the directive, including through suppression of notification of certain products and other administrative obligations. The new directive would be aligned with the New Legislative Framework for products (IP/11/1385), which makes the overall regulatory framework for products more consistent and easier to apply.

The proposal would also introduce some specific requirements, such as:

- ensuring that software can only be used with radio equipment after the compliance of that particular combination of software and radio equipment has been demonstrated;
- interoperability with accessories such as chargers, and/or work via networks with other radio equipment.

ETSI is currently analyzing the consequences to its standards of the proposed changes in the directive. ETSI's Operational Coordination Group (OCG), representing the chairmen of all of ETSI's Technical Bodies, is leading this analysis in its sub-group on the R&TTE Directive. The following points have already been noted as significant:

- extension of the definition of radio equipment to cover all use of the radio spectrum, not only for communications
- exclusion of receive-only equipment from the scope of the Directive;
- removal of the need for a manufacturer to carry out "essential radio test suites" before placing the equipment on the market;

One of ETSI's main activities is to develop the Harmonized Standards used under article 3.1b and article 3.2 of the directive

- modified text of the essential requirements;
- modified text of the annex on the type of radio equipment excluded from the scope of the directive

The Commission's proposal will now be further discussed at the Council of the European Union and at the European Parliament, where the rapporteur is Ms. Barbara Weiler MEP. This process will provide opportunities to ETSI or its members to contribute their opinions. The directive is expected to be finalized during the Lithuanian (July to December 2013) or the Greek (January to June 2014) Presidencies of the European Union. The proposed directive foresees an 18 month transposition period for national implementation of its provisions.

ETSI 25th Anniversary

25 years ago, in 1988, the European Telecommunications Standards Institute was established. While the decision to create the institute was taken in 1987, ETSI was formally established the following year and the statues of the institute were adopted at the first General Assembly on 29-30 March that year.

ETSI was born into a world where portable PCs were briefcases too heavy to use on a lap; where mobile phones required car batteries for power and where paging was a promising new telecommunications service. Standards meetings were paper-based, with every delegate receiving his set of meeting documents by post in the weeks prior to a meeting, and the most important item of technology at a meeting was the photocopier.

Despite the absence of basic technology without which a standards body could not function today: laptops, e-mail, wifi, broadband, file servers and web conferencing to name but some, ETSI nevertheless succeeded to produce standards which would have a world-wide impact. GSM, DECT, TETRA and Euro-ISDN were some of the initial standardization projects undertaken, and these have been at the heart of ETSI's success. ETSI's technologies, the telecommunications market and the companies that served it all developed rapidly in step with each other, cementing ETSI's position at the heart of the telecoms and ICT industries in Europe and beyond.

ETSI was designed from the outset to respond to the needs of industry, and was very different in concept from its sister European Standards Organizations CEN and CENELEC. With its unique mix of members from industry, academia, administrators and regulators, and with the counsel of the European Commission and EFTA, ETSI has become a venue for dialogue and discussion on ICT issues in Europe, as well as a recognized industry standards body in its own right.

The technologies discussed in our standards committees have changed or evolved, new members and new delegates constantly join our ranks, the committees themselves are created and renewed, but the spirit instilled in ETSI at the establishment of the institute still lives on. It is this which will enable ETSI to face the next 25 years with confidence.

Luis Jorge Romero, ETSI Director General

Dirk Weiler, ETSI General Assembly Chairman

ETSI website redesign

ETSI is pleased to announce that its website has been re-launched. You can view it at: www.etsi.org

The design of the website was updated at the end of 2012 and the site was transferred to a new content management system. This new platform will offer greater flexibility, better integration of the latest web technologies now and in future, and faster performance of the website.

The website was redesigned to offer a simple, uncluttered layout and to introduce some new features:

- Much improved search facility
- Improved handling of news and events, offering a back-catalogue of past news and events
- Automatic posting of latest news and upcoming events on the home page
- Full integration of ETSI clusters in the website design
- Visual association of news and events with technologies and clusters
- Ability to select news or events according to ETSI cluster
- Ability to host blogs or other regular postings related to technologies or clusters

Care has been taken to meet accessibility requirements, and to ensure that existing links from other websites to the ETSI website will be redirected to the correct page on the new site.

The content of the website will be systematically reviewed, updated and simplified during the coming year, so please continue to visit the site to see the latest developments, read the latest news and discover upcoming events.

New ETSI meeting rooms opened

Twelve months ago The Standard reported that ETSI was planning a major upgrade to its meeting facilities. We indicated that work would start in spring 2012 and last for about a year. During the past year many regular meetings were relocated outside ETSI buildings work was ongoing.

The entrance hall and reception area have also been updated as part of the improvements

Now, on schedule, ETSI has reopened its meeting rooms since the beginning of 2013, and some of our delegates have already had an opportunity to see the improvements for themselves.

All standards meetings hosted by ETSI will now take place in the main building where the number of available meeting rooms has been doubled. The rooms themselves are designed for maximum flexibility, with variable sized rooms capable of being split or combined depending on requirements.

Audiovisual equipment has been upgraded, with sound systems and microphones installed in each meeting room to facilitate delegates who join by web conference. New lifts, emergency exits, air conditioning and a remodelled reception area all contribute to improved accessibility, security and comfort for delegates.

Each year ETSI Technical Bodies organize some 300-400 meetings at ETSI, with 5000-7000 delegates annually passing through ETSI's doors. It is therefore essential to the work of these delegates that adequate meeting facilities are available at the ETSI Secretariat.

ETSI launches Cloud Standards Coordination

ETSI launches a Cloud Standards Coordination initiative in Cannes on 4-5 December 2012

By 2015, the worldwide market for cloud products and services is estimated to reach between €50bn and €80bn. Already there are numerous cloud services on offer, presenting radical new business opportunities which are both disruptive and beneficial at once.

The European Commission has requested ETSI to identify a detailed map of required standards for Cloud Computing

In order to address the specific challenges of cloud computing, in September 2012 the European Commission released a communication on Cloud computing. This identifies the proliferation of standards and a lack of certainty of which standards to use as some of the key factors holding back the widespread use of cloud computing.

The Commission has requested ETSI to coordinate with stakeholders and identify a detailed map of required standards in areas such as security, interoperability, data portability and reversibility.

In response, ETSI launched its Cloud Standards Coordination initiative at an inaugural workshop on 4-5 December 2012 in Cannes (France) with a number of partner organizations. A series of brainstorming sessions were held, enabling participants to freely discuss cloud standards requirements. The initiative will continue during 2013 with a series of open meetings organized around each major topic under discussion, culminating in the production of a report to the Commission by the year end.

ETSI is uniquely placed to perform this task, with a broad membership of over 750 organizations from Europe and beyond drawn from the telecommunications and IT industries, a global network of partner organizations, and technical committees (Cloud, Electronic Signatures and Infrastructures, Lawful Interception) producing specifications for cloud services.

Please visit http://csc.etsi.org for participation information and more details.

Leading operators create ETSI standards group for network functions virtualization

ETSI Industry Specification Group will develop requirements and architecture for virtualization of various functions of telecoms networks.

Seven of the world's leading telecoms network operators have initiated a new standards group for virtualization of network functions. AT&T, BT, Deutsche Telekom, Orange, Telecom Italia, Telefonica and Verizon have been joined by 52 other network operators, telecoms equipment vendors, IT vendors and technology providers to create the ETSI Industry Specification Group (ISG) for Network Functions Virtualization. The first meeting of this new group took place on 15-17 January 2013 in Sophia Antipolis, France where Dr. Prodip Sen of Verizon Communications was elected to chair the ISG for the first two years, Mr. Uwe Michel of Deutsche Telekom was elected vice-chair for the same period and Mr. Don Clarke of BT was appointed Technical Manager.

Telecoms networks contain an increasing variety of proprietary hardware appliances. To launch a new network service often requires yet another appliance and finding the space and power to accommodate these boxes is becoming increasingly difficult, in addition to the complexity of integrating and deploying these appliances in a network. Moreover, hardware-based appliances rapidly reach end of life: hardware lifecycles are becoming shorter as innovation accelerates, reducing the return on investment of deploying new services and constraining innovation in an increasingly network-centric world.

Virtualization of network functions aims to address these problems by evolving standard IT virtualization technology to consolidate many network equipment types onto industry standard high volume servers, switches and storage. It involves implementing network functions in software that can run on a range of industry standard server hardware, and that can be moved to, or instantiated in, various locations in the network as required, without the need to install new equipment.

This technology could provide significant benefits for network operators and their customers:

- Reduced operator CAPEX and OPEX through reduced equipment costs and reduced power consumption
- Reduced time-to-market to deploy new network services
- Improved return on investment from new services
- Greater flexibility to scale up, scale down or evolve services
- Openness to the virtual appliance market and pure software entrants
- Opportunities to trial and deploy new innovative services at lower risk

The ETSI Industry Specification Group for Network Functions Virtualization (ISG NFV) will develop requirements and architecture specifications for the hardware and software infrastructure required to support these virtualized functions, as well as guidelines for developing network functions. This effort will incorporate existing virtualization technologies and existing standards as appropriate and will coordinate with ongoing work in other standards committees. The first specifications are expected before the end of 2013. ETSI ISG NFV is open to all ETSI Members as well as to non-members of ETSI. A complete list of ISG NFV members is published on the ETSI Portal pages for NFV.

The first NFV specifications are expected before the end of 2013

For information on how to participate, please contact ISGsupport@etsi.org

Industry Specification Groups

The Industry Specification Group (ISG) is a flexible standards mechanism offered by ETSI, which builds upon ETSI's established processes and the professional support provided via the ETSI portal. ISGs find their place alongside the current ETSI "Technical Organization" (Technical Committees and Working Groups) and supplement ETSI's existing standards development process. By their nature, ISGs offer a very quick and easy alternative to the creation of industry fora, and are focused on a very particular activity.

ETSI currently has twelve ISGs in operation:

- Autonomic network engineering for the self-managing Future Internet (AFI)
- Identity and access management for Networks and Services (INS)
- Information Security Indicators (ISI)
- Localisation Industry Standards (LIS)
- Low Throughput Networks (LTN)
- Measurement Ontology for IP traffic (MOI)
- Network Functions Virtualization (NFV)
- Operational energy Efficiency for Users (OEU)
- Open Radio equipment Interface (ORI)
- Open Smart Grid (OSG)
- Quantum Key Distribution (QKD)
- Surface Mount Technique (SMT)

ETSI Future Networks Workshop: 9-11 April 2013

ETSI will host its third workshop on Future Network Technologies in Sophia Antipolis on 9-11 April 2013.

Core network standardization is receiving a new focus at ETSI, with the creation of the E2NA (End-to-End Network Architectures) and NTECH (Network Technologies) Technical Bodies, and the recent establishment of the Industry Specification Group for Network Functions Virtualization, reported on elsewhere in this issue.

This workshop will focus on some of the emerging technologies in this domain, and will be an opportunity to discover the latest work in ETSI's committees. Previous ETSI events on the subject have been popular among the research community, serving to publicize research results among the standardization community.

Full information is available from the ETSI website. The workshop is free and open to all.

Introducing the **Public Safety** Cluster

Whether in the case of a small incident such as a road traffic accident or a major incident such an earthquake or a passenger train crash, communication is a key factor. It is essential that public safety professionals can communicate with each other, but also that they can alert the public or be contacted by them.

ETSI's Public Safety cluster includes all types of communications in cases of an emergency, not only emergency calls. Four scenarios are considered: communications from authorities to the public (e.g. public alert), between authorities, from the public to authorities (e.g. emergency calls), and between the public as well. This cluster also covers different technologies such as mobile, broadcast or broadband, and addresses communications everywhere: on the road, on railways and at sea. The cluster takes into account communication for everybody including those who may need to use non-voice communication in an emergency.

ETSI Emergency Communications (EMTEL) Technical Committee has produced specifications for each of these four scenarios and updates them as necessary, for instance to take into account new regulations or to add new technologies.

The Public Safety cluster involves several ETSI Technical Committees and 3GPP groups that coordinate when necessary. ETSI EMTEL plays a key role in this coordination, with its diverse membership of experts from operators, manufacturers, administrations and public safety organizations.

A good example of this coordination is the Public Warning System (PWS) based on the Cell Broadcast Service, which was defined first in 3GPP based on Japanese and American requirements. Later, ETSI EMTEL developed the European requirements and recently Korea has also asked 3GPP to include their requirements. Therefore the 3GPP standard on PWS specifies a generic system to alert the civilians and now has four regional variants: Japan's Earthquake and Tsunami Warning System (ETWS), the US's Commercial Mobile Alert System (CMAS), Europe's EU-Alert and the Korean Public Alert System (KPAS). Public warning systems are an efficient way of communication from authorities to the public which have proven their usefulness during disasters such as the Japanese earthquake and tsunami in 2011.

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SCOPE
Communication systems and services for public safety

VISION
Mission-critical communications to rely on at all times

Communication between authorities may involve technologies such as TETRA or Digital Mobile Radio (DMR). Even if the main standards have been already defined for these topics in ETSI, maintenance and enhancement are still necessary and are handled in ETSI TC TETRA and TG DRM of ETSI TC ERM, respectively. Satellite based communications are also used for this purpose, and ETSI TC SES is responding to the European Commission's standardization mandate M/496 for the space industry, which contains an element on disaster management.

Communication from the public to authorities is clearly important: it is essential that members of the public must be able to alert emergency services. In addition to normal emergency calls, the ETSI Public Safety cluster provides solutions for road users (such as eCall or Cooperative ITS) and at sea with the Global Maritime Distress and Safety System (GMDSS), an integrated communications system using satellite and terrestrial radio communications.

Emergency calls themselves have had to evolve. In order to be able to give more information to rescue teams (such as an exact location) or to allow people with hearing or speaking disabilities to be able to contact an emergency service, emergency calls now have to cater for more than simply voice. Several ETSI committees in the Public Safety cluster are responding to the EC Mandate M/493 in support of the Location Enhanced Emergency Call Service. They aim to define a single functional architecture to support European requirements on emergency caller location determination. In general the solution should cover a case where a VoIP service provider and one or several network operators - all serving the customer in the establishment of an emergency call - are independent enterprises needing to cooperate to determine the location of the (nomadic) caller.

ETSI's Vision of a Connected World

ETSI's cluster concept aims to provide a simplified, yet comprehensive, introduction to our activities in ICT standardization. Clusters facilitate access to ETSI's diverse work enabling the identification of areas of interest based on business relevance or application domain rather than purely on technical work areas.

Each cluster represents a major component of a global ICT architecture and encapsulates the work of a number of Technical Committees (TCs) and associated Working Groups (WGs) that share a common technological scope and vision.

A Connected World

ETSI EMTEL is defining how to implement Total Conversation on fixed and mobile devices, with the aim to provide the same level of access to emergency services to everybody, in line with the EC's requirements under the Citizens' Rights Directive. Total Conversation is a combination of three media in a conversational call: video, real-time text and audio. Total Conversation services and terminals can be used by people with disabilities who, for example, need video for sign language or real-time text for a text-based conversation or as a complement to a voice conversation.

ETSI TC RRS (Reconfigurable Radio Systems) is investigating if software defined radio and cognitive radio could be useful in the Public Safety and Defense domain. The group has already published three Technical Reports and TC RRS will also coordinate the answer to EC Mandate M/512 on Reconfigurable Radio Systems, which contains a part related to disaster relief.

Finally, ETSI participates in the Global Standards Collaboration (GSC), a dialogue between a number of regional standards bodies for telecoms and ICT. ETSI is coordinating a GSC task force which will deliver a report in May 2013 on the current and planned future public safety standardization in the different regions of the world. This will provide a comprehensive overview of current best practice in public safety communication systems and will assist in inter-regional coordination on the subject, such as has been required in 3GPP.

Unlocking the Potential of Television White Spaces

Radio spectrum is a scarce commodity yet demand is growing. So it is important to make the most of any unused or under-used frequencies available by spectrum-sharing.

Some frequencies which are allocated for broadcasting in the 470-790 MHz frequency band, for example, are not in use all the time at every geographical location. Others, which had been allocated as 'buffers' to prevent interference, are no longer required. Some frequencies have been released by the switch from analogue to digital TV because digital transmissions, unlike analogue, can be 'compressed' into fewer channels without interference.

These unused and under-used areas of spectrum are known as Television White Spaces (TVWS). If they can be used for other radio communication applications when the primary user is not transmitting, they could relieve congestion in other bands, such as, for example, the 2.4 GHz band where Wi Fi, Bluetooth, medical implants and other applications compete for insufficient space.

Devices are being developed which would look for - and lock on to - White Spaces which could be used for broadband wireless access. The European Commission is preparing a standardization mandate for Reconfigurable Radio Systems (RRS), which also addresses TVWS, with the aim of enabling the early introduction of White Space devices into the European market.

In addition, in the UK, for example, voluntary national standards are being developed to facilitate the introduction of licence-exempt TVWS devices and services to the market. But a pan-European, unified approach to the introduction of licence-exempt TVWS technologies is needed.

Standards to support regulations

In anticipation of regulatory changes to allow the introduction of White Space devices, ETSI's committee for Broadband Radio Access Networks (TC BRAN) is already drafting a Harmonized European Standard (EN 301 598) on accessing White Spaces in the 470-790 MHz band. This will cover the spectrum requirements, the operation of a database, and how to use and release White Space spectrum.

ETSI is drafting a Harmonized European Standard (EN 301 598) on accessing White Spaces in the 470-790 MHz band

Standards for the technology to enable the use of White Spaces

ETSI has been working in the White Space area for quite some time. Our RRS committee (TC RRS) has published a Technical Report (TR 102 907) which defines the various use cases for operation in White Spaces Frequency Bands, analyzing the operation of Cognitive Radio Systems (CRS), as well as the methods for protecting the primary/incumbent users (mainly digital terrestrial TV and wireless microphones) from interference. Based on this, we are now focused on the system requirements (TS 102 946, in draft) and the system architecture (TS 102 908, also in draft) for spectrum-sharing and coexistence between multiple cognitive radio networks.

TC RRS is also working on a Technical Report (TR 103 067) which will identify the relevant RF scenarios and RF performances of CRS operating in UHF TVWS, as well as a feasibility study (TR 101 571) into coexistence between CRS operating in TVWS and broadcasting and communication services delivered by existing RF cable networks operating in fixed wires.

3rd ETSI M2M Workshop demonstrates maturity of M2M standards

ETSI's 3rd M2M workshop and interoperability demonstrations, held on 23-25 October 2012, shows that ETSI's M2M specifications are already mature and adopted by industry

For the third successive year, ETSI has gathered the M2M community together at the annual ETSI Machine to Machine Communications Workshop. The 2012 event was held on 23-25 October in the Mandelieu - La Napoule Congress and Exhibition Centre, France, a more spacious venue to accommodate a growing event. With 270 registered delegates from four continents, 25 speakers, thirteen live demonstrations of ETSI M2M standards-based applications involving 28 companies, all wrapped into two days of intense discussion, the workshop was as successful as ever.

The key messages of the workshop were ones of maturity and global take-up. Since their completion earlier in 2012, the ETSI M2M Release 1 specifications have seen widespread adoption. The 28 companies demonstrating at the workshop presented services and solutions based upon ETSI's M2M specifications, interoperating with a mix of technologies specified in other fora and consortia.

Delegates at the workshop heard from the oneM2M Partnership Project, the recently announced standards partnership founded by ETSI and six other standards development organizations across the globe. oneM2M will develop globally agreed-upon end-to-end specifications for M2M, including a service layer platform, security and privacy. ETSI's M2M specifications have been submitted to oneM2M and are expected to be further developed in this group.

The key messages of the 2012 workshop were ones of maturity and global take-up

Presentations and conclusions of the 2012 workshop are available at www.etsi.org/m2mworkshop. Details of the 2013 ETSI M2M workshop are being developed and will be announced soon. ETSI's M2M workshop will continue to be the primary technical conference on the subject and a 'must-attend' event for anyone developing or deploying standards-based M2M solutions.

Delivering Public Safety Communications with LTE

By Ian Sharpe, Netovate

Today there are two separate technology families for providing wide-area wireless communications: commercial cellular networks and dedicated public safety systems. To provide the best service to both communities there is now industry support for greater use of common technology. Work underway in Release 12 of 3GPP LTE standards will enhance LTE to meet public safety application requirements.

Commercial cellular networks have been driven by the needs of consumer and business users. The exceptional success of cellular has led to excellent economies of scale and constant rapid innovation. This environment has produced advanced standards such as LTE that provide multi-megabit per second data rates and multimedia capabilities as well as traditional voice and messaging services.

Public safety networks provide communications for services like police, fire and ambulance. In this realm the requirement has been to develop systems that are highly robust and can address the specific communication needs of emergency services. This has fostered public safety standards - such as TETRA and P25 - that provide for a set of features that were not previously supported in commercial cellular systems. These standards have also been applied to commercial critical communications needs such as airport operations.

Public safety users are an important community both economically and socially but the market for systems based on public safety standards is much smaller than for commercial cellular. Specialized public safety and critical communications technology cannot attract the level of investment and global R&D that goes in to commercial cellular networks. Establishing common technical standards for commercial cellular and public safety offers advantages to both communities:

- the public safety community gets access to the economic and technical advantages generated by the scale of commercial cellular networks, and
- the commercial cellular community gets the opportunity to address parts of the public safety market as well as gaining enhancements to their systems that have interesting applications to consumers and businesses.

A strong standards-based approach will ensure interoperability between different vendors leading to a competitive equipment market.

Global Public Safety Community Aligning Behind LTE

Early leadership in applying LTE to public safety applications came from the USA. The National Public Safety Telecommunications Council (NPSTC) and other organizations recognized the desirability of having an interoperable national standard for a next generation public safety network with broadband capabilities. In June 2009 the NPSTC decided on LTE as their platform for this national network [1]. The USA has reserved spectrum in the 700MHz band for an LTE based public safety network and in early 2012 committed US$7billion in funding [2].

There is now a clear global consensus that LTE will be the baseline technology for next generation broadband public safety networks

After their decision to adopt LTE the NPSTC started an active engagement with the LTE standards community in 3GPP to create the system improvements needed to meet public safety requirements. Throughout this work the NPSTC have expressed a strong desire, which has been welcomed by the commercial cellular community, to implement as many of the public safety requirements as possible in a way that is also attractive for consumer and business applications.

A variety of standards are currently used for public safety communications globally. Outside of North America the leading public safety standard is ETSI's Terrestrial Trunked Radio, TETRA. Enhanced TETRA standards already support medium speed data (hundreds of kilobits per second) but it is recognized that new technology is needed to add true mobile broadband capabilities. The Tetra and Critical Communications Association (TCCA) represents the views of TETRA and other critical communication technology users and manufacturers. In mid 2012 the TCCA said [3]:

"The TETRA and Critical Communications Association (TCCA) has an objective of driving the development of Mobile Broadband solutions for the users of Mission Critical and Business Critical mobile communications. Having reviewed existing technologies the TCCA believes that LTE holds the greatest prospect for delivering such solutions. As a result the TCCA intends to work with 3GPP to include the functionality necessary within the LTE standard to meet that objective."

Technical Features for LTE Public Safety

The technical work to produce enhancements to the LTE standard to support public safety applications is taking place in 3GPP. Cooperation has been established between 3GPP and other groups such as ETSI TC TETRA, TCCA and US National Institute of Standards and Technology (NIST) to ensure broad representation of the public safety community. 3GPP's objective is to preserve the considerable strengths of LTE while also adding features needed for public safety. A further goal is to maximize the technical commonality between commercial and public safety aspects to provide the best and most cost effective solution for both communities.

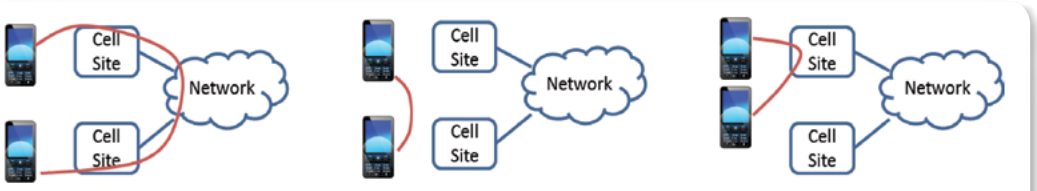
So far, two main areas of 3GPP LTE enhancement have been agreed in 3GPP to address public safety applications:

- Proximity services that identify mobiles in physical proximity and enable optimized communications between them.
- Group call system enablers that support the fundamental requirement for efficient and dynamic group communications operations such as one-to-many calling and dispatcher working.

Associated with these areas will be security features to protect the system from fraudulent users, eavesdropping and other malicious attacks.

Proximity services consists of two main elements: network assisted discovery of users with a desire to communicate who are in close physical proximity and the facilitation of direct communication between such users with, or without, supervision from the network. Direct communication means a radio connection is established between the users' mobiles without transiting via the network. This saves network resources and can also permit public safety communication in areas outside network coverage. Proximity services meet the need for communication among public safety users even if they are not in coverage of the network. In the commercial area proximity services can support features like new modes of social networking, convenient file transfer between devices belonging to the same user and targeted advertising. In the commercial context 3GPP's standards will ensure that use of licensed spectrum is controllable and billable by the network operator.

Public safety users frequently need to communicate in dynamic groups that might involve both mobile users on the scene and fixed users ("dispatchers") working in a control centre. Often these groups operate in a "push to talk" mode. Work on LTE group call system enablers will optimize support in LTE for this mode of operation and provide appropriate group management and floor control facilities. Commercial users of group calling include critical communications applications such as operational teams in transport hubs. Improved support for



Proximity Service Examples

group calling in LTE will expand the opportunity for commercial cellular networks to address this market.

One aspect of group communication still being considered is how much functionality should be "baked in" to the LTE infrastructure and how much should be delivered by non-standardized application servers. The use of application servers will allow different organizations or regions to customize the system operation to their own needs whereas "baked in" solutions may be more efficient and simpler. It is expected that further discussion will take place on how to handle session management for public safety group communication and possible impacts on technology like the IP Multimedia Subsystem (IMS).

Work is still ongoing to identify and prioritize other enhancements needed for LTE. Both commercial cellular and public safety systems need to be able to survive network equipment failures and overload situations but the requirements for public safety are more rigorous. Enhancements that have been suggested include:

- very high degree of network availability and resilience (e.g. against equipment or transmission failures and overload);
- operation with emergency service aircraft (e.g. for helicopters and unmanned aircraft).

3GPP is now in the process of planning and structuring its work to address both public safety and commercial needs.

Developing Standards for LTE Public Safety Applications in 3GPP

3GPP has a successful history of delivering standards that support complicated technology in a way that provides a competitive market with multivendor interoperation. This expertise is being applied to the development of LTE enhancements related to public safety.

Work in 3GPP is structured using work items that define the objectives and roadmap for each technical area. The table below shows the currently approved public safety work items in 3GPP. Further features may be added to provide platform enhancements as discussed already.

Work Item	3GPP Release	Work Item Document Reference
Proximity-based Services Specification (ProSe)	12	SP-120883 [4]
Group Communication System Enablers for LTE (GCSE_LTE)	12	SP-120876 [5]
Public Safety Broadband High Power User Equipment for Band 14 for Region 2	11	RP-120362 [6]

During its work 3GPP is cooperating with several groups representing the public safety community. Cooperation is important to ensure that requirements are fully met. The final technical development and decision making will follow normal 3GPP processes based on member organization inputs brought directly to 3GPP meetings.

The approved system work items ProSe and GCSE_LTE are both targeted for 3GPP Release 12 which is currently in development. 3GPP conducts its technical work in three stages which are described below together with the planned freezing dates for Release 12.

Companies and organizations with an interest are encouraged to participate in 3GPP and to follow the development of the standards

Stage Number	Description	Planned Release 12 Freezing Date (as at January 2013)
1	Requirements	March 2013
2	Architecture and system design	December 2013
3	Protocol development and solution implementation	June 2014

Past experience with 3GPP standards is that commercial systems start to become available between 12 and 24 months after the freezing of the stage 3 standard.

Conclusion

The development of technical standards in 3GPP for LTE based broadband public safety is one part of the broader work that must be undertaken to bring this technology to market. Developing the ecosystem also requires each country and user community to develop the right government policy, commercial environment and spectrum plan. There are multiple possible coexistence and migration scenarios between existing public safety networks and LTE. Planning when, and how, to roll-out LTE public safety in real systems is work that will be undertaken outside 3GPP's technical standards arena.

Standards that match market needs and deliver the right technical capabilities with true interoperability are a critical building block in creating successful national and international communication systems. Over the coming years 3GPP will be working with the commercial cellular and public safety community to develop enhancements to apply LTE to public safety and commercial critical communication scenarios. Companies and organizations with an interest in that process are encouraged to participate in 3GPP and to follow the development.

Starting from LTE Release 12, which is planned for freezing in mid-2014, the LTE standard will provide features including Proximity Services and Group Call Enablers that enable LTE to be used as part of a broadband public safety network. This will provide public safety users with economic benefits from increased use of common off-the-shelf technology (COTS) and technical benefits from improved data rates and multimedia communication. Commercial cellular operators will gain access to new capabilities that can enable new types of consumer and business services as well as being able to play a role in delivering public safety communications. Ultimately the most important benefits will be delivery of an enhanced public safety system which will provide better service to the whole community.

See article continuation and references on the next page.

Delivering Public Safety Communications with LTE Continued

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[6] www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_55/Docs/RP-120362.zip

About 3GPP

The 3rd Generation Partnership Project (3GPP) unites six telecommunications standard development organizations (ARIB, ATIS, CCSA, ETSI, TTA, TTC), known as "Organizational Partners" and provides their members with a stable environment to produce the highly successful Reports and Specifications that define 3GPP technologies. 3GPP standards include GSM, UMTS and LTE and are globally adopted for commercial cellular networks.

About the Author

Iain Sharp is the founder of the independent consultancy company Netovate and has over 20 years of experience in the mobile communications industry. Iain has worked on many of 3GPP's technical innovations including the System Architecture Evolution (SAE) core for LTE and the IP Multimedia Subsystem (IMS). He has also worked on critical communications technology during the development of GSM-R. Iain served two terms as vice-chair of the Core Networks and Terminals plenary committee in 3GPP.

IEEE Standards Association and ETSI renew Memorandum of Understanding

Agreement fosters continued collaboration and increases global visibility and coordination of standards

The IEEE Standards Association (IEEE-SA) and ETSI have renewed their memorandum of understanding (MOU). This agreement continues the long-standing cooperation between IEEE-SA and ETSI, fosters collaboration between the two organizations, and further promotes mutual interests through global standards coordination.

To formally acknowledge the alliance, Luis Jorge Romero, director-general of ETSI, and Konstantinos Karachalios, managing director for IEEE-SA, gathered with members of the Institute for a signing ceremony during the 60th ETSI General Assembly in Mandelieu, France on 13 November 2012. During the ceremony, the two organizations acknowledged the need for IEEE-SA and ETSI to work closely together on coordinated standards to avoid duplicated work and align under a mutually beneficial framework.

> "ETSI is the ideal partner for IEEE-SA's continued progress on expanding cooperation between technical committees with a global reach," said Karachalios. "Sharing information is the key factor here. Collaboration between governing bodies is top of mind. It's all part of our vision for widespread adoption of globally relevant standards and our commitment to work cohesively with standards organizations around the world."
>
> *Konstantinos Karachalios, managing director for IEEE-SA*

> "The framework for coordination between technical groups will greatly benefit industry as it increasingly relies on standards for interoperability," said Romero. "This agreement will allow ETSI representatives to become more knowledgeable about IEEE activities and vice versa, of course."
>
> *Luis Jorge Romero, director-general of ETSI*

ETSI re-appoints General Assembly officials

ETSI members have re-appointed Mr Dirk Weiler as chairman of the ETSI General Assembly for a second term of office. The vice-chairmen, Mr Klaus Tillmann and Mr Kari Marttinen, were also re-appointed to their positions.

At the 60th General Assembly of ETSI, held on 13-14 November 2012 in Mandelieu, France, the members of ETSI have decided to re-appoint Mr Dirk Weiler of Nokia Siemens Networks as chairman of the ETSI General Assembly for a second term of office until November 2014.

At the same time, the two outgoing vice-chairmen of the General Assembly, Mr Kari Marttinen of TeliaSonera and Mr Klaus Tillmann of NORMAPME, have also had their positions renewed for the same period.

The General Assembly is the highest authority of the Institute, It meets twice yearly and is made up of the entire ETSI membership. The chairman and vice chairmen are elected for a two-year term of office and can serve a maximum of two consecutive terms.

Dirk Weiler is Head of Standards Management in Nokia Siemens Networks. He has been a member of the ETSI Board and has served as chairman of the ETSI IPR Special Committee since 2008. Dirk is also the ETSI representative to the European Commission's ICT standardization policy Multi-Stakeholder Platform. In addition to his ETSI roles, Dirk is a member of the German DIN Presidential Committee FOKUS.ICT and Vice Chairman of the German ICT industry association BITKOM Working Group on standardization.

Kari Marttinen is Director of Corporate Standardization Coordination for TeliaSonera, representing TeliaSonera at ETSI, 3GPP and the GSMA. Previously Kari has served as Chairman of the GSM Association and on the GSMA Executive Committee. In TeliaSonera, prior to this in Sonera and Telecom Finland, Kari has held senior management positions responsible for mobile services in Finland and abroad.

Klaus Tillmann is Secretary General of NORMAPME, the European Office of Crafts, Trades and Small and Medium sized Enterprises for Standardization. Elected to this position in 2010, Klaus had previously represented SME interests in standardization and beyond in various German organizations.

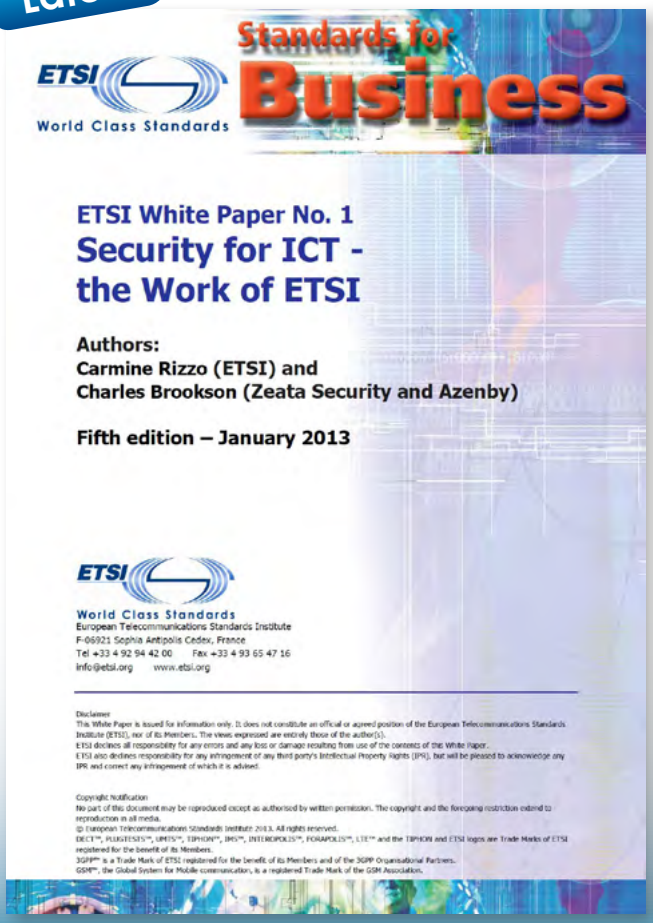
ETSI White Paper Security for ICT - the Work of ETSI

Each year, in time for our annual Security Workshop (held at Sophia Antipolis on 15 and 16 January 2013), we update our popular white paper 'Security for ICT - the Work of ETSI'.

This white paper, authored by Charles Brookson and Carmine Rizzo, provides a comprehensive overview of the current state of work in ETSI in all fields related to security. Fully cross-referenced to all of the security specifications published by ETSI, with hyperlinks to enable direct download of each, the white paper has become an essential reference work for all experts in security standardization.

The white paper can be downloaded for free from the ETSI Website: www.etsi.org/securitywhitepaper

Latest



Meet ETSI & 3GPP at Critical Communications World

ETSI and 3GPP are endorsing Critical Communications World, incorporating TETRA World Congress,taking place from 21-24 May 2013 (21-24 May: Conference, 22-24 May: Exhibition) in Paris. ETSI and 3GPP are actively participating in the event and conference attendees will be given the opportunity to hear presentations from both organizations:

- Adrian Scrase, ETSI Secretariat CTO, will be presenting on 'Developing Critical Communications Standards For Today And Tomorrow' from an ETSI perspective.
- Balazs Bertenyi, chairman of 3GPP SA committee, will deliver an update on 3GPP LTE standards and their features for public safety

Visit the joint ETSI/3GPP booth C503 & C504 to get the latest updates on our standardization activities for public safety.

For more information please visit www.criticalcommunicationsworld.com

Upcoming ETSI event

For more information, please visit http://ucaat.etsi.org/2013/index.html

ETSI EVENTS CALENDAR - What's on?
2013

25-28 February	Mobile World Congress 2013	Barcelona, ES
20-22 March	NFCP Global Summit	London, UK
9-11 April	3rd ETSI Workshop on Future Networks	Sophia Antipolis, FR
23-25 April	IMS World Forum	Barcelona, ES
20-24 May	RFID Plugtests & Workshop	Sao Paulo, BR
21-24 May	Critical Communications World	Paris, FR
22-23 May	Network Security Conference	London, UK
28 May	SMEs and Standardization	Brussels, BE
3-4 June	ETSI Smart City Workshop	Sophia Antipolis, FR
10-14 June 2013 + pretesting 4-6 June 2013	Small Cell LTE Plugfest	Kranj, SI
26-27 June	3rd CDN World Forum	London, UK
12-17 September	IBC 2013	Amsterdam, NL
24-26 September	NFC World Congress 2013	Nice, FR
25 September	Chip-to-Cloud Security Forum	Nice, FR
26 - 27 September	ETSI Quantum Safe Crypto Workshop	Sophia Antipolis, FR
7-8 October	2nd ETSI Workshop on Energy Efficiency	Europe (location tbc)
22-24 October	UCAAT - 1st User Conference on Advanced Automated Testing	Paris, FR

Please visit the events section of our website for further details

Managing Trust in the Smartphone Age is a brand new forum by Informa Telecoms & Media. Taking place on the 21-22 May 2013 in London, the forum is specifically designed to meet challenges faced by operators in maintaining and protecting subscriber data against developing threats in the network. Security and maintaining subscriber trust is a priority for all operators and whilst security challenges continue to grow, the need to understand usage trends and mobility will impact greatly how security services are delivered.

Working in partnership with ETSI, Network Security: Managing Trust in Smartphone Age will offer a unique format for leading security specialists and business leaders to exchange ideas, gain valuable knowledge, and share their real-world risk management experiences. Key topics include: Understanding the Business Case for Network Security, Protecting Your Network in the Future Deployment of LTE, Beating Rogue Applications, Growth in M2M, Protecting Unmonitored Devices and Managing the Increase of Entry Points. Charles Brookson, Chairman ETSI OCG Security and Chairman GSMA Security Group will open the event and chair the first conference day.

For more information please visit:
www.telconetworksecurity.com

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'The Standard' is specifically aimed at providing an information platform for ETSI Members, to include updates on the latest developments, whether within our technical committees or the Secretariat, and enabling ETSI Members to communicate with each other.

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About ETSI ETSI produces globally-applicable standards for Information and Communication Technologies (ICT), including fixed, mobile, radio, converged, aeronautical, broadcast and internet technologies and is officially recognized by the European Union as a European Standards Organization. ETSI is an independent, not-for-profit association with more than 700 member companies and organizations, drawn from over 60 countries across 5 continents worldwide, who determine the work programme and participate directly in its work.

For further information, please visit: www.etsi.org

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