



World Class Standards

## Overview of ETSI's Technical Bodies

## INTRODUCTION

**The following presentation describes all of the ETSI Technical Groups in one slide per group.**

**The information is simply a top level summary of each group.**

**More detailed information can be found on the ETSI Portal with the link indicated at the bottom of each page.**

**To access the top level of the ETSI portal please go here**

**<http://portal.etsi.org>**



# World Class Standards

## 3GPP



More information during the WS

### SCOPE of the Group

3G Mobile System based on evolved GSM core networks and the radio access technologies that they support. With LTE the work now takes on a new focus, as a way to provide a 3G > 4G System for the major cellular standards to converge upon.

### Activities

#### Four Specification Groups;

- GSM EDGE Radio Access Network
- Radio Access Network (3G / 4G)
- Service & Systems Aspects
- Core Network & Terminals

Current activity is focused on 3GPP Releases 10, 11 with a record number of specifications, meeting contributions, attendees in meetings... As the work on LTE specifications continues.

### Future Areas

4G is on its way. The LTE-Advanced specifications started in Release 10.

#### LTE-Advanced to deliver:

- 100% compatibility with LTE R8 & R9
- Up to 100MHz Bandwidth
- Specifications to meet additional IMT spectrum band identified in ITU WRC07 , WRC12
- Advanced MIMO technologies
  - Data rates of 100Mb/s with high mobility and 1Gb/s with low mobility
  - Up-link Data rates up to 500Mb/s
  - Better Spectrum efficiency

...and more

See: [www.3gpp.org/LTE-Advanced](http://www.3gpp.org/LTE-Advanced)



## TC AERO

### SCOPE of the Group

AERO (Aeronautics) is the ETSI committee taking care of the development of Community Specifications under the Single European Sky Interoperability Regulation

### Present Activities

**New TC, created in September 2009**

**Developing Community Specifications for:**

- A-SMGCS
- A-CDM
- DLS

### Future Areas

**Further Community Specifications under the European ATM Masterplan**

**Standardisation activities linked to the Sesar Joint Undertaking Work Program.**



## TC ATTM

### SCOPE of the Group

Standardisation of access, terminals, transmission and multiplexing, including cabling, installations, signal transmission. Focusing on the specific technology, equipment, installations and regulatory aspects of the physical layer

### Past Achievements

Energy efficiency of the key sub-systems for broadband deployment ranging from;

- operators' data centres,
- core networks
- access network
- customer premises

Plastic optical fibre (POF) systems for by the end users

DOCSIS 3.0 broadband cable technology

### Present Activities

Cable Network Transition to IPv6

EC Directive 2005/32 on cable network apparatus & CPE.

xDSL splitters and filters

ADSL2plus and VDSL2

General Engineering of Optical Building Cabling

Radio relay systems for backhauling cellular network

### Future Areas

XDSL splitter integrated into home gateways, with inclusion of a Voice over Internet Protocol (VoIP) Plain Old Telephone Service (POTS)

European requirements for the Symmetric Digital Subscriber Line (SDSL)

Contribution to energy efficiency standards as well as to standardisation for smart energy



# World Class Standards TC BRAN

## SCOPE of the Group

Responsible for the standardisation of Broadband Radio Access Networks

### Past Achievements

Harmonised Standards for BWA systems operating in the frequency bands 2,6 GHz and 3,5 GHz, for Personal Area Networks

Dynamic Frequency Selection (DFS) by 5 GHz RLANs

Conformance test specifications for WiMAX systems

### Present and future activities

Standards and specifications for various Broadband Wireless Access (BWA) technologies in different frequency ranges.

White Space Devices (WSD); Wireless Access Systems operating in the 470 MHz to 790 MHz

Very high capacity density BWA networks; 1Gig protocols



# World Class Standards JTC BROADCAST

## SCOPE of the Group

Joint Technical Committee between EBU (European broadcasting Union), CENELEC and ETSI on Broadcast

### Past Achievements

JTC Broadcast delivered standards on:  
-Digital radio, broadcast TV, mobile TV and IPTV  
-- Technologies such as DAB/DAB+, DRM/DRM+, DMB, DVB-C/C2, DVB-T/T2, DVB-H, DVB-SH, DVB IPTV, DVB-MHP, DVB 3D, DVB Content Protection and Content Management, Media Foward Link Only, MHEG-5, TV Anytime

### Present Activities

Revision of Hybrid Broadcast Broadband TV  
  
DVB Next Generation Handheld (NGH)  
  
DVB Common Interface plus (CI+)  
  
TV Anytime: maintenance

### Future Areas

DVB T2 enhancements  
  
3D TV Service compatible (2D/3D)



## TC CLOUD

### SCOPE of the Group

Responsible for producing test specifications and standards to integrate the use of telecommunications infrastructures in networked computing, including both Grid computing and Cloud computing

### Activities

Addressing issues associated with the convergence of Information Technology (IT) and telecommunications (beyond the LAN).

Includes Grid computing but also the emerging trend towards Cloud computing which places particular emphasis on ubiquitous network access to scalable computing and storage resources.

Plugtests™ on CLOUD GRID interoperability





## TC DECT

### SCOPE of the Group

DECT has the overall responsibility to develop and maintain standards for Digital Enhanced Cordless Telecommunications (DECT™) and the further evolution of DECT™.

### Past Achievements

DECT Base standard and a number of associated profiles (GAP, ODAP, RAP, DMAP, ISDN Interworking, ....), as well as test specifications.

### Present Activities

- Developing of DECT New Generation standard (CAT-iq)
- Developing on DECT New Generation test specifications
- Maintenance of the base standard
- Application of DECT to smart metering, home automation, domotics and machine to machine (WG ULE)

### Future Areas

Evolution of DECT: DECT Advanced



## TC EE

### SCOPE of the Group

**EE (Environmental Engineering) is the ETSI committee creating the equipment engineering and environmental aspects for telecommunication infrastructures and equipment standards**

### Past Achievements

- Measurement Methods and limits for Energy Consumption in Broadband Telecommunication Networks Equipment
- Energy Efficiency of Wireless Access Network Equipment
- Environmental conditions and tests for telecommunications equipment
- Power supply interface at the input to telecommunications equipment;
- Monitoring and Control Interface for Infrastructure Equipment

### Present Activities

- Life Cycle Analysis assessment of telecommunication equipment and service
- Measurement methods for energy consumption of Customer premises equipment (CPE) and for power Consumption of Router and switch Networks Equipment
- High voltage DC up to 400V
- M/462 Energy efficiency for transport router and core network equipment.

### Future Areas

- Standards for:
  - Submarine environment
  - Acoustic noise and environment
  - M/462 Energy efficiency for transport router and core network equipment.



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## EP eHEALTH

### SCOPE of the Group

EP eHEALTH is the 'horizontal' nucleus for the co-ordination of ETSI's activities in the ICT Health domain. Vital aspects to be considered by EP eHealth are: security of systems and data, quality of services, interoperability and validation by testing, usability.

### Past Achievements

EP eHEALTH has done a thorough review of all ETSI's TBs and 3GPP work on all relevant ICT HEALTH applications (SR 002 564)

### Present Activities and future Areas

Telemedicine  
Body Area Networks



# SC EMTEL

## SCOPE of the Group

ETSI Committee on Emergency Communications which identifies and coordinates emergency system and user requirements in Europe, inside and outside ETSI

### Past Achievements

#### Requirements for Emergency Communications of :

- citizens/individuals to authorities
- between authorities
- from authorities to citizens
- between citizens

**Emergency messaging: SMS and CBS**

**Emergency Communications network resilience and preparedness**

### Present Activities

#### European Public Warning System (PWS)

- EC Project on PWS based on Cell Broadcast
- EMTEL took the lead to collect European requirements into a Technical Specification
- EMTEL will provide output to 3GPP which has already defined requirements for Japanese (ETWS) and US (CMAS)

### Possible Future Areas

**Have more Public Safety users (first responders such as ambulance, police, fire fighters) involved to help them defining their requirements**



## TC ERM

### SCOPE of the Group

TC ERM (EMC and Radio spectrum matters) has the primary responsibility for ETSI deliverables dealing with EMC, radio spectrum parameters concerned with inter-system characteristic and co-ordination of ETSI positions on the efficient use of the radio spectrum and spectrum allocations

#### Past Achievements

- Producer of the biggest number of Harmonised standards in support of the European legislation among all the ETSI TBs;
- Incubator for new activities like Aeronautical and ITS (Now it's TC AERO and TC ITS).

#### Present Activities

- Developing and maintaining more than 75% of all ETSI Harmonised standards (under RTTED and EMCD);
- In particular for Short Range Devices in the frequency range from 25 kHz up to 246 GHz

#### Possible Future Areas

- Validation of technical specifications (in particular Harmonised standards) with the help of ETSI CTI;
- Revision of Harmonised standards providing access to the market



## TC ESI

### SCOPE of the Group

ETSI ESI (Electronic Signatures and Infrastructures) is the committee dealing with electronic signatures (signature format, certificates, CSPs, trusted list) and ancillary services (Registered email, Time-Stamping, Long-term document preservation)

### Past Achievements

- Electronic signature formats: XAdES, CAdES, PAdES
- Algorithms and parameters for electronic signatures
- Trust-service status list (TSL)
- Certificate profiles
- Policy requirements for certification authorities, time-stamping authorities
- Registered Emails

### Present Activities

- Associated signatures
- Visible signatures
- Secure long-term document preservation
- Registered Emails: e-mail Interchange between Registered E-Mail (REM) systems based on different transmission protocols

### Possible Future Areas

- Answer European Commission mandate 460 on electronic signatures:**
- Rationalized framework of electronic signatures standards
  - Baseline profiles for Advanced signatures formats
  - Enhancements of current standards
  - Implementation guidelines



## TC HF

### SCOPE of the Group

Responsible for developing standards, guidelines relating to end-user aspects of information and communications technologies (ICT) products and services.

### Activities

Spoken commands to control the generic and most common functions of ICT devices and services that use speaker-independent speech recognition.

Generic user interface elements for mobile devices, services and applications.

'Design for All' guidelines for ICT products and services. Guidelines to create products that address the needs of all users, including those with disabilities and older people.

Minimum requirements for the provision of relay services for text telephony in Europe

### Possible Future Areas

New user interaction technologies in eServices

Guides on use of videoconferencing instead of face-to-face meeting is key for Green Agenda for ICT business

Guidelines for the procurement of ICT products and services.



## TC INT

### SCOPE of the Group

Technical Committee for IMS Network Testing developing IMS Core Network test specifications (interoperability, conformance, network integration etc.) from 3GPP and TISPAN specifications

### Past Achievements

#### 3rd IMS event

- Main focus on the assessment of the interoperability and conformance of IMS core networks
- Interoperability of IMS core networks with legacy PSTN networks
- High level of interoperability (88%) promises a successful parallel co-existence of PSTN and IMS.

### Present Activities

- Test purposes for IMS NNI Interoperability and Test Description for IMS NNI Interoperability
- Network Integration Testing
- Conformance Tests for SIP-ISUP based on the 29.163 Rel.8;
- IMS/NGN Performance Benchmark;
- IMS NNI Interworking Test Specifications

### Possible Future Areas

#### 4<sup>th</sup> IMS Plugtest

- 3GPP Release 8
- Interworking IMS Core and AS for RCS services
- Basic call, MMTel, hold/resume, topology hiding, IMS roaming testing
- IMS to legacy PSTN/PLMN tests
- Testing with IPv6
- **Co-author on ETSI Book on “Success Stories in Validation and Testing”**





## TC ITS

### SCOPE of the Group

Development of deliverables for ITS (Intelligent Transport Systems) service provision across the network, for transport networks, vehicles and transport users.

#### Past Achievements

- Addressing cooperative vehicle-to-vehicle and vehicle-to-roadside communication for ITS for safety and road traffic efficiency
- Threat vulnerability and risk assessment
- Specs for access at 5,9 GHz radio (802.11)
- GeoNetworking
- Conformance testing for interface management

#### Present Activities

- Examining ITS security (profile IEEE 1609.2)
- Cooperative awareness messages (CAM)
- Decentralised Environmental Notification messages (DENM)
- Annual ITS workshop. Big success!
- Local dynamic map (LDM)
- Responding to EU Mandate 453 on ITS framework

#### Possible Future Areas

Improving standards from implementation feedback/testing

Consideration of other radio frequencies and modulation mechanisms

Analysis of IPv6 for networking

Further Security work

## TC LI

### SCOPE of the Group

LI (Lawful Interception) is responsible for developing standards that allow support of the requirements of national and international law for the lawful interception and data retention of electronic communications

### Past Achievements

#### **Lawful Interception and Data Retention suite**

Specifications and Reports on Handover Interface for delivery of information from operator/provider to authorised organisation (e.g. Law Enforcement Agency)

#### **Security Framework**

For securing LI and DR environment of the

#### **Global promotion**

Of ETSI LI standards

### Present Activities

#### **Maintain deliverables**

Constantly update LI and DR specifications and reports with new requirements and services

#### **Cooperation with bodies**

3GPP  
TC TISPAN  
TC TETRA  
TC SES  
ITU-T

### Possible Future Areas

#### **Dynamic Triggering**

Specification on dynamic triggering and Call Content Triggering Function, both in case of single provider and multiple providers (e.g. access provider different from application provider)

#### **eWarrant Interface**

Report on request for handover and delivery of real-time/stored information referred to as eWarrant Implementaiton Interface



## TC M2M

### SCOPE of the Group

Develops and maintain the overall end to end high level architecture for M2M (Machine to Machine) communications. To be the centre of expertise on M2M and coordinate this activity with other Standards bodies and fora.

### Past Achievements

Completed M2M Rel. 1 standard package

M2M architecture, use cases, requirements, security

### Present Activities

-ETSI lead on the EC Mandate M441 (SM) and M/490 (SG)

-2nd Rel. M2M planned for end 2012.

Progressing Used cases on the following areas

- Smart energy (grid/metering)
- E Health
- Automotive applications
- Connected consumer
- City automation

### Possible Future Areas

Examine Internet of Things work areas

M2M testing devices

Expanding to Global Partnership Project one M2M



# TC MCD

## SCOPE of the Group

ETSI Committee on (digital) Media Content Distribution which addresses interoperability issues in a converged environment supporting IPTV, mobile TV and broadcast TV carried out (created in 2008)

### Past Achievements

**3 first deliverables (MCD Framework) published recently:**

- Overview of interest area
- Views and needs of Content Providers
- Regulatory issues, social needs and policy matters

### Present Activities

**Audience measurement**

**CDN (Content Delivery Network) :**  
Infrastructure ; Interconnection

**3D Gaming graphics delivery**

**EPG (Electronic Programme Guide) distribution**

**Subtitles distribution**

### Possible Future Areas

**DRM (Digital Rights Management)**



## TC MSG

### SCOPE of the Group

MSG (Mobile Standards Group) is responsible for the transposition of GSM and UMTS deliverables from 3GPP into ETSI deliverables.

MSG maintains the ETSI Harmonized Standards required by the European Commission's Radio and Telecommunication Terminal Equipment (R&TTE) Directive for the IMT-2000 mobile telecommunications family, for successive 3GPP Releases.

### Past Achievements

Production, and alignment, of the multi-parts Harmonized Standards EN 301 908 to 3GPP Rel-99 to Rel-8.

### Present Activities

- 5<sup>th</sup> Release of the EN, to cover 3GPP Release 9 and creation of new Parts for MSR Base station and for Mobile WiMAX.
- work on eCall (completing the work done by 3GPP)
- EN 301502 on "GSM Base Station Equipment", EN 300 609 04 on "GSM Repeater" and TS 102 735 on "Band-specific requirements for UMTS"

### Future Areas

Continue to be the link between the EC and 3GPP



# TC MTS World Class Standards

## SCOPE of the Group

The Technical Committee Methods for Testing and Specification (MTS) creates guidelines, frameworks, notations, and methodologies for specification and testing. These aim at helping other ETSI committees to efficiently develop their standards as well as corresponding conformance and interoperability test specifications.

### Past Achievements

#### Notations

TTCN-3, TPLan

#### Test specifications for core IP technologies

- SIP
- SIGTRAN
- IPv6 core, sec, mob, 4to6
- H.225, H.248

#### Methodologies & guidelines

Making Better Standards, IP testing fwk, use of SDL & UML, ...

### Present Activities

#### TTCN-3 Maintenance

With enhancements for 3GPP and LTE testing

#### Automated interoperability testing

Methodology & fwk

#### Model Based Testing

ES on concepts for modelling

#### Security

ePassport testing framework and platform

### Possible Future Areas

#### TTCN-3 Maintenance

Update of best practice for specification

ETSI security framework

Measurement framework for physical layers

Further work on Model Based Testing

Closer ties with India & China



# World Class Standards TC PLT

## SCOPE of the Group

TC PLT (Power Line Telecommunications) are responsible for the standardisation necessary to enable the provision of multimedia, voice and data communications applications and services via the existing public and private mains power networks

## Activities

High speed home networking,  
Smart grid access networks and  
Smart grid home area networks.  
Uses the 2 MHz to 30 MHz frequency band  
Access and In-House PLT with target usage similar to xDSL  
Can be used in areas where no other broadband solutions are available  
Ease of installation for additional intelligent home applications (network connection in the socket, no new wires required). E.g. DVD players and set-top boxes can easily be connected to TVs in several other rooms.  
Computers can be connected to household equipment.

## Future Areas

Powerline for low & medium voltage.

Communications from smart meter in the home

MIMO PLT



# World Class Standards TC RT

## SCOPE of the Group

**GSM-R (GSM-Railways) has been selected in Europe as telecommunication technology for railways, both for High Speed Train and for Conventional Lines. RT develops and maintains the corresponding ETSI standards.**

### Past Achievements

**Production of specific changes to the GSM standard (new frequencies, specific functionalities, etc), as to create GSM-R.  
Maintenance of GSM-R.**

### Present Activities

**RT works on the revision of specifications to include improved mobile receiver parameters and optional filters (blocking capability, IM3, ACS, etc.) needed by GSM-R for nearly-interference free usage in Europe.  
Note: GSM-R now adopted in Turkey, Russia, China, India, Australia, etc.**

### Possible Future Areas

**Inclusion of additional frequencies for GSM-R.  
Continue the maintenance of GSM-R and update it as to include more recent Releases of GSM/UMTS.**





## TC RRS

### SCOPE of the Group

RRS(Reconfigurable Radio Systems) takes care of standardization activities related to Reconfigurable Radio Systems encompassing system solutions related to Software Defined Radio (SDR) and Cognitive Radio (CR);

### Past Achievements

Feasibility studies related to possible standardisation of SDR and CR

### Present Activities

- Application of Cognitive Radio System concepts to UHF White Space Frequency bands
- Multiradio Interface for Software Defined Radio (SDR) Mobile Device
- Application of SDR/CR concept to Public Safety

### Possible Future Areas

Application of SDR/CR concept to Base Stations

Application of SDR/CR concepts to public safety and defence applications



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## **TC SAFETY**

### **SCOPE of the Group**

**Responsible for co-ordinating SAFETY requirements between ETSI and the European Committee for Electrotechnical Standardisation (CENELEC), for monitoring the safety aspects of all ETSI deliverables and co-ordinating ETSI's position on telecommunications equipment safety**

### **Activities**

**Identify telecommunications safety requirements including those which are essential requirements of Directives**

**Promote the creation of safety standards of practical use to ETSI members; to map the telecommunications equipment safety requirements onto those which are laid down in the IEC 60 950 series;**

**to consider the equipment safety requirements as laid down in IEC 60 065 which are relevant in cases where consumer electronic equipment is combined with telecommunications equipment.**

**Provides ETSI with a centre of technical expertise in the safety fields, able to offer advice to ETSI Technical Bodies, the ETSI Board and the General Assembly.**



# SC SAGE

## SCOPE of the Group

**SAGE (Security Algorithms Group of Experts)** is responsible for creating ETSI deliverables, in the area of cryptographic algorithms and protocols specific to fraud prevention/unauthorized access to telecommunications networks and user data privacy

### Past Achievements

**World leader in cryptographic algorithms**

Created algorithms for GSM, GPRS, EDGE, UMTS, TETRA, DECT, 3GPP, ...

**Confidentiality/Integrity algorithms**

Developed

-UEA1/UIA1

-UEA2/UIA2

UEA:UMTS Encryption Algorithm

UIA: UMTS Integrity Algorithm

### Present Activities

**Update algorithms**

As necessary, for a number of technologies, modify/strengthen algorithms to counterattack any known or potential future threat

### Possible Future Areas

**Assess ZUC algorithm**

Assessing a proposed radio interface algorithm set for LTE (Long Term Evolution): ZUC (named after Zu Chongzhi)\*

\* Chinese mathematician and astronomer of the 5<sup>th</sup> century



## TC SCP

### SCOPE of the Group

SCP (Smart Card Platform) is responsible for the specification of the UICC, a smart card mainly targeted at telecoms and used in various environments to secure subscription-related credentials, most notably with the (U)SIM application in 3GPP.

### Past Achievements

UICC used for the SIM/USIM/ISIM in 3GPP, for the R-UIM in 3GPP2 and more (3.5+ billion UICC deployed)

#### M2M UICC

Specification of the next generation UICC with high-speed interface (USB-based) and the ability to be used as a secure element for Near Field Communication transactions e.g. ticketing or payment.

### Present and future activities

Fourth UICC Form Factor (4FF)

Embedded UICC (eUICC)

Confidential applications: how to host third party applications on the UICC

Development of a new runtime environment for additional interfaces and smart card web server.



## TC SES

### SCOPE of the Group

ETSI's Satellite Earth Stations and Systems Technical Committee (TC SES) is responsible for standardisation relating to all aspects of satellite communications

### Activities

All types of satellite communication services and applications (including mobile and broadcasting),

All types of earth stations and earth station equipment, especially the radio frequency interfaces and network and/or user interfaces,

Protocols implemented in earth stations and satellite systems

GNSS related activities

Responsibility outside ETSI - Primary Committee for co-ordinating the position of ETSI with relevant ITU Study Groups.

### Possible Future Areas

Satellite Digital Radio (SDR) interoperability

Flexible encapsulation of alert messages over satellite links,

satellite communications for linking an emergency communication cell to a remote permanent infrastructure



## TC STQ

### SCOPE of the Group

STQ (Speech and multimedia Transmission Quality) is responsible for standardization relating to terminals & networks for speech & media quality, end-to-end single media and multimedia transmission performance, QoS parameters for networks & services

### Past Achievements

**VoIP/wireless terminals**  
Transmission requirements for narrowband/wideband VoIP and wireless terminals from a QoS perspective, as perceived by the user (handsets/headsets, and loudspeaking/handsfree)

**QoS on IP networks**  
Audiovisual comms

**EGs/ESs on QoS**  
QoS and network performance metrics and measurement methods

### Present Activities

**EN on Mandate 452**  
A Harmonised European Standard (EN) on max acoustic outputs for comms multimedia

**QoS on NGN**  
Work on QoS implications of NGN architectures

**Interrelation of standards**  
EG on the application and interrelation of existing standards relating to QoS, produced mainly by ETSI and the ITU-T

### Possible Future Areas

**Superwideband/fullband**  
Long term project addressing terminals using 'superwideband' – bandwidth up to 15 KHz – and fullband terminals

**Cooperation with TETRA**  
Collaborating on voice quality, embarking on new joint work on speech transmission and audio requirements for TETRA terminals



# World Class Standards TC TETRA

## SCOPE of the Group

Responsible for the design and standardisation of TErrestrial Trunked RAdio (TETRA)

## Activities

Produces standards and/or adapt existing standards for efficient digital PMR and PAMR voice and data services, including broadband evolution.

Further improvements to the TETRA Enhanced Data Services standard

Extension of the TETRA frequency range down to the VHF band

## Possible Future Areas

Evolve TETRA towards a fully integrated and seamless ICT solution providing Narrowband / Wideband / Broadband (NB/WB/BB) wireless communications for 'Mission Critical' and Traditional PMR/PAMR applications.



# TC TISPAN

## SCOPE of the Group

TISPAN (Telecommunications and Internet converged Services and Protocols for Advanced Networking) is the ETSI committee creating the fixed Next Generation Networks (NGN) standards

### Past Achievements

**Defined NGN Rel-1 (2005)**  
Adopts 3GPP IMS standard for SIP-based apps, & adds further functional blocks and subsystems to enable fixed access to IMS and to handle non-SIP apps

**Defined NGN Rel-2 (2008)**  
Common IMS  
New IMS services

- Supplementary services
- IPTV
- Home Networking
- Corporate Networks

### Present Activities

**Developing NGN Rel-3**  
With enhancements to

- IPTV service evolution
- IP Network to Network interconnect
- Corporate Network interconnect
- Home Network interconnect
- QoS & Security
- RFID security & privacy
- CDN
- P2P Study

### Possible Future Areas

Evolve the NGN towards Future Networks.

Examine Impact of M2M and IoT on the NGN

Next Generation "Access" for NGN

Future home networks

NGN interconnect, support of mobility and QoS over converged networks

Evolution of NGN based IPTV





## USER Group

### SCOPE of the Group

Responsible for formalising users' views and requirements for other ETSI bodies, in order to improve standards and their relevancy

### Activities

Study on end-to-end QoS management at the network interfaces

Audit and approval of metering and billing systems

QoS of the service life cycle to identify missing test protocols.

Assessing the QoS parameters of the various stages of the customer relationship

### Possible Future Areas

Outline generic test sequences for four types of parameters (*time, percentage, number and opinion ratings*)

ICT check for metering and billing systems.

## Conclusions

**As an ETSI member, GNCC have access to all ETSI Technical Groups**

**It is possible to attend meetings, make contributions, join email lists, access documents**

**Access to information via the ETSI web and Portal**

**The best way to influence standards, is to make them**

**<http://portal.etsi.org>**



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**Thanks for your attention**

**Any Questions?**