

## About ETSI

ETSI is one of the world's leading standards development organizations for Information and Communication Technologies (ICT). Founded initially to serve European needs, ETSI has grown rapidly to become highly-respected as a producer of technical standards for worldwide use. In addition to our global focus, ETSI is formally recognized by the European Union as a European Standardization Organization.

ETSI membership is composed of manufacturers and network operators – all the “big names” and many smaller companies too – plus service and content providers, national administrations, ministries, regulators, universities, research groups, consultancies and user organizations. A powerful and dynamic mix of skills, resources and ambitions, all working together to bring the very best ICT solutions to the global marketplace. Geographically, our membership of over 700 companies and organizations is drawn from more than 60 countries on 5 continents.

ETSI is independent of all other organizations and structures, a key feature for ensuring neutrality and trustworthiness. That brings benefits not only in the acceptance of our standards and other publications, but also in our growing range of ancillary services, such as interoperability testing. And because standardization inevitably draws upon the bright ideas of our members, we have an Intellectual Property Rights (IPR) policy in place that has become the model for many other organizations.

ETSI's standardization activities are open to all interested companies and organizations. Your company can be part of this dynamic organization. For more information about how *you* can be involved, please visit

<http://www.etsi.org/membership>

For details about ETSI's radio spectrum activities, please visit

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

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# Radio Frequency Spectrum



## Radio Spectrum—a scarce resource

The radio frequency spectrum is a finite and increasingly precious world resource, and needs to be managed effectively. Dependence on radio communications in one form or another has grown dramatically in recent years, and the growth in the number and variety of applications and the huge expansion in user expectations place ever-increasing demands on the radio spectrum.

Fixed and mobile communications, sound and television broadcasting, aviation, railway and maritime transport, defence, medical electronics, emergency services, remote control and monitoring, radio astronomy and space research, as well as many other applications, all make extensive use of the radio spectrum.

Due to potential for interference between all of these different uses, many parts of the radio spectrum are regulated, usually by national governments. Standardization can help towards an efficient use of this limited resource by establishing a basis for harmonized use and setting appropriate technical parameters to control power, interference and the like.

## Global and European co-ordination

At the global level, the International Telecommunication Union (ITU) seeks to co-ordinate spectrum use. In Europe, CEPT performs a somewhat similar role of co-ordinating spectrum use, although the ultimate allocation rests with individual national governments.

The European Union (EU) regulatory framework is defined in the Radio Spectrum Policy Decision (Decision No 676/2002/EC). This Decision seeks to relate spectrum demands to EU policy initiatives, introduce legal certainty for technical harmonization measures, and increase transparency and information on spectrum use.

## ETSI's role

ETSI has a Memorandum of Understanding with the Electronic Communications Committee (ECC) of CEPT, and is represented in the Radio Spectrum Committee (RSCOM) with the European Commission (EC) to ensure that the necessary spectrum is available for ETSI radio standards. ETSI also participates in other EC committees, including the Telecommunication Conformity Assessment and Market Surveillance Committee (TCAM) and the Radio Spectrum Policy Group (RSPG).



## R&TTE Directive

Within the EU, Radio and Telecommunications Terminal Equipment is subject to the R&TTE Directive (1999/5/EC). This Directive relies for its operation on Harmonized Standards developed by ETSI at the request of the European Commission.

These Harmonized Standards define technical characteristics which can be used to meet the essential requirements of the Directive, which include effective use of the radio spectrum and orbital resource so as to avoid harmful interference. Equipment manufactured in accordance with a Harmonized Standard may be placed on the market and put into service within the European Union (certain restrictions apply in the case of radio equipment which uses frequencies whose use is not harmonized in the European Union). Network operators may not refuse to connect compliant equipment on technical grounds. The Commission may invoke certain other requirements for particular classes of equipment.

Spectrum management remains a national matter. Under the terms of the Directive, authorities in the Member States are allowed to regulate radio interfaces, but are required to publish their regulations.

## Radio spectrum needs

A request is made by ETSI to the CEPT ECC for action, usually an allocation of radio spectrum, in the form of an ETSI Technical Report which has been designated as a System Reference Document. A consultation carried out within ETSI ensures that all interests are taken into account before the document is published.

A System Reference Document contains:

- a **basic description** of the radio application, and a simple technical description. Any ETSI standards which apply, or are being drafted, are indicated;
- an indication of the **spectrum required** by the radio application (for example how much bandwidth and power are necessary, if specific frequency bands are preferred, if particular licensing conditions are needed). The System Reference Document indicates how compatibility with existing services can be ensured;
- **market forecasts**: National Administrations have the responsibility to ensure that the radio spectrum is used efficiently, with a maximum economic and social benefit. The System Reference Document gives sufficient material of this nature to the CEPT Administrations to justify an allocation of spectrum.