



New Radio Regulations in Europe

On 16 April 2014, the European Union adopted a new set of rules for placing radio equipment on the European market, and putting them into service. There is a two-year time period for EU Member States to adapt their National laws to this new Radio Equipment Directive (RED) (2014/53/EU, published on 22 May 2014), which they will apply from 13 June 2016. The existing Radio & Telecommunications Terminal Equipment Directive (1999/5/EC) will be repealed on that date.

The new Radio Equipment Directive will apply from 13 June 2016

ETSI provides a suite of Harmonized Standards related to this Directive. If a manufacturer chooses to build equipment according to Harmonized Standards he may declare conformity with the essential requirements of the Directive under his sole responsibility. EU Member States are required to presume that such equipment is compliant, and shall not impede equipment from being placed on their market. ETSI Harmonized Standards are a very powerful tool: they unlock access to the EU/EEA market: the biggest unified market in the world.

ETSI has an extensive programme of work to provide the necessary suite of Harmonized Standards in time for the Directive to be introduced smoothly, and enable all players to take full advantage of this new opportunity.

Broadcast receivers are now included within the scope of the new Directive

This Directive comes shortly after the review of the Electromagnetic Compatibility (EMC) Directive (2014/30/EU, replacing 2004/108/EC) and the Low Voltage Directive (LVD) (2014/35/EU, replacing 2006/95/EC), both of which were published in the Official Journal of the European Union on 29 March 2014. All three Directives have been adapted to implement the New Legislative Framework (NLF) (see below). The changes in the Radio Equipment Directive represent a more profound review of the legal framework for radio equipment and telecommunication terminal equipment.

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oneM2M marks significant milestones

oneM2M, the Global Partnership developing standards for Machine-to-Machine (M2M) communications and the Internet-of-Things (IoT), has marked some significant milestones this summer. ETSI is a founding partner in oneM2M which was created a little over two years ago.

New oneM2M Steering Committee

At the end of its second year of operation, oneM2M elected a new Steering Committee. The new leadership team consists of:

- Steering Committee Chair: Fran O'Brien; Cisco, representing TIA (US)
- Vice Chair: Li (Thomas) Li, Huawei Technologies, representing CCSA (China) re-elected
- Vice Chair: Puneet Jain, Intel Corporation, representing ATIS (US)
- Vice Chair: Enrico Scarrone, Telecom Italia, representing ETSI (EU)

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In Case of Emergency...

An ETSI Summit on Critical Communications

The 2014 ETSI Summit will focus on an issue of strategic importance to ETSI: Critical Communications. ETSI has established itself as a leader in the standardization of technologies for critical and emergency communications. However, our work in this field has now entered a new phase and the topic needs to be considered with different perspectives, with experiences gathered from other regions of the world.

Join us on 20 November 2014 to take part in this event and bring your point of view to the debate.

www.etsi.org/etsi-summit

ETSI hosts world's leading ICT standards organizations at 18th Global Standards Collaboration



ETSI was privileged to host the 18th meeting of the Global Standards Collaboration (GSC), a senior-level gathering of the world's leading information and communication technologies (ICT) standards organizations, which took place

on 22 - 23 July 2014. GSC members take it in turn to host meetings, held approximately every 18 months.

GSC enhances co-operation among standards organizations from different regions of the world to facilitate the exchange of information on standards development, build synergies and reduce duplication of work.

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Welcome to the World of Standards



Welcome to another packed issue of The Standard, with a roundup of the latest news and information from ETSI.

The big story in this edition is the publication of the new Radio Equipment Directive by the European Commission. ETSI's Dr. Michael Sharpe will take you through the details and describe how this new directive will impact our standardization work. ETSI has been following

this story for the past two years and therefore this new directive does not come as a surprise. Our ERM technical committee is our centre of expertise on the subject.

You will read about the continued progress in oneM2M, our global partnership project for Machine to Machine Communications and the Internet of Things. We are also making progress on a number of other related initiatives we are undertaking, such as Smart Appliance standardization.

ETSI's Industry Specification Group on Network Functions Virtualisation continues to be in the news. A background article will tell you how NFV and Software Defined Networking (SDN) can complement each other.

ETSI has recently had the pleasure of hosting the 18th Global Standards Collaboration meeting, a get-together of the world's top ICT standards bodies. We explain why this group is important to us and what subjects it is focusing on.

And as usual, we have a large selection of workshops and events planned over the next six months, which you should attend to get more insight into our work. However, please register quickly, as the most popular events fill fast.

I hope that you enjoy this issue,

Luis Jorge Romero, Director General, ETSI

Introducing the Home and Office Cluster



Broadband internet connections have brought a new experience to users. While broadband was once simply about the delivery of high-speed internet access to PCs, it has now become an essential part of our everyday lives; lives which are increasingly connected and assisted by a range of devices and applications, each dependent on broadband.

In the vision of a Connected Home, everything is connected: Smart homes use information appliances and a home network to connect household appliances and smart objects such as temperature, light, humidity sensors and smoke detectors as well as electricity and gas meters to each other and externally. The same applies to the enterprise sector, where web applications and consumer technologies are empowering small businesses with the technology and flexibility which was previously available only to large enterprises. All of these are dependent on a reliable and high-quality broadband internet connection being available.

ETSI's Home and Office cluster combines a number of standardization initiatives focused on providing or accessing broadband internet connections, and spread across a number of ETSI committees:

- ATTM (Access, Terminals, Transmission and Multiplexing)
- BRAN (Broadband Radio Access Network)
- CABLE (Integrated broadband cable telecommunication networks)
- DECT (Digital Enhanced Cordless Telecommunications)
- ERM (EMC and Radio spectrum Matters) [Task Groups: TG11 and TG28]
- SmartM2M (Machine-to-Machine)
- PLT (Power Line Telecommunications)
- STQ (Speech and multimedia Transmission Quality)
- USER Group

Other contributors include 3GPP, the Third Generation Partnership Project.

Our Digital Enhanced Cordless Telecommunications (DECT™) specification is the leading standard around the world for digital cordless telecommunications. We expect to publish a new release of the DECT base standard before the end of 2014.

New Generation DECT introduces advanced features such as high quality wideband (7 kHz) and super-wideband (14 kHz) voice, support of Internet telephony and broadband data connections. It also includes additional

security features and a forthcoming version will include Software Update Over The Air (SUOTA).

We are developing a new application of DECT for Machine-to-Machine (M2M) applications and the Internet of Things, including sensors, alarms, utility meters and industrial automation. Ultra Low Energy (ULE) DECT boasts low power consumption, good QoS and wider coverage than competing technologies. The first phase of DECT ULE, for home automation, has already been published. Work is also in progress to adapt DECT ULE for worldwide use.

Our Access, Terminals, Transmission and Multiplexing committee (TC ATTM) is developing specifications for optical fibre systems to support the global deployment of fibre on customer premises and to enable the development of equipment required by building and in-home services.

Other topics in this field include European requirements and applications for FTTH Very high bit rate Digital Subscriber Line 2 (VDSL2) and reverse power feeding for Fibre to the Distribution Point (FTTdp), whereby the node at the distribution point can be powered from the customer premises equipment.

Our Powerline Telecommunications committee (TC PLT) is focusing on the transportation of video over powerlines to enable the advent of 4K video streaming and video on demand services for Ultra High-Definition Television (UHD TV) and new advances in technology such as High Efficiency Video Coding (HEVC). We will also complete our work on the powerline communication requirements for smart meters, in response to European Commission Mandate 441.

Our Speech and Multimedia Transmission Quality committee (TC STQ) is working on a long-term project on terminals using super-wideband (bandwidth up to 14 kHz) and full-band terminals for conversational services for teleconferences and audio-visual applications. To improve listening quality for users with hearing difficulties we are also developing a TS on transmission quality and speech intelligibility for people with hearing impairments.

Our End-to-End Network Architectures Project (EP E2NA) expects to complete a report during 2014 which will analyse solutions for interoperable multimedia customer premises equipment for Conditional Access (CA)/Digital Rights Management (DRM). This will be suitable for multimedia platforms (broadcast, broadband or hybrid) and for the

content and services delivered over them. Our new Industry Specification Group on Embedded Common Interface for exchangeable CA/DRM solutions (ISG ECI) is working on content protection, specifically a software embedded Common Interface for CA- and DRM-solutions.

In our Cable technical committee, we are standardizing next generation broadband cable technologies, addressing the increasing demand on data rates and the sophistication of the service portfolio including the transition to IPv6. Other work includes specifications for the Data over Cable Service Interface Specification (DOCSIS) 3.1 to support the next generation of broadband cable modem technology. This will enable cable broadband customers to achieve data rates up to 10 Gbit/s downstream and 1 Gbit/s upstream.

Smart appliances - products such as white goods, heating, ventilation and air conditioning systems, which are able to communicate directly with the utility operator - are part of larger energy management systems and can contribute to the more efficient and productive use of electricity. Our

3GPP News: LTE in unlicensed spectrum

A workshop, hosted by ETSI on 13 June, to share ideas on LTE in unlicensed spectrum has been described as a "fruitful contribution to the start of work in the project" as it is increasingly seen by cellular operators as an important complement to meet the future traffic demand.

In his summing up Dino Flore, Workshop & 3GPP TSG-RAN Chairman, looked at the main deployment options and requirements emerging from the discussion, calling for interested companies to work offline on a 3GPP Study Item proposal that will define the scope of the technical work, which will be discussed in the regular 3GPP approval process from the next meeting in September 2014.

Some major observations:

- Early focus to be on unlicensed operation in 5 GHz. However, the core technology should be as frequency agnostic as possible.
- While different regional requirements emerged from the discussion, most of the companies prefer 3GPP to focus on the standardization of a global solution that can work across regions.
- Strong interest to study both indoor and outdoor deployments.
- Initial focus will likely be on Licensed-Assisted Carrier Aggregation operation to aggregate a primary cell, using licensed spectrum, to deliver critical information and guaranteed Quality of Service, and a co-located secondary cell, using unlicensed spectrum, to opportunistically boost data-rate.

Two available options:

1. Secondary cell on unlicensed spectrum used for supplemental downlink capacity only
2. Secondary cell on unlicensed spectrum used for both supplemental downlink and uplink capacity.

Many companies propose to start working on (1) and then follow with (2)

- Fair coexistence between LTE and other technologies such as WiFi as well as between LTE operators is seen necessary.

Dino Flore noted; *"Initial results suggest that, when augmented with the appropriate coexistence mechanisms to operate in unlicensed spectrum, e.g. Listen-Before-Talk, LTE can effectively coexist with Wifi and outperform it in terms of spectral efficiency"*

The workshop presentations are available to download at http://www.3gpp.org/news-events/3gpp-news/1603-lte_in_unlicensed

SmartM2M committee is addressing the interface between the service and the application layers in smart appliance communications.

Our ERM committee is updating our ENs for short range devices (SRDs) to accommodate the anticipated further rapid expansion of the use of SRDs, and developing a Harmonized Standard for network-based SRDs in the 870 - 876 MHz frequency range which will have applications in smart metering, smart grids and smart cities.

We will also complete a new report on wireless power transmission systems below 30 MHz to identify technical requirements and possible interference with existing SRDs.

SCOPE
Connecting devices
for home, SOHO and SME
Environments

VISION
Safer, better connected and
manageable home / SME
environments

ETSI discusses standards for mobile payments with banking and payments industry

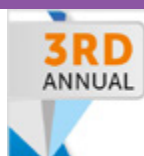
ETSI's m-Payment workshop, co-organized with the European Commission on 1-2 July 2014 in Sophia Antipolis, attracted a wide audience of key stakeholders coming from the world of electronic payments.

Participants and speakers included representatives from the European Central Bank, the European Payment Council, central and commercial banks, electronic or card payment systems, consumer organizations, other standards bodies, smart card manufacturers and other players in e-commerce. The European Commission was represented by the four directorates general, DG Connect, DG Enterprise, DG Market and DG Competition.

"This workshop was timely, effective and stakeholders made very good contributions over the two days", said Antonio Conte, DG Enterprise and Industry of the European Commission. "European standardization is expected to play a major role in the creation of the right conditions for the future deployment of m-payments in Europe."

At the end of 2014, the number of mobile connected devices will exceed the number of people on earth. With regards to the security of mobile payments, the multiplicity of technical solutions adds to market fragmentation, to the complexity of the cost of rolling out and running a service. This ultimately constitutes a barrier to market uptake and all players, whatever their strategies and positions in the value chain, share a common interest to overcome these constraints.

Meet ETSI at SDN & Virtualization Summit, 15-17 September in Nice.
Come and visit us at our information booth!
<http://sdnconference.com>



15-17 September 2014
Acropolis Convention Centre,
Nice, France



How NFV changes the business of telecoms

It is hard to ignore the current shift in thinking on how telecoms operators will plan, build and operate the networks of tomorrow. The industry is seeing a radical change in network design from the traditional collections of proprietary hardware boxes, to a more dynamic collection of software components running on commercial, off-the-shelf hardware. Software Defined Networking (SDN) and Network Functions Virtualisation (NFV) are the enabling technologies for this. They are two complimentary concepts that have been promoted by both the IT and the telecoms industries.

Now as the pace increases, and we start to see announcements of the first commercial products coming to market, what about the standards? With service providers planning the roll-out of NFV enabled services, the questions of reliability, scalability and interoperability are coming to the fore.

Motivators

The dominant type of traffic carried by telecoms networks has changed in a short space of time from simple voice connections to massive amounts of data generated by video streaming services and by connecting the applications running on billions of smart phones. This is pushing network operators to drastically rethink their network architectures. Adapting to these new traffic demands isn't simply a question of provisioning a bigger pipe, it will require an expansion and re-conception of the infrastructure and a complete re-think on how new networks will be provisioned and managed in order to meet new traffic needs.

Network technologies have evolved along the years. Though in the beginning each specific function in the network required specific, tailor made hardware and software, in today's IP world all network functions can be decomposed into three basic actions: process, storage and switching. This means that providing these three basic elements through commercial off-the-shelf (COTS) hardware, on which a more dynamic collection of software components can run, will enable the building of any functionality a network operator might require.

In principle, using COTS hardware and building applications on top of it will reduce the dependency on expensive proprietary hardware platforms, which in turn should result in a clear reduction of CAPEX and OPEX. However as the business models and potential markets begin to take form, the more subtle benefits of 'network agility' and 'new service deployment' are now being promoted as the real motivations for operators to make the leap of faith in NFV and SDN.

In traditional networks, the provisioning of business services can take many weeks or months. Add to that the need for new supporting infrastructure, development time and integration testing, and the real delay before a service is delivered can reach 6 months to a year. By applying a more dynamic approach enabled by NFV and SDN, operators can reduce deployment times, creating new services using software integration techniques, then validating and deploying to the customer much faster.

Technology Overview

Network Virtualisation, Network Functions Virtualisation and Software Defined Networking, are complementary concepts that offer new ways to design, deploy and manage telecoms networks and business services.

Network Virtualisation

Network virtualisation is used to create tunnels or overlays of network infrastructure that separate the logical topology from the physical topology. Network Virtualisation relates to the consolidation of multiple physical networks into one virtual network or indeed the logical segmentation of a single physical network into multiple logical networks, each with defined minimum quality of service levels. Partitions may be dynamically added in order to rapidly dimension the network in response to changing business needs.

Software Defined Networking (SDN)

SDN simplifies network operations by separating the control plane from the data plane. The control function is 'abstracted' (moved) to a software based controller which communicates with the underlying network elements via standardised data plane abstraction protocols (such as OpenFlow) and/or clearly defined APIs.

Network Functions Virtualisation (NFV)

NFV evolves the IT network virtualisation technologies to consolidate many network equipment types onto industry standard high volume servers, switches and storage. NFV involves implementing traditional network functions as software that can run on industry standard server hardware, and that can be deployed to various locations in the network as required without the need to install new proprietary equipment. Examples of such proprietary hardware includes routers, firewalls, deep packet inspection devices, content delivery network appliances, network address translators, session border controllers, mobile base station controllers, to name but a few.

NFV with SDN

Network Functions Virtualisation and Software Defined Networking are highly complementary technologies, not dependent on each other. NFV can be implemented without an SDN being required and vice-versa, although the two concepts and solutions can be combined and greater value potentially achieved.

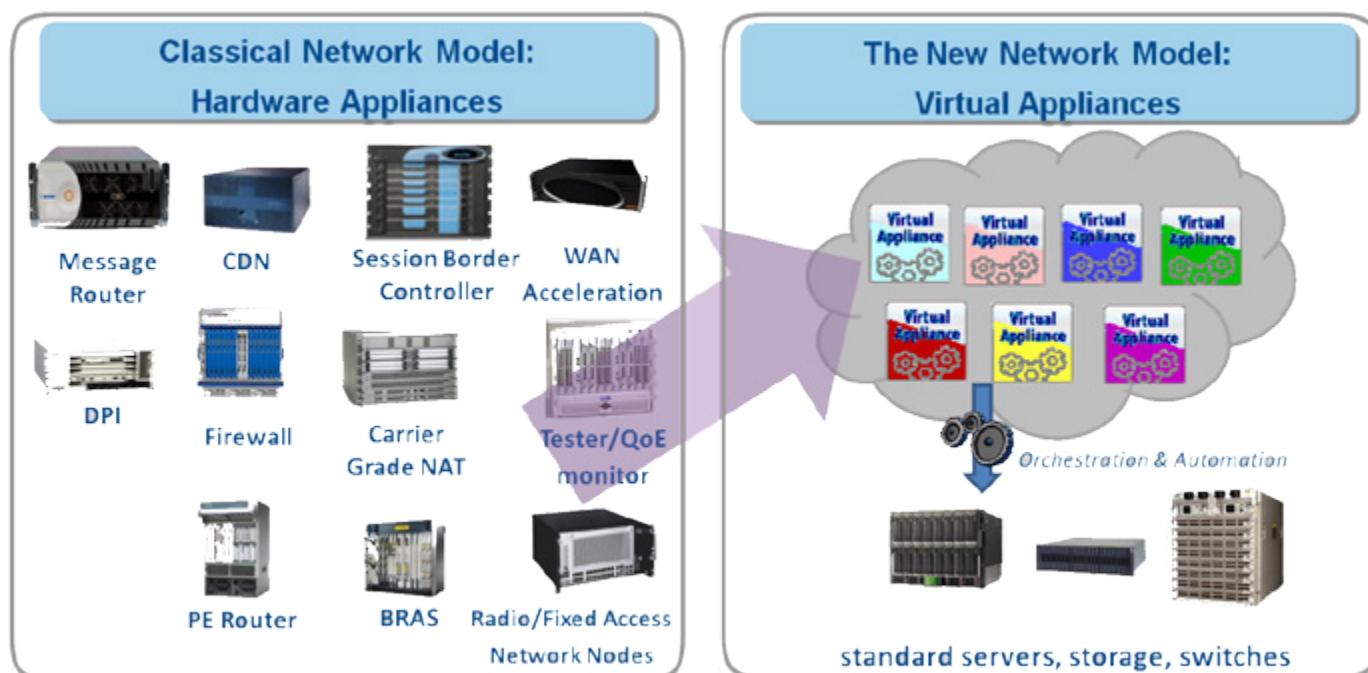
Both technologies aim to reduce equipment costs and decrease time to market while increasing the agility of the network to respond to dynamic requirements.

The goals of NFV can be achieved using non-SDN mechanisms, relying on the techniques currently in use in many datacentres. But approaches relying on SDN can enhance performance, simplify compatibility with existing deployments, and facilitate operation and maintenance procedures.

NFV can bring value to SDN deployments by providing the infrastructure upon which the SDN software can be run. Furthermore, NFV aligns closely with the SDN objectives to use commodity servers and switches.

Industry convergence

While network operators have been investigating the possibility of running network-type workflows on standard industry servers for a number of



years, only recently has the industry converged to develop a common framework on which operators, hardware and software suppliers could begin to develop, build and implement NFV.

13 Tier-1 network operators from around the globe issued a call for action to the industry in the form of their first White Paper on NFV, in October 2012. The operators firmly believed that NFV would increase network performance and capabilities more cost-effectively than before, and they stated their commitment to this approach.

And the Standards?

A few months after the publication of this first White Paper, the same group of operators led the creation of a new ETSI Industry Specification Group (ISG) on Network Functions Virtualisation. This group, open to all, was set up to develop requirements and architecture specifications for the hardware and software infrastructure required to support virtualised functions, as well as to provide guidelines for developing virtualised network functions. The group will incorporate existing virtualisation technologies and standards and to co-ordinate with other standards committees.

Today membership of the NFV ISG has rapidly expanded to over 215 member organisations, 34 of which are network operators. While 88 of these organisations are members of ETSI, the other 127 organisations are not but nevertheless ETSI grants them access to the NFV group as 'participating' organisations.

Although the group has been in existence for only 20 months, the result of their work has already greatly influenced the NFV landscape and the publication of the first five NFV specifications in October 2013 has provided other standards bodies with a roadmap for NFV related work.

The five published documents (available at www.etsi.org/nfv) include four ETSI Group Specifications covering NFV use cases, requirements, the architectural framework and terminology. The fifth Group Specification defines a framework for co-ordinating and promoting Proof of Concept platforms illustrating key aspects of NFV.

There is now an ambitious programme to ensure the completion of the remaining work. It is expected that the 16 specifications still pending will all be published before the end of the year.

The activity around the Proof of Concept demonstrations is equally important, as it helps to build industrial awareness and confidence in NFV as a viable technology, as well as developing a diverse and open NFV ecosystem. The NFV ISG Proofs of Concept are based upon agreed NFV ISG use cases and address the technical challenges and approaches being progressed by the NFV ISG.

To date, 21 multi-vendor Proofs of Concept have been demonstrated, covering almost 95% of the agreed NFV use cases.

Industry wide cooperation

Since its creation the NFV ISG has actively cooperated with a number of standards bodies and industry fora. In addition to the more traditional standards bodies, the NFV ISG's work also embraces the open source community. The ISG has recognised that open source communities will be relevant to the NFV space, for instance OpenStack, Apache CloudStack and the Linux Foundation's OpenDaylight software-defined networking project. Recently ETSI has signed a cooperation agreement with the Open Networking Foundation (ONF) in an effort to align the standards work of SDN and NFV, and bring the results to a wider community.

Next steps

Now that the NFV ISG is moving into the next phase of standards development, the requirements for the work are becoming well defined. Industry is now looking for standards that move beyond simply developing the NFV concept, and are enablers to the deployment of NFV based services in the network.

For the development of such standards, the industry is once again looking to ETSI to consolidate the work done to date and build upon the community already present in the NFV ISG. Maintaining the critical mass, the momentum of standards development and the clear focus on industry needs are key to the success of the NFV ISG's work.

We are witnessing a radical change in the way networks will be planned, built, operated and maintained. This will enable new business models and opportunities, not just for the benefit of network operators or consumers, but for the entire ICT sector and this will further open the doors to easier cross sector cooperation. It is in our hands to make a success of it. ETSI is absolutely committed to this, and to working in close cooperation with every interested stakeholder.

Luis Jorge Romero, Director General, ETSI

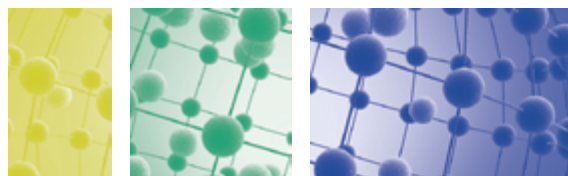
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5th FOKUS FUSEKO Forum



5TH FOKUS FUSECO FORUM ON THE FUTURE SEAMLESS COMMUNICATION:

NOVEMBER 13 & 14, 2014 IN BERLIN, GERMANY

ETSI is pleased to once again support the FOKUS FUSECO Forum. This 5th edition will focus on 'ICT Platforms for Flexible and Innovative Ecosystem Enablement within Smart Cities and beyond'. ETSI is actively shaping the conference programme. Giulio Maggiore, Chairman of ETSI TC INT, will speak about ETSI's ongoing standardization activities in this area.

For more information, please visit www.fokus.fraunhofer.de/en/fokus_events/ngni/fuseco_forum_2014/index.html

New Radio Regulations in Europe - continued (from page 1)

The previous (R&TTE) Directive aimed to encourage innovation. It regulated a market in the EU27 countries estimated at around 50 billion Euros. It removed the previous requirement for type approval, under which manufacturers had to have equipment tested and certified in each European country before it could be sold. 1999/5/EC allowed the manufacturer to declare conformity on his own responsibility, and relied on the National Authorities to check that equipment on sale was really compliant (move from “ex-ante” to “ex-post” control). In addition, it reduced the technical requirements to the minimum: seeking to rely on market forces where possible. As an example, when terminals were no longer required to demonstrate that they could not harm the network, it became in the interest of network operators to take necessary steps to protect the network - without the need for regulatory intervention.

The overall regulatory approach was judged to be successful, requiring little fundamental change. Some adjustments were considered necessary in order to improve the level of compliance, to clarify the scope and introduce specific requirements for certain sectors.

Increased scope of the Radio Equipment Directive

Broadcast receivers are now included within the scope of the new Directive

The 1999 R&TTE Directive was focussed on the avoidance of harmful interference to other services. It had been expected that market forces would be sufficient to ensure that receivers would take sufficient steps to protect themselves from others. Experience showed that, as demands on spectrum use have increased, the reception qualities of receivers have become an increasingly important factor in

ensuring as efficient use of the spectrum as possible in order to allow new services to be introduced. This new Directive therefore includes specific requirements on the resilience of receivers against interference from nearby frequency bands.

Since 1961, terrestrial broadcasting had been offered exclusive use of frequency bands and EMC requirements had been set in order to protect them. The previous Directive specifically excluded broadcast receivers from its scope. As demands for spectrum have increased, and alternative mechanisms for delivery for audiovisual media services have come available, there was no longer a justification for terrestrial broadcast receivers to be treated as a special case. Broadcast receivers are now included within the scope of the new Directive.

As position-fixing information is increasingly being carried over communication systems, and additional information is encoded into transponders in order to be carried with a radar signal, it has become progressively less easy and less useful to distinguish the two services. As a result, the scope of the Directive has also been clarified to explicitly include radio determination equipment (i.e. radar).

Equipment which uses radio waves, but only for purposes other than communications or radio determination, is not covered by this Directive. Also specifically excluded is equipment exclusively for use by public security, defence or radio amateurs.

Equipment covered by specific International Conventions on shipping and aircraft are also excluded. Examples of excluded equipment are domestic microwave ovens, RF welding equipment, induction hobs for cooking etc. The Commission has the power to clarify any grey areas around the scope via an “implementing act” after examination by a committee of Member States.

In summary, the new Radio Equipment Directive now covers all equipment which can either transmit or receive radio signals, either for communications or radio determination purposes, with a very few specific exceptions. The

LVD and EMC Directives no longer apply to such equipment: conformity assessment is carried out uniquely under the RED. This gives the Directive a very broad scope including, for example, any equipment which includes a GPS receiver, a Bluetooth radio, Near-Field Communications...

Requirements to be added as necessary

In addition to the basic essential requirements on safety, EMC and use of radio spectrum, the Commission has delegated authority to define specific classes of equipment which will be required to meet additional requirements. A similar mechanism existed under 1999/5/EC, which the Commission used to require certain emergency beacons to be able to communicate with the emergency services.

In particular, the Commission is expected to define a class of equipment that has to work with accessories such as a common charger, and to interwork with satellite navigation systems to provide position information associated to an emergency call.

Software elements are becoming an increasingly common feature of radio equipment, in some cases the software is supplied by organizations other than the radio manufacturer. Where this affects compliance with the essential requirements, the Commission can invoke article 3(3)(g) to ensure that radio equipment can only upload software if the compliance of the combination of the software and the radio equipment has been demonstrated.

What about non-compliant equipment?

One of the principal objectives of the Directive was to improve the level of compliance. As part of this, the Radio Equipment Directive, like the EMC Directive and Low-Voltage Directive, is aligned with the New Legislative Framework (NLF).

While market surveillance is still carried out at National level, the RED contains specific provisions to strengthen the powers of market surveillance authorities. In particular it creates a “Union safeguard procedure” ensuring that when a Member State takes a justified enforcement action against non-compliant equipment, similar action is also taken by other Member States, ensuring that non-compliant equipment is not permitted to circulate.

In cases where the Commission identifies a class of equipment affected by a low-level of compliance, the Commission may develop a database allowing manufacturers to register compliant equipment. Manufacturers would be required to fix the registration mark to the equipment to enable such equipment to be tracked more easily by market surveillance authorities.

In addition a further requirement may be invoked to require a radio equipment to be constructed so that it can only load software that would allow its continuing compliance to be ensured.

The Commission may also develop measures to combat the cumulative interference effect of a large population of devices, for example, by putting limitations on the number of devices in circulation as a condition for the availability of a harmonized frequency band.

What about wired terminal equipment?

One of the objectives of 1999/5/EC was to reinforce a horizontal market for wired terminal equipment. This is now achieved by other legislation. The requirements for placing the equipment on the market are now the same as for any other electrical/electronic product: they are covered by the Low Voltage Directive and the EMC Directive. The requirements to provide access to termination points of public networks and to publish specifications of interfaces have now been taken over by Directive 2008/63/EC on competition in the markets for telecommunication terminal equipment.

What about the use of the radio spectrum?

Like the R&TTE Directive before it, the new RED does not attempt to harmonize the use of radio spectrum. This is done as part of a wider framework, which includes the European Conference of Post & Telecommunications Administrations (CEPT) and the European Commission.

While equipment which is compliant to the RED can be placed on the market within the Union, individual Member States retain the power to restrict equipment to be used on their territory for reasons related to efficient and effective use of the radio spectrum, avoidance of harmful interference, avoidance of electromagnetic disturbances or public health. Any such restrictions have to be notified to the Commission.

The new Radio Equipment Directive now covers all equipment which can either transmit or receive radio signals. The LVD and EMC Directives no longer apply

Where a European policy is at stake, the Commission can adopt a spectrum harmonization measure which is binding upon the EU (and EEA) member states. The technical work is carried out under mandate by the CEPT. The Commission develops a binding spectrum measure (a Commission Implementing Decision) on the basis of the CEPT report. The CEPT usually adopts a similar measure as a Decision of its Electronic Communication Committee, which is offered for adoption on a voluntary basis by the non-EU members of CEPT. Once a Harmonized Standard and a binding spectrum measure are in place, a manufacturer has legal certainty that his equipment can be sold and used in all countries of the EEA.

In many cases, no Member State has made any restriction so the equipment may be used freely throughout the Union. The Commission establishes equipment classes to identify equipment which de facto can be used without restriction, even though there is no binding measure in place.

Member States publish information on the use of the spectrum in their territory via the European Frequency Information System (EFIS): www.efis.dk. Where frequency bands are not harmonized, manufacturers can now interrogate the EFIS to see in which parts of the Union their equipment can be used, and so are no longer required to inform Member States four weeks before placing equipment onto their markets.

In addition to developing Harmonized Standards to enable equipment to be placed on the market, ETSI has a long-standing Memorandum of Understanding with the CEPT to ensure that CEPT Harmonization measures and ETSI Harmonized Standards are coherent in subject matter and in timing. Generally, when an ETSI Technical Committee starts work on a Harmonized Standard, it will also develop a "System Reference Document" which defines its spectrum needs. The CEPT Electronic Communications Committee (CEPT/ECC) studies compatibility and develops conditions under which spectrum can be shared with other users. ETSI uses the results of these CEPT studies in developing technical requirements in Harmonized Standards, ensuring that radio equipment uses the spectrum efficiently and effectively.



Co-operation with external bodies

In carrying out its work, ETSI will continue to cooperate with a number of organizations, including CEPT/ECC, the European Commission (including the units responsible for the RED and the Radio Spectrum Decision) and partner standards bodies (in particular CENELEC, to ensure coherence of EMC requirements for non-radio equipment with the developing use of radio). ETSI will also need to maintain close co-operation with Notified Bodies, Market Surveillance Authorities and the Radio Spectrum Policy Group to maintain the relevance of its standardization work programme in the long-term.

ETSI's work programme

ETSI currently has over 220 Harmonized Standards cited in the Official Journal providing presumption of conformity with the R&TTE Directive. These will need to be reviewed in the light of the new legislation. In many cases requirements on receivers will need to be added.

The R&TTE Directive also included a requirement (Annex III) for manufacturers of radio equipment to carry out "essential radio test suites" specified in Harmonized Standards (or by Notified Bodies) before

placing equipment on the market, and to hold the test results available for inspection by market surveillance authorities. This requirement is not present in the new Directive, there will be no need for the Harmonized Standards to designate certain test suites as "essential", although test methods will still need to be defined as part of the usual specification of requirements.

ETSI is also informed that a number of mandates are under preparation in the Commission to address the standardization work programme.

ETSI currently has over 220 Harmonized Standards cited in the Official Journal

ETSI has also developed supporting documentation which will need to be evaluated in the light of the new Directive. In particular, EG 201 399, the Guide to developing Harmonized Standards, is currently under revision. TR 102 070: "Guide to the application of harmonized standards to multi-radio and combined radio and non-radio equipment", should probably also be reviewed.

Time scale

The new Radio Equipment Directive will be applied in all Member States by 13 June 2016. Radio equipment which was compliant to the RTTE Directive before that date may still be placed on the market until 17 June 2017.

Opportunities for ETSI Members

ETSI Members, working in Technical Committees, work together by consensus to specify the technical requirements for market access by drafting Harmonized Standards. In addition, they also draft System Reference Documents which describe the spectrum needs for standardized radio systems and which form the basis for spectrum-sharing studies in CEPT. ETSI Members may also participate in those studies.

As an Institute, ETSI attends the CEPT/ECC and certain key meetings of the European Commission (including the Member States' meetings under the R&TTE Directive, the RED and the Radio Spectrum Decision). ETSI Members are invited to brief the representatives via regular conference calls advertised on the Radio Briefing e-mail list (RADIO_BRIEFING@list.etsi.org).

By Dr. Michael Sharpe, Director of Spectrum and Equipment Regulation, ETSI Secretariat

2nd Carrier Network Virtualization event

2ND ANNUAL

CARRIER NETWORK VIRTUALIZATION

9-11 December 2014, Palo Alto, California,

Profiting from the Commercial and Strategic Advantages of SDN and NFV

FREE FOR CARRIERS

Meet ETSI at the 2nd
Carrier Network Virtualization event
9-11 December 2014, Palo Alto, California, USA.

oneM2M marks significant milestones - continued (from page 1)



The outgoing leadership team consisted of: Steering Committee Chair Luis Jorge Romero, (ETSI), re-elected Vice Chair Thomas Li, Huawei Technologies (CCSA), and former Vice Chairs David Foote, Hitachi (ATIS) and Giuseppe Surace, Telit (TIA).

As part of oneM2M's outreach to the M2M/IoT industry, the oneM2M Partners welcomed the addition of the New Generation M2M Consortium (Japan), [<http://ngm2m.jp>] as a new partner, joining ARIB (Japan), ATIS (America), CCSA (China), ETSI (Europe), TIA (America), TTA (Korea), and TTC (Japan), as well as the BBF (Broadband Forum), Continua, HGI (Home Gateway Initiative), and the OMA (Open Mobile Alliance) as oneM2M partner organizations.

Industry relations were further enhanced by the participation of representatives from several key standards groups, including: the IEEE Standards Association, represented by Bruce Kraemer - President-Elect; the Telecommunications Standards Development Society, India (TSDSI), represented by Asok Chatterjee - Executive Director; and by CEN CENELEC, represented by Alberto Simeoni - CEN CENELEC Management Centre.

Candidate Release specifications opened for public comment

The following week, at its 12th Technical Plenary hosted by ETSI, oneM2M announced that its initial Candidate Release of Technical Specifications is now available for public comment.

oneM2M is looking forward to receiving industry input on these foundation specifications for an M2M Service Layer which will enable scalable global deployment of M2M/IoT implementations and which aims at interoperability with existing standards.

The Candidate Release documents are available for public download from oneM2M at: www.onem2m.org/candidate_release

oneM2M is working to ensure broad cross-industry segment applicability of the Service Layer specifications, and invites interested parties to review the Candidate Release documents and provide comments which will be reviewed and considered for inclusion in the initial Release by oneM2M.

With the public comment phase scheduled to end 1 November 2014 the updated initial Release of oneM2M specifications will be approved by the oneM2M Technical Plenary in January 2015 for publication by the oneM2M Partner standards development organizations.

oneM2M Showcase, 9 December 2014

oneM2M is organizing a Showcase event at the ETSI M2M Workshop in December this year. The first day of the workshop, 9 December, will be dedicated to presenting the activities of oneM2M and highlighting the features and functionality contained in this first candidate release. Further details of this important event, which is free and open to all, can be found on the ETSI website.

Running 3GPP

In June, delegates to the 64th 3GPP Plenary meetings participated in charity runs through beautiful parkland around the ETSI site in Sophia Antipolis.



Runners and supporters donated funds to the "A chacun son Everest" charity (www.achacunsoneverest.com), a French Association helping children with life threatening illnesses to reach their own personal summit - raising a total of 6000 euros.

A cheque was presented to the Charity, during a small ceremony on the evening of June 17. Brigitte Isnart of "A chacun son Everest" thanked 3GPP delegates and ETSI supporters for a wonderful gift, talking about the symbolism of 'Everest', she told the runners and helpers:



treatments of the 1980s the next most important thing is to give these children and teenagers a pathway back towards life, by actions, words and

"The parallel between the summit and the healing seems obvious, the summit is a symbol, a means, to gain back self-confidence... The doctors unanimously agree that after the advances of medical



support. Thank you all for having participated in our noble cause. Thank you for your energy and your generosity."

Since 1994 this charity has helped 3532 children, provided 263 residential courses, and subsidized 23 hospitals in their support of children with cancer and leukemia.

The 3GPP Plenary meetings - consisting of the quarterly RAN, CT and SA Technical Specification Group meetings - were held between the 9th and 18th June, making use of the newly re-furbished and extended main amphitheatre of ETSI.

ETSI Human Factors workshop highlights opportunities to improve accessibility of services

ETSI's recent workshop on Human factors in Information and Communication Technology that took place in Sophia Antipolis, France on 3-4 June, identified opportunities to improve the accessibility of ICT products and services, through further standardization and cooperation with all parties who are working on improving human factors in ICT.

ETSI has already achieved a major milestone with the publication in February this year of the first European Standard for accessible ICT (EN 301 549), intended to ensure that publicly procured websites, software and digital devices are more accessible to persons with the widest range of abilities.

With the growing complexity of telecommunication services and connected smart devices, it becomes increasingly important to take the human element into account when designing these services. Technology will embrace an increasingly connected world with the widespread deployment and use of smart and sustainable cities offering community

services delivered over ICT, telemedicine, intelligent transport systems, and mobile payments. The user experience and accessibility of these services will be key to their success. The increased power of smart devices offers challenges and opportunities when providing innovative services to users of all abilities. ETSI is already active in these fields and ETSI's Human Factors Technical Committee will work with other ETSI technical committees and other contributors to go further and develop inclusive standards for all.

Topics addressed during the conference included developing access interfaces to services for users with cognitive impairments and people with low or no literacy (still an issue in Europe), ICT for an ageing population and speech intelligibility in mobile networks. The topic of Human factors in ICT comprises a broad scope of activities and a balance must be found between all stakeholders' needs to achieve the best implementation of eAccessibility standards.

ETSI to develop European Standards for Cybersecurity

ETSI has opened a new technical committee on Cybersecurity to address the growing demands for standards in this field.

Today the Internet has become a critical infrastructure for a population of digital natives who live fully connected lives. Companies transact vast volumes of business over the Internet and much communication, public or private, has gone digital. The security of this infrastructure and the communications and business it carries is a concern for all organizations and citizens. As we have grown dependent on networked digital systems, the variety and quantity of cyber-threats has rapidly increased. Traditional IT security threats have expanded into new sources of threat such as social media, Cloud, new mobile devices or 'bring your own device' (BYOD) policies.

"Secure networks and services are essential for a strong European internal market, for the protection of citizens and their data, and to fully unlock the business potential of an internet of things, says Luis Jorge Romero, ETSI's Director General. Our newly created technical committee aims to produce strong, interoperable, trustworthy and transparent standards for a secure digital market."

As there are different methods governing secure transactions in the various EU Member States, it is not always easy to assess the respective risks and to make the right choices to ensure security. The Cybersecurity technical committee (TC CYBER) will work closely with relevant stakeholders within and outside ETSI to collect, identify and specify requirements and thus develop appropriate standards to increase the privacy and security of organizations and citizens across Europe.

The activities of TC CYBER include the development of standards in the following areas:

- Cybersecurity
- Security of infrastructures, devices, services and protocols
- Security advice, guidance and operational security requirements to users, manufacturers and network and infrastructure operators
- Security tools and techniques to ensure security
- Creation of security specifications and alignment with work done in other ETSI committees

ETSI is already at the forefront of ICT security standardization. Security is an integral part of all communication systems standardized by ETSI. ETSI has standardized a method of Threat, Vulnerability and Risk Analysis (TVRA) for use by its technical committees, as well as a method of applying the Common Criteria. In addition the Security Algorithms Group of Experts develops security and encryption algorithms for use in ETSI standardized technologies, the Smart Card Platform committee develops standards used to secure mobile communications and networks using the SIM card, and an ETSI Industry Specification Group is establishing Information Security Indicators for use by industry.

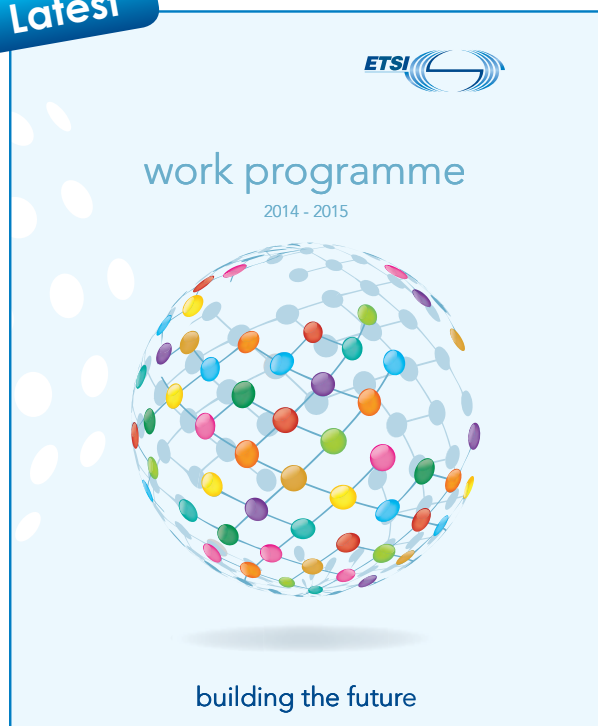
The newly-created TC CYBER will act as the ETSI centre of expertise in Cybersecurity, in addition to the specific standardization tasks it will perform.

Over 100 ETSI member organizations from industry and academia have already expressed their interest to join this newly created technical committee. The first meeting of TC CYBER was held on 27-28 May 2014, at ETSI.

ETSI Work Programme

ETSI Work Programme 2014-2015 provides an overview of the ongoing work in our technical bodies and ISGs, structured according to our clusters. It presents the full extent of our forthcoming standardization activities to readers who may not wish to navigate our online database. Since ETSI's work never stops and our work programme is never frozen, the electronic format of the brochure contains links to the online work programme on the portal, for the latest status of our work.

Latest



You may download the ETSI Work Programme 2014-2015 now at: www.etsi.org/technologies-clusters/white-papers-and-brochures/etsi-work-programme
Hardcopies are available from the ETSI Secretariat upon request at info@etsi.org

ETSI Annual Report

The ETSI Annual Report of 2013, published in April 2014, provides an overview of the activities of the institute during the course of the year.

Latest



The Annual Report April 2014 can be downloaded from the ETSI website.
<http://www.etsi.org/about/annual-report>
Hardcopies are available from the ETSI Secretariat upon request at info@etsi.org

A survey of India's telecoms landscape



The Indian telecoms sector is more than 165 years old. Though the first operational land lines were laid in 1851, telephone services were formally introduced in India much later, in 1881. The Indian telecom sector was entirely under government ownership until 1984, when the private sector was allowed into telecommunications equipment manufacturing only. In 1948 India's tele-density was 0.02% which rose to approximately 0.60% in 1991. It was only following the introduction of mobile telephony and the invitation to the private sector to bid for licenses that the telecom sector truly blossomed in

India and reached an overall tele-density of 71% by the end of 2013.

Today India is the second largest mobile telecoms market in the world, after China.

Acknowledging the role of the telecoms sector in the social and economic development of the country, the government of India in its recent National Telecom Policy (NTP) 2012 has set new targets and goals for this area. India should reach 100% teledensity and "Broadband for all" i.e. 600m broadband connections by 2020. The National Optical Fiber Network (NOFN) project has also been launched to meet the challenge of bringing high quality broadband access to all 250 000 village panchayats*, connecting nearly 654 000 villages of India.

Today India has still a long way to go to get beyond the current 10% smartphone penetration. In addition, 90% of connections use 2G networks, as deployment of 3G and 4G networks has been very slow due to spectrum scarcity, poor capital investment and a micro regulated market. To speed up the deployment of the latest mobile technology, service providers are planning to roll out the next phase of 3G expansion and are preparing for the forthcoming launch of Long Term Evolution Time Division Duplex (LTE-TDD). Small cells are all set to become an integral part of Indian telcos' networks.

India is the second largest mobile telecoms market in the world, after China

The NTP 2012 boosted ICT standards development and its global harmonization in India by incorporating mission statements such as *"to promote development of new standards to meet national requirements, generation of IPRs and participation in international standardization bodies to contribute in formation of global standards, thereby making India a leading nation in the area of telecom standardization"*

By Dinesh Chand Sharma

Seconded European Standardization Expert in India

*A Gram Panchayat is a local self-government institution at the village or small town level

SESEI project: an update

To understand the Indian telecoms environment and to help bring synergies between future ICT technologies and standards, Project SESEI (Seconded European Standardization Expert for India) was launched by European Commission's Directorate General for Enterprise and Industry (EC DG ENTR), the European Free Trade Association (EFTA), CEN, CENELEC and ETSI.

This SESEI Project was the opportunity to bring together European and Indian standardization communities to maximize the cooperation around standardization, policy and legislation. Now half way through (the project will end in February 2016) the SESEI has been able to position himself as a standardization ambassador between the EU/EFTA and the Indian standardization community. To that effect, Mr. Sharma has built a strong connection with the major Indian ICT players including the Ministry of Communications & IT, the Indian government-recognized standards body Telecommunications Standards Development Society, India (TSDSI) and the Cellular Operators Association of India (COAI).

Gaining from the presence of the SESEI expert on the ground, ETSI has been able to formalize relations and build new partnerships. SESEI has successfully assisted ETSI in concluding a Memorandum of Understanding (MoU) with COAI, establishing a collaborative framework with the newly formed Indian TSDSI and signing a joint global standards development organization (ETSI, ARIB, TTC, TTA and CCSA) Letter of intent (LoI) with TSDSI.

With the help of SESEI's presence, ETSI has been able to actively participate and contribute to an M2M consultation paper of the Department of Telecommunications (DoT) at the Ministry of Communication & IT and have a productive discussion with the DoT on the same. SESEI is an active member of the M2M working groups initiated both by TEC (Telecom Engineering Centre) as well as the TSDSI. Similarly, in the domain of energy efficiency for telecommunications, ETSI's technical committee for Environmental Engineering (EE) continues, via the SESEI expert, to share its work with the Telecommunication Engineering Center (TEC), presently implementing the Telecom Regulatory Authority of India (TRAI) recommendations on "Approach toward Green Telecommunications". SESEI, on behalf of ETSI, will continue to assist TEC and TSDSI in their endeavors.

One of the most resounding successes SESEI has achieved in the very first year of its inception was the two day event organized on 13-14 March 2014. The first day a conference with the theme "Indo-European dialogue on ICT standards & Emerging Technologies" was held followed, on March 14th

by a focused half day Workshop on "Security and Energy Efficiency". Both events were held in New Delhi. The conference and workshop provided a platform for ETSI to present the latest standardization work, and for the Indian ICT Community to share the India specific requirements. The dialogue was instrumental in understanding and identifying the potential standardization gaps, how best they can be bridged and how new venues for collaboration could be established. The major topics discussed during the event were M2M, Smart Cities, new emerging technologies (e.g. 5G), Network Functions Virtualization, Security and Energy Efficiency. The effort was highly appreciated amongst both Indian and European ICT communities and above all the conference and workshop was a constructive and positive milestone towards establishing dialogue between Europe and India on ICT Standards.

From its beginning the SESEI monitored the creation of TSDSI and engaged in meetings on behalf of ETSI with Senior Officials from the DoT and Deity (Department of Electronics, Information and Technology) involved in the creation of the TSDSI. TSDSI has recently joined 3GPP™ as an observer and is currently working towards joining all relevant global standardization communities, including the oneM2M project partnership, as the Indian counterpart. SESEI is also working on formalizing links between ETSI and the Bureau of Indian Standards (BIS) to tackle topics such as mobile terminal specifications/standards. Other venues for collaboration are being considered between ETSI and TEC to cover the topic of Energy Efficiency/green telecoms. In parallel, the SESEI is extending all support to the EU Industry and EU Delegation on ICT policy matters. Several targets have been identified for the coming year and to meet those he will continue to work closely with the Indian Standardization Community to explore further areas of collaboration.

Finally, to strengthen the footprint of the SESEI project a series of promotional tools were developed locally by the SESEI. The first was to develop two types of Newsletters, distributed on a quarterly basis, one targeted for the European stakeholder community covering news from India and one for the Indian community covering relevant news items from Europe. These are serving the purpose of reaching out to EU and India communities by sharing and disseminating relevant information on standardization, policy/legislative initiatives, news around R&D and innovations, market trends, standardization efforts and related activities. In parallel, the SESEI created a dedicated Project SESEI website (www.eustandards.in) where all relevant information and deliverables from the Project can be accessed.

ETSI hosts world's leading ICT standards organizations at 18th Global Standards Collaboration - continued (from page 1)



This GSC meeting focused on three topics where standards play a major role in the development of technologies that bring benefits to consumers and businesses: critical communications, machine to machine communications and software defined networking.

The GSC coverage of critical communications included subjects such as communications systems for public safety services, large-scale public warning systems, emergency calling systems and communications systems for disaster relief situations. Standards address each of these systems and there is a wealth of experience regarding their use in each region of the globe. It is essential that lessons learned be taken into account, and that teams of disaster relief specialists do not face communications difficulties from incompatible equipment. The GSC seeks to reduce these difficulties and improve critical communications services through global harmonization of standards.

The interconnection of billions of devices and their generation of 'big data' was also a topic of discussion at this GSC meeting. The many standardization initiatives underway and the relationships between them were explored. The success of machine to machine communications and the Internet of Things (IoT) will depend on the availability of globally accepted standards and associated economies of scale. The GSC members, together with a number of participating stakeholder organizations from the healthcare, automotive and other industries, discussed the development of M2M/IoT standardization.



The GSC meeting discussed the rapidly progressing topics of network functions virtualization (NFV) and software defined networks (SDN), which will provide greater flexibility to network operators, allowing them to provide new services faster and more efficiently. The GSC meeting provided an opportunity to better understand the many distributed and potentially complementary industry initiatives, as well as the synergies between NFV and SDN. Speakers shared details of the progress that has been made in setting the architectural frameworks, use cases and proofs of concept upon which current and future standardization activities will be based.

A delegation from the Government of India participated in this meeting and announced TSDSI (Telecommunications Standards Development Society, India) as their national telecommunications standards organization.

GSC welcomed two new members at this meeting: the IEEE Standards Association (IEEE-SA) and the Telecommunications Standards Development Society, India (TSDSI). With these new members, GSC now includes the following standards organizations:

- ARIB - Association of Radio Industries and Businesses - Japan
- ATIS - Alliance for Telecommunications Industry Solutions - U.S.
- CCSA - China Communications Standards Association
- ETSI - European Telecommunications Standards Institute
- IEEE-SA - IEEE Standards Association
- ISACC - ICT Standards Advisory Council of Canada
- ITU - International Telecommunication Union
- TIA - Telecommunications Industry Association - U.S.
- TSDSI - Telecommunications Standards Development Society, India
- TTA - Telecommunications Technology Association - Korea
- TTC - Telecommunication Technology Committee - Japan



Guest representatives from the following organizations were also present:

- GISFI - Global ICT Standardization Forum for India
- GM - General Motors
- HGI - Home Gateway Initiative
- ISO - International Organization for Standardization
- ISO/IEC Joint Technical Committee 1
- OMA - Open Mobile Alliance
- PCHA - Personal Connected Health Alliance (Continua)
- TCCA - TETRA and Critical Communications Association
- W3C - World Wide Web Consortium

For further information on this GSC meeting please consult www.etsi.org/gsc-18

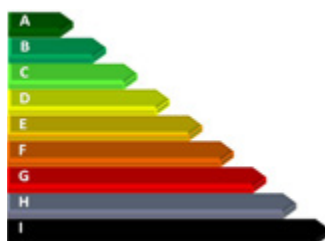
Information on past GSC meetings is available from www.itu.int/ITU-T/gsc. The next meeting of the GSC will be hosted by the ITU in Geneva.

ETSI releases the first global KPI on energy-efficiency in ICT

ETSI, a major actor in Information and Communication Technology standardization (ICT), has recently published the DCEM (Data Centre Energy Management) indicator standard, to measure energy efficiency and compare energy management efficiency in data centres.

This indicator, the DCEM Global KPI, has been developed by ETSI's OEU (Operational Energy efficiency for Users) Industry Specification Group and is defined in ETSI GS OEU 001. This group comprises ICT companies from various sectors including banking, telecommunications, the automotive and the aeronautical industry.

The DCEM Global KPI specifies the coefficient or 'Global KPI' of the eco-efficiency and energy management of data centres. It combines two indicators: one taking into account different sizes of data centre (S, M, L or XL) and a second incorporating 9 different levels of performance, similar to the energy classification model used for home appliances. The DCEM Global KPI meets a twofold objective: to assess the level of eco-efficiency in data centres, and to allow benchmarking of data centres or ITC locations in a wide range of industrial sectors.



The DCEM Global KPI is based on a formula with 4 different component KPIs defined in the new ETSI Standard ES 205 200-2-1:

1. Energy consumption, KPIEC
2. Task efficiency, KPITE
3. Energy reused, KPIREUSE
4. Renewable energy, KPIRENEW

"The DCEM Global KPI offers a reliable operational measurement method and includes the energy reused for other purposes than data centres," says Dominique Roche, chairman of OEU and ATTM committees in ETSI, and Working Group leader in CTO Alliance/CRIP. "We also took into account the Kyoto protocol on the reduction of greenhouse gas emissions" he adds. "Data centres can therefore be part of an energy-efficient, sustainable world."

ETSI EVENTS CALENDAR - What's on? 2014

10-12 September	M2M Plugtests	Sophia Antipolis, FR
16-17 September	SDN & NFV 2014	Nice, FR
16-18 September	2nd ETSI UCAAT: User Conference on Advanced Automated Testing	Munich, DE
22-23 September	The 5G Huddle - 'Towards a global 5G vision'	London, UK
22-25 September	World Smart Week	Marseille, FR
29 Sep-3 October	SIPit 31	Nice, FR
6-7 October	2nd ETSI Quantum-safe Crypto Workshop	Ottawa, CA
14 October	ETSI & DG Connect Smart Appliances Workshop	Sophia Antipolis, FR
14-17 October	SDN & OpenFlow World Congress & ETSI NFV PoC ZONE	Dusseldorf, DE
27-31 October	Third eCall Testfest	Vigo, ES
3-21 November	2014 e-Signature Validation Plugtests	Remote event
13-14 November	FOKUS FUSECO Forum 2014	Berlin, DE
17-18 November	Global Forum - Shaping the Future 2014	Geneva, CH
20 November	In Case of Emergency... - An ETSI SUMMIT on Critical Communications	Sophia Antipolis, FR
3-4 December	Reconfigurable Radio Systems: Status and novel Standards	Sophia Antipolis, FR
9 December	oneM2M Showcase	Sophia Antipolis, FR
9-11 December	Carrier Network Virtualization	Palo Alto, US
10-11 December	5th ETSI M2M Communications Workshop	Sophia Antipolis, FR

ETSI is endorsing the Global Forum conference, taking place on 18-19 November in Geneva, Switzerland

Speakers include
Margot Dor, ETSI's Director
of Strategy Development
<http://globalforum.items-int.com>



A CONNECTED AGE
SHIFTS & DIVIDES IN A TIME OF TRANSFORMATION
Monday 17th & Tuesday 18th November 2014
Geneva, Switzerland
The International Think-Tank on the Digital Future

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We are happy to consider contributions from ETSI Members, including 'Open letters to Members' to facilitate your communication with the ETSI community.

Please contact newsletter@etsi.org

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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