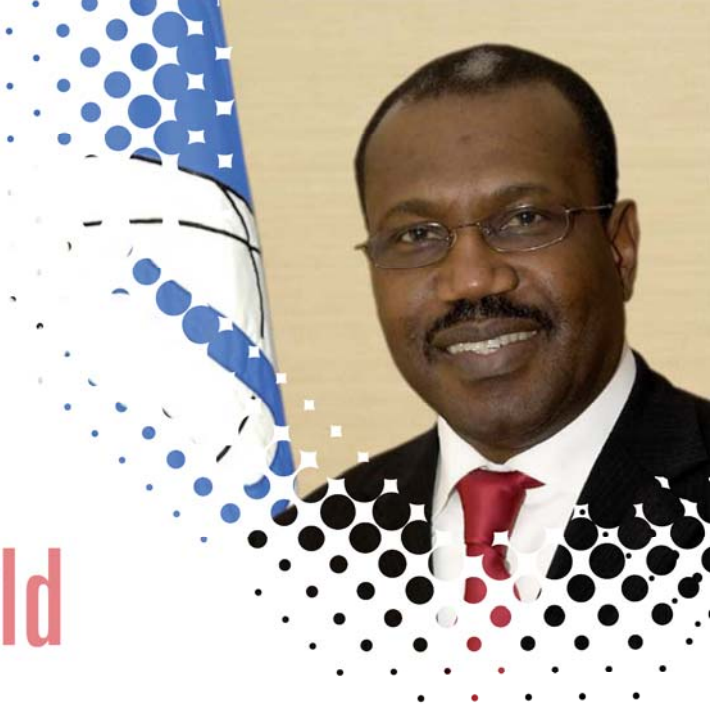
ITU-R Radiocommunication

Committed to connecting the world



Connecting the World

Radiocommunication services assist the world in building the information and communication infrastructure and are an essential foundation for the Information Society by ensuring international allocation of spectrum and orbital resources and other related activities.

The ITU Radiocommunication Sector (ITU-R) is committed to building confidence and security in the use of ICT by creating an enabling environment through management of the international radio-frequency spectrum. Since the global use and management of frequencies requires a high level of international cooperation, one of our principal tasks in the ITU-R is to facilitate the complex intergovernmental negotiations needed to develop legally binding agreements between sovereign states. These agreements are embodied in the Radio Regulations and in world and regional plans adopted for different space and terrestrial services.

Today, the Radio Regulations apply to frequencies ranging from 9 kHz to 400 GHz, and incorporate over 1000 pages of information describing how the spectrum must be used and shared around the globe. In an increasingly 'unwired' world, some 40 different radio services compete for allocations to provide the spectrum needed to extend applications or support a larger number of users.

ITU-R specializes in developing and strengthening national, regional and international broadband network infrastructure. This includes providing the capacity to countries and their citizens for new ICT-based services through satellite systems and other means.

ITU-R investigates ways to broaden access to orbital resources, global frequency harmonization and global systems standardization. It encourages public/private partnerships, promotes the provision of high-speed satellite services for underserved areas such as remote or sparsely populated areas, and explores other systems that can provide high-speed connectivity.

ITU-R also undertakes studies on the use of radiocommunication systems for public protection; disaster prediction, detection, alerting and relief.

Radiocommunications including terrestrial and space services are critical and increasingly important for the development of the global economy in the 21st Century.

Dr Hamadoun I. Touré
Secretary-General
International Telecommunication Union

Welcome to ITU-R

Building on Broadband in the wireless world

The ITU Radiocommunication Sector (ITU-R) plays a vital role in the global management of the radio-frequency spectrum and satellite orbits — limited natural resources which are increasingly in demand from a large and growing number of services such as fixed, mobile, broadcasting, amateur, space research, emergency telecommunications, meteorology, global positioning systems, environmental monitoring and communication services — that ensure safety of life on land, at sea and in the skies.

Our mission is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including those using satellite orbits, and to carry out studies and approve Recommendations on radiocommunication matters.

In implementing this mission, ITU-R aims at creating the conditions for harmonized development and efficient operation of existing and new radiocommunication systems, taking due account of all parties concerned.

Our primary objective is to ensure interference-free operations of radiocommunication systems. This is ensured through implementation of the Radio Regulations and Regional Agreements, and the efficient and timely update of these instruments through the processes of the World and Regional Radiocommununication Conferences. Furthermore, radio standardization establishes 'Recommendations' intended to assure the necessary performance and quality in operating radiocommunication systems. It also seeks ways and means to conserve spectrum and ensure flexibility for future expansion and new technological developments.

ITU-R manages the detailed coordination and recording procedures for space systems and earth stations. Its main role is to process and publish data and to carry out the examination of frequency assignment notices submitted by administrations for inclusion in the formal coordination procedures or recording in the Master International Frequency Register.

ITU-R also develops and manages space-related assignment or allotment plans and provides mechanisms for the development of new satellite services by locating suitable orbital slots.

ITU-R accommodates the launch of new satellites as quickly and efficiently as possible. It facilitates any new developments and the continuation of satellite services in a safe way. It also squeezes more into the frequency bandwidth, which is a limited, finite resource. Our main concerns centre on bringing high speed satellite networks into service as well as the regulatory steps required for registering satellite network frequency assignments.

Everywhere, at every moment, people need to communicate and to understand each other.

Encouraging communication between nations through the harmonious development of the tools made available to them is our ultimate goal.

Valery Timofeev
Director
ITU Radiocommunication Bureau

Today, the ITU and Radiocommunications

Over the past 20 years, telecommunications have grown from a tool that facilitated person-to-person communications to the foundation that underpins a huge number of human activities, from international trade and commerce to health and education. Fast, reliable telecommunication networks are now a vital ingredient in the trans-border delivery of services such as banking, transportation, tourism, online information and electronic home shopping. At the same time, the Union's client base is also evolving, due to changes in the way telecommunication services are delivered and the convergence of the communication, computing and audio-visual (multimedia) entertainment industries.

Liberalization and deregulation of the telecommunication sector in many countries have prompted ITU Members to look to the ITU to provide new services which place greater emphasis on policy development and regulatory guidance.

The mission of the ITU Radicommunication Sector (ITU-R) lies within the broader framework of the purposes of the ITU, as defined in Article 1 of the ITU Constitution and is, in particular, to "maintain and extend international cooperation among all the Member States of the Union for the improvement and rational use of telecommunications of all kinds".

The specific roles of the ITU-R within the framework of this mission are:

- to effect allocation of bands of the radio frequency spectrum, the allotment of radio frequencies and the registration of radio frequency assignments and of associated orbital positions in the geostationary satellite orbit in order to avoid harmful interference between radio stations of different countries;
- to coordinate efforts to eliminate harmful interference between radio stations of different countries and to improve the use made of radio frequencies and of the geostationary-satellite orbit for radiocommunication services.

Radiocommunications Tomorrow

Global standards development and spectrum identification for International Mobile Telecommunication (IMT) systems continue to be a key area of activity in ITU-R for the years to come.

We are witnessing a phenomenal increase in the use of wireless systems in a myriad of applications. International radiocommunication standards (such as the ITU-R Recommendations) underpin the entire global communications framework — and will continue to serve as the platform for a whole range of new mobile applications.

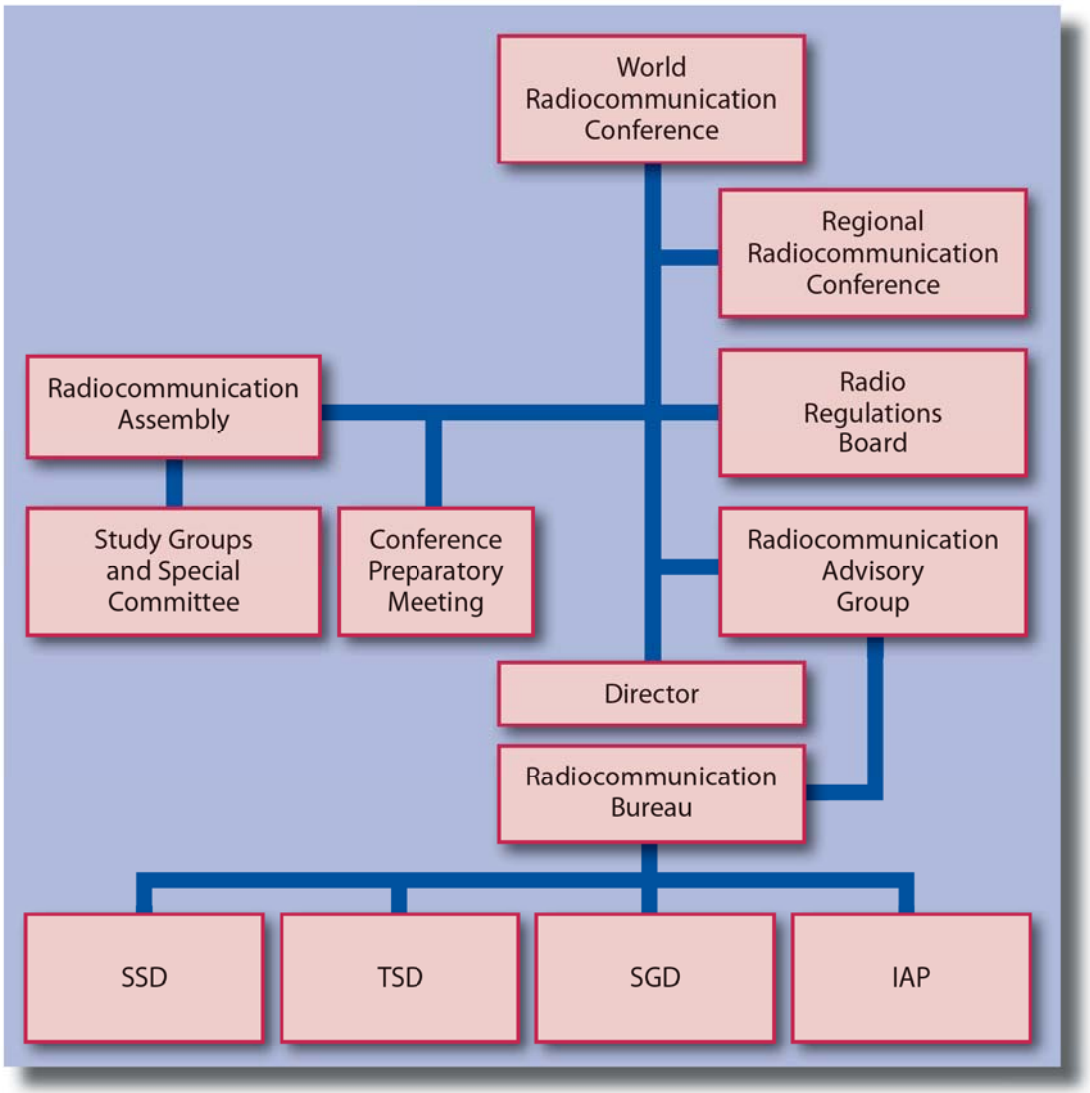
There are two imminent major tasks of the ITU Radiocommunication Sector (ITU-R) which concern all radiocommunication services: continuing to ensure the effective use of the radio-frequency spectrum and undertaking studies concerning development of radiocommunication systems.

Moreover, the Radiocommunication Study Groups carry out studies related to the continuing development of radiocommunication systems used in disaster mitigation and relief operations.

Telecommunication is critical at all phases of disaster management. Aspects of emergency radiocommunication services associated with disasters include, inter alia, disaster prediction, detection, alerting and disaster relief. In certain cases, when the "wired" telecommunication infrastructure is significantly or completely destroyed by a disaster, only radiocommunication services can be employed for disaster relief operation.

One of the Radiocommunication Sector's most important recent achievements has been the development and establishment of the IMT-2000 global standard for cellular communications. IMT-2000 (3G) is now widely deployed and being rapidly enhanced. IMT-Advanced provides a global platform on which to build the next generation of mobile services - fast data access, unified messaging and broadband multimedia - in the form of exciting new interactive services.

Structure of the
ITU Radiocommunication Sector (ITU-R)



IAP – Informatics, Administration & Publications Dept.
SGD – Study Group Dept.
SSD – Space Services Dept.
TSD – Terrestrial Services Dept.

World Radiocommunications Conferences

World Radiocommunication Conferences (WRCs) review and revise the Radio Regulations, the international treaty governing the use of the radio frequency spectrum and the satellite orbits. Revisions are made on the basis of an agenda determined by the ITU Council, which takes into account recommendations made by previous world radiocommunication conferences.

WRCs consider the results of the studies on options to improve the international spectrum regulatory framework based on the effectiveness, appropriateness and impact of the Radio Regulations with respect to the evolution of existing, emerging and future applications, systems and technologies. WRCs make decisions on the most profitable and efficient ways to exploit the limited resource of radio frequency spectrum and manage satellite orbits, which will be critical and increasingly valuable for the development of the global economy in the 21st Century.

WRCs also address any radiocommunication matter of worldwide character, instruct the Radio Regulations Board and the Radiocommunication Bureau and review their activities and suggest suitable topics for the agenda of future WRCs.

At the dawn of a new radio century

The 2007 World Radiocommunication Conference (WRC-07), 22 October to 16 November in Geneva), inaugurated a new century of activities in the ITU Radiocommunication Sector (ITU-R) relating to the process of updating the Radio Regulations. The 2012 World Radicommunication Conference (WRC-12) (23 January to 17 February in Geneva) continues these activities with its agenda, addressing about 33 items related to almost all terrestrial and space radio services and applications. It includes, inter alia, aeronautical mobile systems, satellite services, mobile communications, maritime safety systems, digital broadcasting, fixed service and radiolocation service.

For more information: **www.itu.int/ITU-R/go/WRC-12/**

Radiocommunication Assemblies

Radiocommunication Assemblies (RAs) are responsible for the structure, programme and approval of radiocommunication studies. They are normally convened every three or four years and may be associated in time and place with World Radiocommunication Conferences (WRCs). The Assemblies determine the Questions for study by the Study Groups, assign conference preparatory work and other questions to the Study Groups and respond to other requests from ITU conferences. They also approve and issue ITU-R Recommendations and Questions developed by the Study Groups, set the programme for Study Groups and can disband or establish Study Groups.

For more information: **www.itu.int/ITU-R/go/RA/**

Radio Regulations Board

The twelve members of the Radio Regulations Board (RRB) are elected at the Plenipotentiary Conference. They perform their duties on a part-time basis, normally meeting up to four times a year, in Geneva.

The RRB:

- approves Rules of Procedure, used by the BR in applying the provisions of the Radio Regulations and registering frequency assignments made by Member States;
- addresses matters referred by the BR which cannot be resolved through application of the Radio Regulations and the Rules of Procedure;
- considers reports of unresolved interference investigations carried out by the BR at the request of one or more administrations and formulates recommendations;
- provides advice to Radiocommunication Conferences and Radiocommunication Assemblies.

The Director of the BR is the Executive Secretary of the Radio Regulations Board.

For more information: **www.itu.int/ITU-R/go/RRB**

Radiocommunication Advisory Group

The Radiocommunication Advisory Group (RAG) is tasked to:

- review the priorities and strategies adopted in the Sector;
- monitor progress of the work of the Study Groups;
- provide guidance for the work of the Study Groups;
- recommend measures to foster cooperation and coordination with other organizations and with the other ITU Sectors.

The RAG provides advice on these matters to the Director of the BR. Radiocommunication Assemblies may refer specific matters within its competence to the RAG.

For more information: **www.itu.int/ITU-R/go/RAG**

Radiocommunication Bureau

The Radiocommunication Bureau (BR) is the executive arm of the Radiocommunication Sector, and is headed by an elected Director who is responsible for the coordination of the work of the Sector. The Director of the BR is assisted by a team of high-calibre engineers, computer specialists and managers who, together with administrative staff, make up the Radiocommunication Bureau.

The Radiocommunication Bureau:

- provides administrative and technical support to Radiocommunication Conferences, Assemblies and Study Groups, including Working Parties and Task Groups;
- applies the provisions of the Radio Regulations and various Regional Agreements;
- records and registers frequency assignments and also orbital characteristics of space services, and maintains the Master International Frequency Register;
- provides advice to Member States on the equitable, effective and economical use of the radio frequency spectrum and satellite orbits, and investigates and assists in resolving cases of harmful interference;
- coordinates the preparation, editing and dispatch of circulars, documents and publications developed within the Sector;
- provides technical information, organizes seminars on national frequency management and radiocommunications, and works closely with the ITU Telecommunication Development Bureau in assisting developing countries.

For more information: **www.itu.int/ITU-R/**

Radiocommunication Seminars

The Radiocommunication Bureau (BR) organizes, in Geneva, world seminars on spectrum management every two years, as well as regional seminars aiming in particular at the needs of developing countries. The main objectives of BR seminars and workshops are: to give assistance to Member States in spectrum management activities, e.g. through training, information meetings, seminars, development of handbooks and the provision of tools for automated spectrum management; to expand the assistance offered to Member States in coordinating and registering frequency assignments and in applying the Radio Regulations, with special attention to developing countries and Member States that have recently joined the Union. One of the objectives of the BR is to hold regional seminars in a way to equitably cover all ITU Regions. Administrations that are interested in hosting a regional seminar may contact the BR and, subject to availability of time and resources, the BR undertakes all the necessary steps to organize the event. The BR also organizes, upon request, individual training in Geneva. This training is usually held in conjunction with important ITU-R meetings and the BR tries to regroup them over a one-week period.

For more information: **www.itu.int/ITU-R/go/seminars/**

Publications

ITU-R Publications constitute an essential reference source for all those wishing to remain abreast of the rapid and complex changes occurring in the world of international radiocommunications, such as government agencies, public and private telecommunication operators, manufacturers, scientific or industrial bodies, international organizations, consultancies, universities, technical institutions, etc.

Publications are available in paper format, on CD-ROM, DVD and Online, in the ITU official languages (English, Arabic, Chinese, Spanish, French and Russian).

The ITU Radiocommunication Bureau publishes regulatory texts such as the Radio Regulations, the Final Acts of World and Regional Radiocommunication Conferences and the Rules of Procedure, as well as ITU-R Recommendations, Reports and Handbooks drawn up by the Radiocommunication Study Groups.

ITU Radiocommunication (ITU-R) Publications account for approximately seventy percent of the ITU Publications revenue.

ITU Radiocommunication Publications, Recommendations and Handbooks can be ordered directly via our website at:

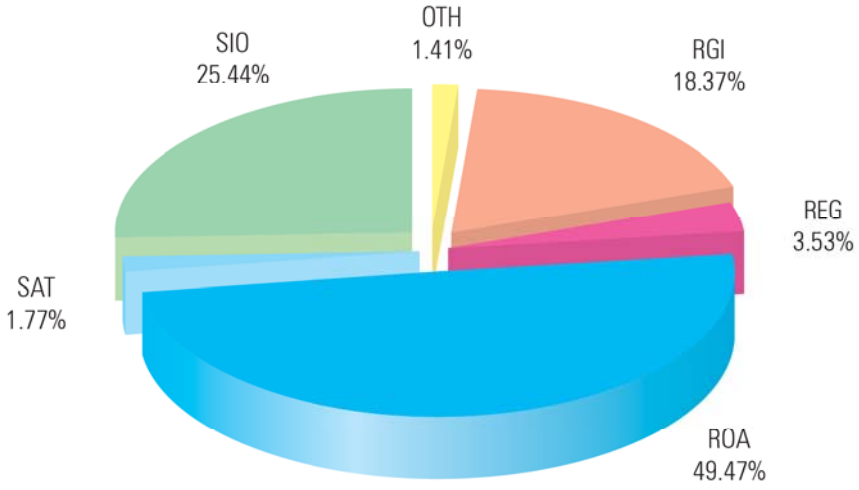
www.itu.int/publications/

ITU Membership includes: 192 Member States, over 560 Sector Members and over 154 Associates.

Member States, Sector Members and Associates

Founded on the principle of international cooperation between governments and the private sector, the International Telecommunication Union (ITU) represents a global forum through which government and industry can work towards consensus on a wide range of issues affecting the future direction of the telecommunications and information technology industry, from the world's largest manufacturers and carriers to small, innovative new players.

ITU-R Sector has more than 283 members, as follows



RGI: Regional and other international organizations (52)
REG: Regional telecommunication organizations (10)
ROA: Recognized operating agencies (140)
SAT: Intergovernmental organizations operating satellite systems (5)
SIO: Scientific or industrial organizations (72)
OTH: Other entity (4)

ITU Sector Members can benefit from the impartial, universal and global nature of the ITU. Having access to various meetings at which decision makers and potential partners are engaged in discussions that can result in business opportunities and joint ventures, members participate in creating the new environment required to address the constantly changing and evolving telecommunication landscape.

ITU's vocation underpins all sectors of the economy and its consensus-based approach gives a voice to all its members. ITU's work helps deploy infrastructure, achieve connectivity, provides efficient telecommunication services worldwide and provides ICT access to all.

For more information on joining our membership, visit the ITU-R website page:

www.itu.int/members/ or download the brochures about membership on the page: www.itu.int/publications/brochurePromo/

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