

Powerline communications

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 (UHDTV) and new advances in technology such as High Efficiency Video Coding (HEVC).

We plan to complete a TR on the transmission of very high rate video using a Powerline High-Definition Multimedia Interface for short range links. One use of this technology would be to simplify the installation of home cinema.

In addition, we expect to publish a new TS on the co-existence of VDSL2 and PLT modems on customer premises using Dynamic Spectral Management (DSM), which has already proved useful for the mitigation of interference caused by networks co-existing in the same building.

Other

With regards to spectrum utilization, Task Group 11 of ERM maintains the Harmonized Standards for the 2,4 GHz frequency band (mostly used by access technologies such as Wi-Fi and Bluetooth) and the 5GHz frequency band.

ETSI's SmartM2M Technical Committee is producing use cases of M2M applications for 'Smart Appliances' which involve energy consuming devices that utilize network communications capabilities and that can be directly or indirectly controlled by the human user.

The activities of 3GPP include network optimization for Machine to Machine communications and machine type applications (maintenance of heating and air condition, alarm systems, etc.), as well as femtocells (3G Home Node B and Home enhanced Node B).



Image courtesy of Cisco

To find out more about ETSI's Home & Office activities or to get involved, please contact
ANDREA LORELLI, Home & Office cluster coordinator:
home_and_office@etsi.org

Q4 2014

ETSI produces globally-applicable standards for Information and Communications 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 whose more than 700 member companies and organizations, drawn from over 60 countries across five continents worldwide, determine its work programme and participate directly in its work.

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

ETSI, 650 Route des Lucioles, 06921 Sophia-Antipolis Cedex, France. Tel: +33 (0)4 92 94 42 00 Fax: +33 (0)4 93 65 47 16

Home & Office

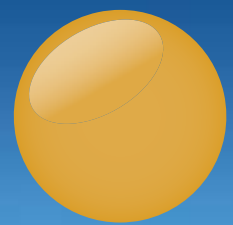


A Connected World



Connecting devices for home, SOHO and SME environments

Safer, better connected and manageable home and office environments



Home & Office



The variety of devices that need to be interconnected is growing rapidly and most require broadband. The new services being developed are creating a 'Connected Home' and a 'Connected Office'.

In the vision of a Connected Home, everything is connected: Smart homes use information appliances and a home-based network to connect household appliances and smart objects (such as utility meters, temperature, gas, humidity sensors and smoke detectors) to each other and externally.

The same applies to the enterprise sector, where the availability of a broadband connection is essential to achieve the business benefits that a Connected Office may bring.

Our standardization for home and office focuses on three aspects:

- Wireless systems for home and office
- Home and office interconnection
- Home and office services, including Quality of Service (QoS) and security

These aspects of Home & Office standardization can be found in our work on wireless broadband connectivity and access, cordless telephony and telecommunication, power line communication, short range and machine to machine communication, fixed line access and home gateways.

ETSI groups in the Home & Office Cluster

- ATTM (Access, Terminals, Transmission & 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]
- LTN (Low Throughput Networks)
- PLT (Power Line Telecommunications)
- SmartM2M (Machine-to-Machine)
- STQ (Speech and multimedia Transmission Quality)
- USER Group

Other contributors include 3GPP, the Third Generation Partnership Project and oneM2M, the global initiative for machine to machine communications and the Internet of Things.

Wireless
(BRAN, DECT, ATTM, ERM TG TN11,
ERM TG 28, 3GPP)

Home & Office

Interconnection
(PLT, Smart M2M, oneM2M, ATTM, Cable,
3GPP)

Requirements
(STQ, User Group, 3GPP)

Standardization Activities

Cordless voice and broadband Communication

Our Digital Enhanced Cordless Telecommunications (DECT™) specification is the leading standard around the world for digital cordless telecommunications.

We will continue to develop New Generation DECT, which is introducing advanced features such as:

- high quality wideband (7 kHz) and super-wideband (14 kHz) voice
- support of Internet telephony
- broadband data connections

New Generation DECT includes additional security features (authentication and encryption), with new algorithms based on the Advanced Encryption Standard (AES).

We address Software Update Over The Air (SUOTA) and will complete the corresponding test specification.

We are developing a new application of DECT targeted at 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.

Following the publication of the first Technical Specification (TS) for ULE covering home automation, we expect to cover more features (such as SUOTA and repeaters) in a second specification.

Market acceptance of DECT ULE technology depends very much on the interoperability of different implementations. So we are developing test specifications for the DECT ULE transport layer and for the home automation network.

Application of the technology will extend to industrial automation. The DECT base standard will include the necessary new protocol elements and procedures.

We are also working on regional variants of the DECT ULE standard for worldwide use, in particular so that it can be adapted to any frequency plan proposed in America, Japan or other countries outside Europe. The main task will be to find a common carrier numbering scheme for all countries.

We are also revising the two DECT Harmonized Standards in order to take into account both DECT ULE and the

decision of the Electronic Communications Committee (ECC) on the use of antenna gain parameters.

In 2013 we produced a System Reference Document on the operation of DECT in the 1 900 – 1 920 MHz band. If accepted, this would provide additional capacity for various M2M applications, smart appliances and streaming audio. We would then update the base standard accordingly.

Home and office interconnection

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.

The Telecommunications Standardization sector of the International Telecommunication Union (ITU-T) and the Broadband Forum have asked ETSI to take the lead on reverse power feeding standardization. We are developing a Technical Specification on the requirements for 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.

Other topics in this field include European requirements and applications for FTTdp and Very high bit rate Digital Subscriber Line 2 (VDSL2).

The cable industry is a global market and ETSI's cable standards are developed to align to the extent possible with standards either already developed or under development in other regions.

The current focus of ETSI's TC Cable is on enabling the transition to IPv6, on the electromagnetic environment and on energy management for cable networks, in response to European Commission (EC) Mandate 462 (M/462) on energy efficiency in information and communication networks.

Low Throughput Network (LTN) technology is a wide area bidirectional wireless network with key differentiators compared to existing networks. It enables long-range data transmission (distances around 40 km in open field) and/or communication with buried underground equipment and operates with minimal power consumption allowing several years of operation even with standard batteries. ETSI's LTN Industry Specification Group has already published three new specifications on LTN networks.