

ITU and ITU-R Basics and Facts

Joaquin Restrepo
Head OPS/IAP
Radiocommunication Bureau



International Telecommunication Union

WORLD
RADIOCOMMUNICATION
SEMINAR 2014

GENEVA, 8-12 DECEMBER 2014

www.itu.int/go/ITU-R/WRS-14

Organised by:

150 1865 2015

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- 1. ITU at Glance**
- 2. ITU Radiocommunication Sector (ITU-R)**
- 3. ITU-R Study Groups**
- 4. ITU Radiocommunication Bureau (BR)**
- 5. ITU Academia**

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International Telecommunication Union

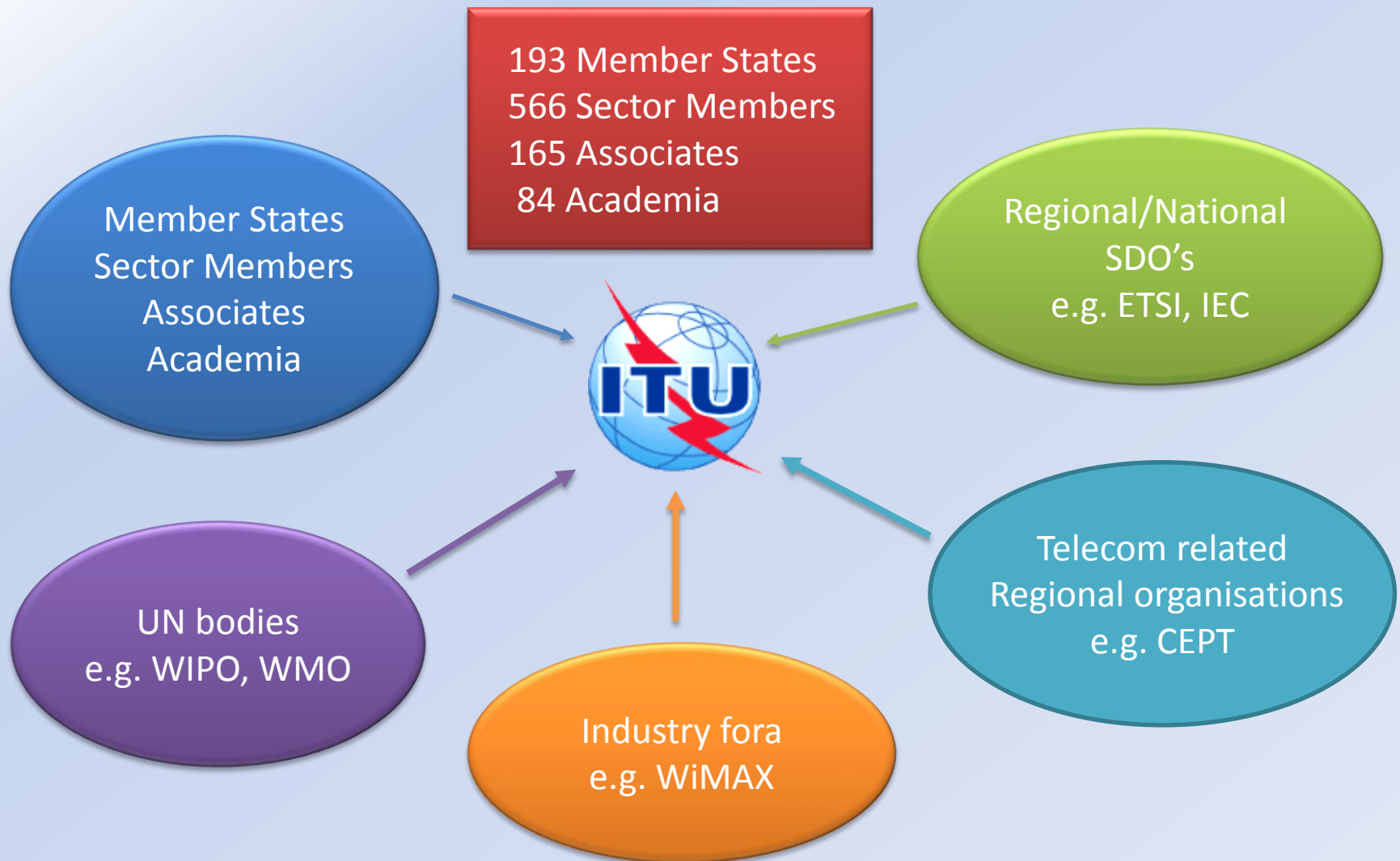
Founded at Paris in 17 May 1865 as the International Telegraph Union.
Present name in 1932

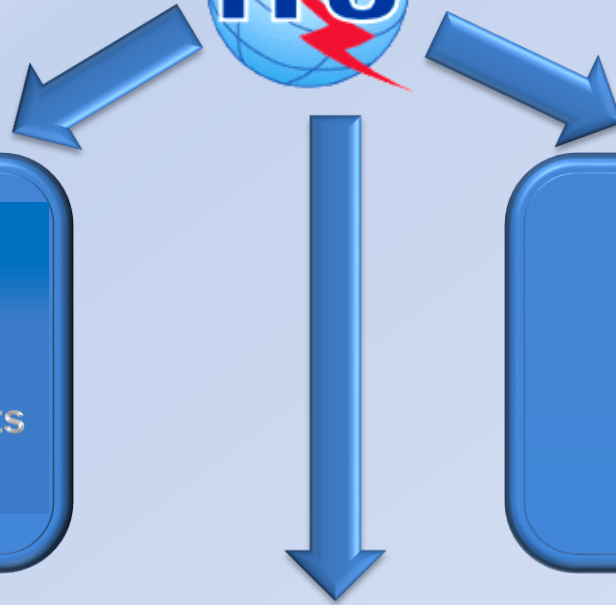
In 1947, **ITU** became a specialized agency of the United Nations, responsible for issues concerning Information and Communication Technologies

ITU coordinates the shared global use of the radio spectrum and satellite orbits, works to improve telecommunication infrastructure in the developing world, and assists in the development and coordination of worldwide technical standards.

This year: 150th Anniversary!

International Telecommunication Union





Sector ITU-T

Telecommunication
standardization
- network and service aspects
(Bureau: TSB)

Sector ITU-D

Assisting implementation
and operation of
telecommunications in
developing countries
(Bureau: BDT)

Sector ITU-R

Radiocommunication
standardization and global
spectrum management
(Bureau: BR)

ITU is ruled by their basic legal instruments, configured as international treaties and therefore binding for all signatory States. These legal instruments are:

- **The Constitution of the International Telecommunication Union**
- **The Convention of the International Telecommunication Union**
- **The Administrative Regulations governing the use of Telecommunications:**
 - a. **International Telecommunication Regulations, ITRs**
 - b. **Radio Regulations, RR (including Rules of Procedure, RoP)**
- **Optional Protocol on the Compulsory Settlement of Disputes Relating to the Constitution, Convention and Administrative Regulations**

ITU is governed by the Plenipotentiary Conference (PP) and the Administrative Council.

Plenipotentiary Conference, PP

Supreme organ of the Union. It is the decision making body which determines the direction of the Union and its activities. PP is held every 4 years:

- PP10: Guadalajara, Mexico, October 2010
- **PP14: Busan, Korea, October 2014**
- PP18: United Arab Emirates, 4Q218

<http://www.itu.int/en/plenipotentiary/2014>

PP main functions:

- Review ITU Basic Texts: Constitution and
- Review ITU Strategic Plan and Budget
- Elect ITU Council Members (States)
- Elect ITU Officials:
 - General Secretary
 - Deputy Secretary
 - ITU Bureaux Directors: BR, TSB, BDT
- Elect Radio Regulations Board (12 members)
- Elect ITU Council (48 States)

ITU Basics Texts (Constitution, Convention, PP: Decisions, Resolutions, Recommendations) are available free of charge for general public (download) at:

<http://www.itu.int/pub/S-CONF-PLEN-2011>

(updated version with PP14 decision, very soon)

Recent PP-14 elected officials (from 01-01-2015 to 31-12-2018)

- **Secretary General** : Houlin Zhao, China
- **Deputy-Secretary General**: Malcolm Johnson, United Kingdom
- **ITU Radiocommunications Bureau (BR)**: François Rancy, France
- **ITU Standardization Bureau (TSB)**: Chaesub Lee, Korea
- **ITU Development Bureau (BDT)**: Brahima Sanou, Burkina Faso
- **Radio Regulations Board**:
 - **Americas**: Ricardo Teran, Argentina; Joanne Wilson, USA
 - **West Europe**: Alfredo Magenta, Italy; Lilian Jeanty, Netherlands
 - **East Europe, North Asia**: Victor Strelets, Russia; Ievgen Khairov, Ukraine
 - **Africa**: Stanley Kibe, Kenya; Simon Koffi, Côte d'Ivoire; Mustapha Bessi, Morocco
 - **Asia**: Yasuhiko Ito, Japan; Nasser Bin Hammad, UAE; Doan Hoan, Vietnam

<http://www.itu.int/en/plenipotentiary/2014/Pages/results.aspx>

ITU Council acts as the Union's governing body in the interval between Plenipotentiary Conferences.

Council is conformed by Administrations elected during PP (less than 25% of State Members, i.e. 48 Members)

ITU Council meets every year (Next meeting: 12-22 May 2015)

Its role is to consider broad telecommunication policy issues to ensure that the Union's activities, policies, strategies, and budget, fully respond to today's dynamic, rapidly changing telecommunications environment.

<http://www.itu.int/en/council/Pages/default.aspx>

New Council is composed by (from 01-01-2015 to 31-12-2018):

- **Region A (Americas): 9 seats;** Argentina, Brazil, Canada, Costa Rica, Cuba, Mexico, Paraguay, United States, Venezuela
- **Region B (Western Europe): 8 seats;** France, Germany, Greece, Italy, Lithuania, Spain, Switzerland, Turkey
- **Region C (Eastern Europe and Northern Asia): 5 seats;** Azerbaijan, Bulgaria, Poland, Romania, Russian Federation
- **Region D (Africa): 13 seats;** Algeria, Burkina Faso, Egypt, Ghana, Kenya, Mali, Morocco, Nigeria, Senegal, Rwanda, Tanzania, Tunisia, Uganda
- **Region E (Asia and Australasia): 13 seats;** Australia, Bangladesh, China, India, Indonesia, Japan, Korea (Republic of), Kuwait, Pakistan, Philippines, Saudi Arabia, Thailand, United Arab Emirates

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VISION



The ITU Radiocommunication Sector (ITU-R) will remain the unique and universal convergence and regulatory centre for worldwide radiocommunication matters.



MISSION



The Mission of the ITU Radiocommunication Sector (ITU-R) is, inter alia, to ensure 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 adopt Recommendations on radiocommunication matters.

<http://www.itu.int/en/ITU-R/information/Pages/operational-plans.aspx>

The strategic goal of the ITU Radiocommunication Sector (ITU-R) is threefold, and includes:

- * To ensure interference-free operations of radiocommunication systems by implementing the Radio Regulations and regional agreements, as well as updating these instruments in an efficient and timely manner through the processes of world and regional radiocommunication conferences.
- * To establish Recommendations intended to assure the necessary performance and quality in operating radiocommunication systems
- * To seek ways and means to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum and satellite-orbit resources and to promote flexibility for future expansion and new technological developments.

1. Celebration of World and Regional Radiocommunication Conferences to expand and adopt Radio Regulations and Regional Agreements on the use of radio spectrum;
2. Studies by ITU-R Study Groups, in the framework established by the Assemblies, on the technical characteristics and operational procedures of the services and radio systems;
3. Coordination of efforts to eliminate harmful interference between radio stations of different countries;
- 4 . Updating the Master International Frequency Register;
5. The establishment of information dissemination mechanisms, including seminars and workshops to contribute to the capacity building of Member States on Spectrum Management.

Objective	Outcomes	Outputs
<p>R.1. Meet, in a rational, equitable, efficient and economical way, the ITU membership's requirements for radio-frequency spectrum and satellite-orbit resources, while avoiding harmful interference</p>	<p>R.1-1: Increased number of countries having satellite networks and earth stations recorded in the Master International Frequency Register (MIFR)</p> <p>R.1-2: Increased number of countries having terrestrial frequency assignments recorded in the MIFR</p> <p>R.1-3: Increased percentage of assignments recorded in the MIFR with favourable finding</p> <p>R.1-4: Increased percentage of countries which have completed the transition to digital terrestrial television broadcasting</p> <p>R.1-5: Increased percentage of spectrum assigned to satellite networks which is free from harmful interference</p> <p>R.1-6: Increased percentage of assignments to terrestrial services recorded in the master register which are free from harmful interference</p>	<ul style="list-style-type: none"> - Final Acts of World Radiocommunication Conferences, updated Radio Regulations - Final Acts of Regional Radiocommunication Conferences, Regional Agreements - Rules of procedure adopted by Radio Regulations Board (RRB) - Results of the processing of space notices and other related activities - Results of the processing of terrestrial notices and other related activities - RRB decisions other than adoption of Rules of Procedure - Improvement of software of ITU-R

Objective	Outcomes	Outputs
<p>R.2. Provide for worldwide connectivity and interoperability, improved performance, quality and affordability of service and overall system economy in radiocommunications, including through the development of international standards</p>	<p>R.2-1: Increased mobile broadband access including in frequency bands identified for International Mobile Telecommunications (IMT)</p> <p>R.2-2: Reduced mobile broadband price basket, as percentage of Gross national income (GNI) per capita</p> <p>R.2-3: Increased number of fixed links and increased amount of traffic handled by the fixed service (Tbit/s)</p> <p>R.2-4: Number of households with Digital Terrestrial Television reception</p> <p>R.2-5: Number of satellite transponders (equivalent 36 MHz) in operation and corresponding capacity (Tbit/s). Number of VSAT terminals, Number of households with satellite television reception.</p> <p>R.2-6: Increased number of devices with radionavigation-satellite reception</p> <p>R.2-7: Number of Earth exploration satellites in operation, corresponding quantity and resolution of transmitted images and data volume downloaded (Tbytes)</p>	<ul style="list-style-type: none"> - Decisions of Radio Assembly, ITU-R Resolutions - ITU-R Recommendations, Reports (including the CPM report) and Handbooks - Advice from the Radiocommunication Advisory Group

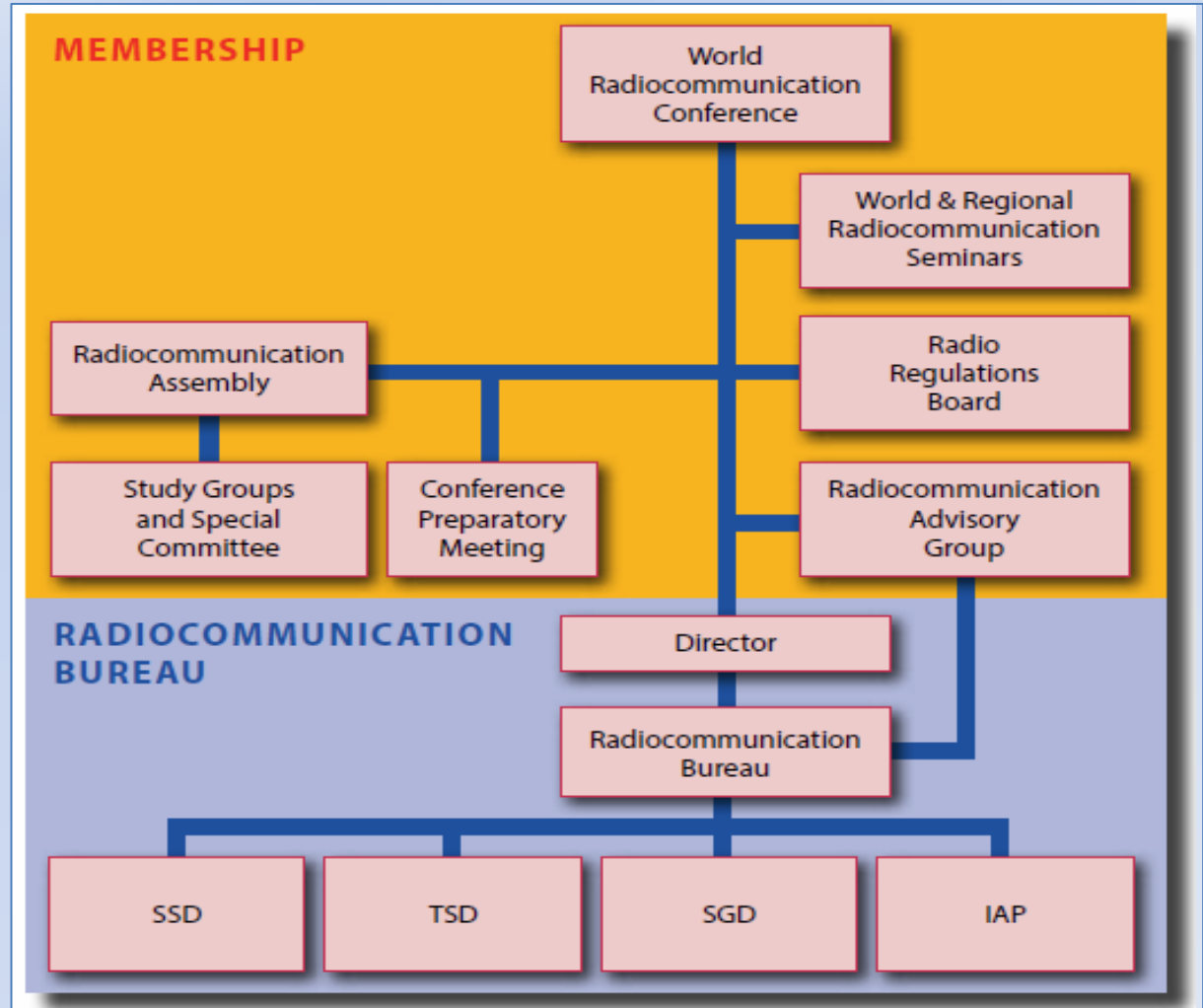
Objective	Outcomes	Outputs
<p>R.3. Foster the acquisition and sharing of knowledge and know-how on radiocommunications</p>	<p>R.3-1: <u>Increased knowledge and know-how on Radio Regulations, Rules of Procedures, Regional Agreements, Recommendations and best practices on spectrum use</u></p> <p>R.3-2: Increased participation in ITU-R activities (including through remote participation), in particular by developing countries</p>	<ul style="list-style-type: none"> - ITU-R publications - Assistance to members, in particular developing countries and LDCs - Liaison/support to development activities - <u>Seminars, workshops and other events</u>

SSD: Space Services Dept.

TSD: Terrestrial Services Dept.

SGD: Study Groups Dept.

IAP: Informatics, Administration and Publications Dept.



ITU-R counts with all 193 ITU States Members and also 303 Memberships coming from 59 countries



- ITU-R Academia 26
- ITU-R Associates 18
- ITU-R Sector Members 259

PP14 decisions (Res 169, rev Busan 2014) , Academia can join all 3 Sectors with a single fee

WRC performs a complete and detailed review of the Radio Regulations (RR), and its Rules of Procedure (RoP), updating them by considering technological developments on Radio sector, its realities and challenges, to respond early and appropriately to these.

WRC has the authority to modify the RR by addenda, modifications or deletions they deem pertinent. These are made by consensus, and only if necessary, would vote (one vote per administration).

WRC can also:

1. Consider any radiocommunication matter of worldwide character
2. Develop instructions to the Radio Regulations Board and the Radiocommunication Bureau, and review their activities
3. Determine issues to be considered by Radiocommunication Assemblies and Study Groups as part of the preparatory work for future WRCs
4. Set the draft agenda for the next WRC

WRCs take place every 4 years (Res.77, PP14); they are normally held in Geneva, Switzerland, for a period of 4 weeks (including the Radio Assembly)

Last WRC: Geneva, Switzerland February 2012 (WRC-12)

Next WRC: Geneva, Switzerland, 2-27 November 2015 (WRC-15)

Followed by: Geneva, Switzerland 2019 (WRC-19)

**Between WRCs, Preparatory Meetings (CPM) are held, typically two:
1st : the week after the WRC; 2nd : ~ 6 months before next WRC.**

Regional Preparatory Meetings are held, usually by each Regional Telecommunication Organization, 6 to 12 months before each WRC.

Radiocommunication Assemblies (RA) are responsible for the structure, programme and approval of radiocommunication studies. RA duties include to:

- Assign** conference preparatory work and other questions to the Study Groups
- Respond** to other requests from ITU conferences
- Suggest** suitable topics for the agenda of future WRCs
- Approve** and issue ITU-R Recommendations and ITU-R Questions developed by the Study Groups
- Set the programme** for Study Groups, and disband or establish Study Groups according to the need.

RA are convened every 4 years (Res. 77 PP14), associated in time and place with WRC (the week before)

Last RA: Geneva, Switzerland January 2012 (RA-12)

Next RA: Geneva, Switzerland 26-30 October 2015 (RA-15)

Followed by: Geneva, Switzerland 2019 (RA-19; the week before WRC19)

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.
- ❖ Provide advice on these matters to the Director of the Radiocommunication Bureau (BR).

Radiocommunication Assemblies (RAs) may refer specific matters within its competence to the RAG.

The RAG may be authorized to act on behalf of the RA between two Assemblies.

RAG meets yearly at Geneva.

-Last meeting: June 2014

-Next meeting: 5-8 May 2015

RAG meetings are open to ITU-R Members only.

RRB, addresses the correct and accurate application of RR and RoP.

RRB is conformed by 12 members, elected during PP, who perform their functions independently and on a part time basis.

Their functions include:

- Approving the **Rules of Procedure (RoP)** used by the ITU-R to implement the provisions of RR, and registering frequency assignments submitted by Member States;
- Considering matters referred to the BR that cannot be solved by applying the RR and Rules of Procedure;
- Considering research reports on unresolved cases of harmful interference and make recommendations accordingly;
- Advising the WRC and RA;
- Considering appeals against decisions taken by the BR regarding frequency assignments;

RRB meets 3 - 4 times per year at the ITU headquarters in Geneva, Switzerland.

ITU-R Study Groups develop the technical bases for decisions taken at WRCs and develop global standards (Recommendations), Reports and Handbooks on radiocommunication matter. Particular attention is paid to the radiocommunication needs of developing countries.

ITU-R Study Groups gathers more than 4000 specialists, from: ITU Member States, Sector and Associate Members, and Academia participate on ITU-R SG activities; ITU-R SG work in cooperation with other international radiocommunication organizations. ITU-R counts with 6 SG, composed by 21 Working Parties (WP).

ITU-R Study Groups meet yearly (after sessions of their respective Working Party)

<http://www.itu.int/en/ITU-R/study-groups>

Currently 1142 Recommendations and 410 Reports in force, and also 44 Handbooks. All ITU-R Rec, Rep, Op, and the Spectrum Management related Handbooks are of public access (download), free of charge

http://www.itu.int/en/ITU-R/Documents/BD_Flyer_A4_E.pdf

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ITU-R SGs gathers more than 4000 specialists, from: ITU Member States, Sector and Associate Members, and Academia participate on ITU-R SG activities; ITU-R SG work in cooperation with other international radiocommunication organizations.

ITU-R counts with 6 SG, composed by 21 Working Parties, WP

WP meets twice a years (some WP 1 or 3), normally at Geneva.

SG meets yearly (after sessions of their respective WP)

<http://www.itu.int/en/ITU-R/study-groups>

All ITU-R Rec, Rep, Op, and the Spectrum Management related Handbooks are of public access (download), free of charge

http://www.itu.int/en/ITU-R/Documents/BD_Flyer_A4_E.pdf

CCV: Coordination Committee for Vocabulary

CPM: Conference Preparatory Meeting

SC: Special Committee on regulatory/procedural matters

SG 1: Spectrum management; 3 WP

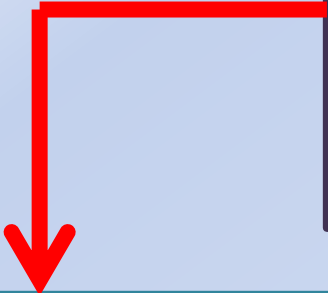
SG 3: Radiowave propagation; 4 WP

SG 4: Satellite services; 3 WP

SG 5: Terrestrial services; 4 WP

SG 6: Broadcasting service; 3 WP

SG 7: Science services; 4 WP

- 
- “Standards” in areas of spectrum management and radio technology
 - Result of consensus from meetings of world-wide experts
 - Some referred to in RR
 - Used by spectrum planners and system designers
 - 1142 Recommendations, 410 Reports, 44 Handbooks in force

Scope: Spectrum management principles and techniques, general principles of sharing, spectrum monitoring, long-term strategies for spectrum utilization, economic approaches to national spectrum management, automated techniques and assistance to developing countries in cooperation with the Telecommunication Development Sector.

In addition, inter-service sharing and compatibility (urgent studies by request), including the development of Recommendations(s) or Reports(s) to the Conference Preparatory Meeting in answer to those urgent Questions concerning inter-service sharing and compatibility requiring special attention.

Structure

- **WP 1A** : Spectrum engineering techniques
- **WP 1B** : Spectrum management methodologies and economic strategies
- **WP 1C**: Spectrum monitoring

Scope: Propagation of radio waves in ionized and non-ionized media and the characteristics of radio noise, for the purpose of improving radicomunication systems.

Structure

- **WP 3J:** Propagation fundamentals
- **WP 3K:** Point-to-area propagation
- **WP 3L:** Ionospheric propagation and radio noise
- **WP 3M:** Point-to-point and Earth-space propagation

Scope: Systems and networks for the fixed-satellite service, mobile-satellite service, broadcasting-satellite service and radiodetermination - satellite service.

Structure

- **WP 4A:** Efficient orbit/spectrum utilization for the fixed-satellite service (FSS) and broadcasting-satellite service (BSS)
- **WP 4B:** Systems, air interfaces, performance and availability objectives for the fixed-satellite service (FSS), broadcasting-satellite service (BSS) and mobile-satellite service (MSS), including IP based applications and satellite news gathering (SNG)
- **WP 4C:** Efficient orbit/spectrum utilization for the mobile-satellite service (MSS) and the radiodetermination-satellite service (RDSS).

Scope: Systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services.

Structure

- **WP 5A:** Land mobile service above 30MHz (excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services
- **WP 5B:** Maritime mobile service including the Global Maritime Distress and Safety System (GMDSS); the aeronautical mobile service and the radiodetermination service
- **WP 5C:** Fixed wireless systems; HF and other systems below 30 MHz in the fixed and land mobile services
- **WP 5D:** IMT systems

Scope: Radiocommunication broadcasting, including vision, sound, multimedia and data services principally intended for delivery to the general public; it encompasses the production and distribution of programmes (vision, sound, multimedia, data, etc.) as well as contribution circuits among studios, information gathering circuits (ENG, requirements for SNG, etc.), primary distribution to delivery nodes, and secondary distribution to consumers.

Structure

- **WP 6A:** Terrestrial broadcasting delivery
- **WP 6B:** Broadcast service assembly and access
- **WP 6C:** Programme production and quality assessment

Scope: “Science services” refer to the standard frequency and time signal, space research (SRS), space operation, Earth exploration-satellite (EESS), meteorological-satellite (MetSat), meteorological aids (MetAids) and radio astronomy (RAS) services.

Structure

- **WP 7A:** Time signals and frequency standard emissions: Systems and applications (terrestrial and satellite) for dissemination of standard time and frequency signals;
- **WP 7B:** Space radiocommunication applications: Systems for transmission/reception of telecommanded and tele-metry data;
- **WP 7C:** Remote sensing systems: for space operation and for space research;
- **WP 7D:** Radio astronomy: remote sensing systems and applications for Earth exploration meteorology and planetary sensing

- **ITU-R Recommendations:** <http://www.itu.int/pub/R-REC>
- **ITU-R Reports:** <http://www.itu.int/pub/R-REP>
- **ITU-R Opinions:** <http://www.itu.int/pub/R-OP>
- **ITU-R Handbooks:** <http://www.itu.int/pub/R-HDB>

All ITU-R Rec, Rep, Op, and the SM related Handbooks are of public access (download), free of charge

Compliance with ITU-R Recommendations is not mandatory. However, while some are incorporated by reference in the ITU Radio Regulations, ITU-R Recommendations are developed by radiocommunication world experts, thereby enjoying a high reputation and worldwide implementation, having the status of international standards in their domain of application.

There are 1142 Recommendations and 410 Reports in force (Dec 2014)

BO: Satellite delivery

BR: Recording for production, archival and play-out; film for television

BS: Broadcasting service (sound)

BT: Broadcasting service (television)

F: Fixed service

M: Mobile, radiodetermination, amateur and related satellite services

P: Radiowave propagation

RA: Radio astronomy

RS: Remote sensing systems

S: Fixed-satellite service

SA: Space applications and meteorology

SF: Frequency sharing and coordination between fixed-satellite and fixed service systems

SM: Spectrum management

Example Nomenclature: Rec. ITU-R BO.2063.-0 (09/2014)
Type Sector Serie.Number-version (issued: Month/year)

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The Radiocommunication Bureau is the executive arm of ITU-R. BR is headed by an elected Director responsible for the coordination of the work of the Sector, managing professional and administrative teams of BR.

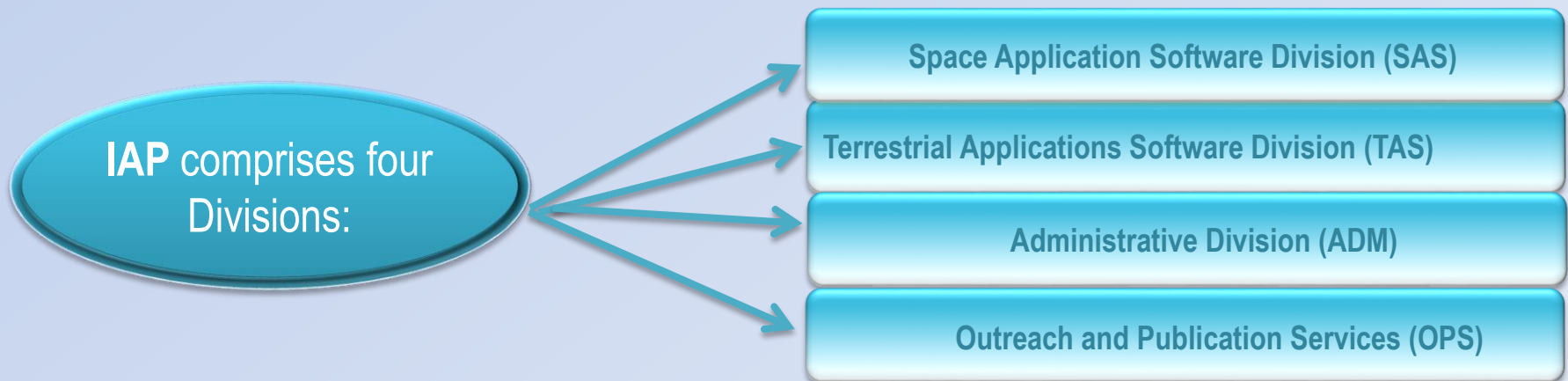
The Radiocommunication Bureau:

- ✓ **Provides** administrative and technical support to WRCs, RAs, ITU-R SG, including WPs 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, MIFR
- ✓ **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 (BDT)

IAP is responsible for the development and maintenance of major software packages used by the BR as well as software adapted to national frequency management units. IAP carries out studies related to policies for the technologies to be used for the information handling within the BR and administrations in the fields of management of the radio frequency spectrum and satellite orbits.

IAP undertakes activities related to:

- ITU-R Publications
- Website development;
- Membership and outreach in coordination with the General Secretariat and the other Bureaux.
- Also centralizes the IT resources of ITU-R. I
- IAP undertakes actions and activities relating to development and enhancement of the automation tools for the support of all the other activities and outputs of the Sector. In addition, VI) IAP is responsible for the general administrative functions of BR, including the correspondence registry, document and delegate registration management for conferences and meetings. It also oversees all BR financial and personnel matters

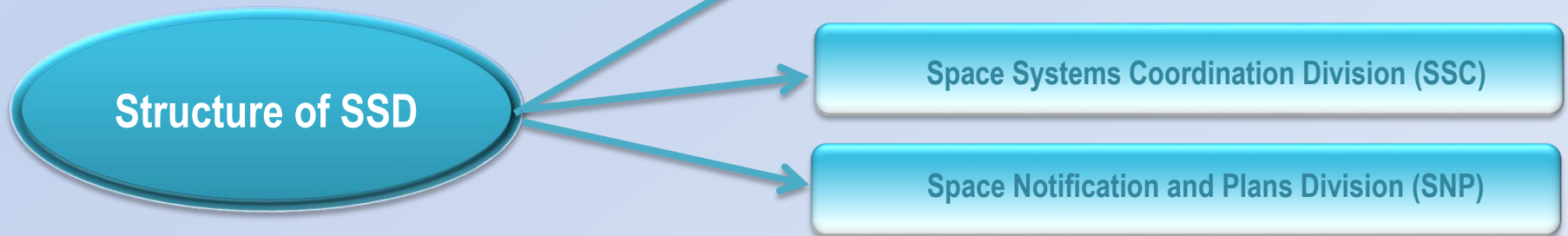


The Study Group Department (SGD) supports the work of the ITU-R Study Groups following the working methods and work programs as adopted by the Radiocommunication Assembly.

- They provide the Secretariat to every ITU-R SG, headed by each SG Counsellor:
- Study Group 1 (SG 1): Spectrum management
- Study Group - 3 (SG 3): Radiowave propagation
- Study Group 4 (SG 4): Satellite services
- Study Group 5 (SG 5): Terrestrial services
- Study Group 6 (SG 6): Broadcasting service
- Study Group 7 (SG 7): Science services
- Coordination Committee for Vocabulary (CCV)
- Conference Preparatory Meeting (CPM)
- Special Committee on Regulatory/Procedural Matters (SC)
- Joint Task Group 4-5-6-7 (JTG 4-5-6-7): WRC-15 Agenda items 1.1 & 1.2

The Space Services Department (SSD) is responsible for coordination and recording procedures for space systems and earth stations. The Department handles capture, processing and publication of data and carries out examination of frequency assignment notices submitted by administrations for inclusion in the formal coordination procedures or recording in the Master International Frequency Register (MIFR).

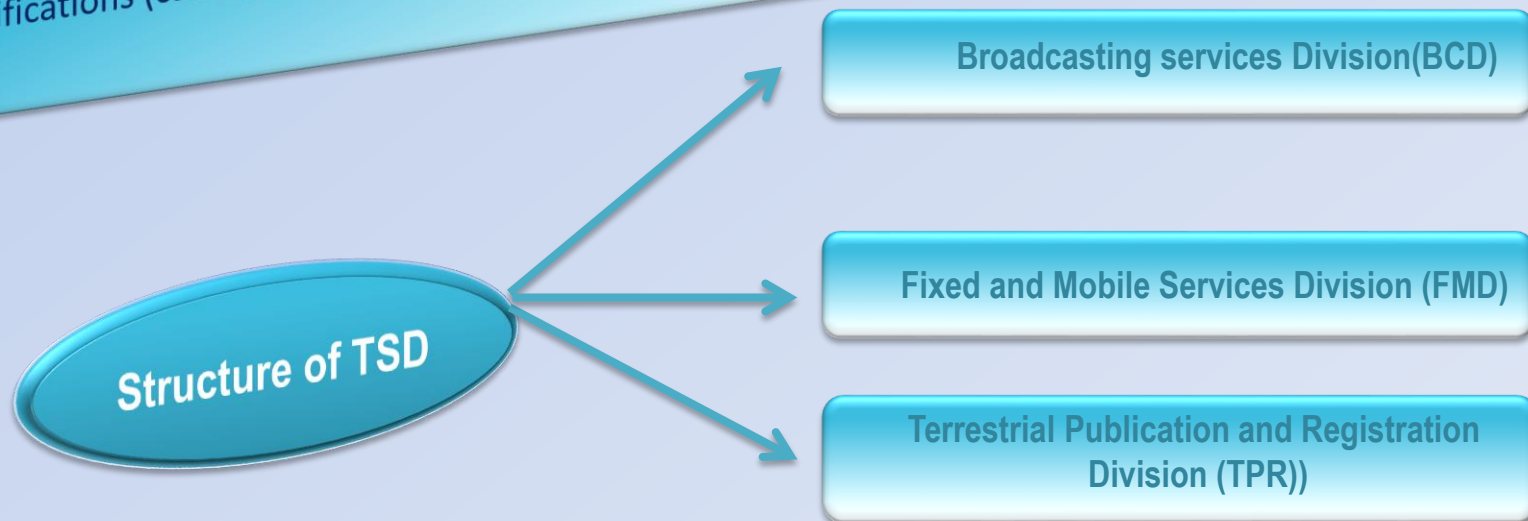
SSD is also responsible for managing the procedures for space related assignment or allotment plans of the ITU and for provision of assistance to administrations on all of the above issues.



<http://www.itu.int/ITU-R/go/space/en>

The Terrestrial Services Department (TSD) carries out technical and regulatory functions and provides assistance to administrations in the domain of international management of the RF spectrum, as specified in the Radio Regulations and various Regional Agreements, concerning terrestrial services (broadcasting, fixed, maritime mobile, aeronautical mobile, etc.).

It processes notifications of frequency assignments, maintains the Master Register and Plans concerning terrestrial services and publishes their updates at regular intervals. It also applies various administrative regulations dealing with allocation of international means of identifications (call sign series, MIDs) and with safety of life.



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Academia Members play an important role in standards and regulation development by bringing their expertise to decisions with global implications.

Academia and ITU SG:

Academia has the unique opportunity to influence the global ICT community's thinking and actions on topics relevant to their expertise.

Each ITU Sector has a number of SG related to their specific field. This is where ICT stakeholders from around the world come together to develop new standards and approaches which shape the future of ICT.

Key Themes of Study Groups:

Cybersecurity / Emergency Telecommunications / Climate Change / Spectrum and Satellite Management / Broadband / Digital Divide / Optical Fiber / Cloud Computing / Radiowave Propagation and more...

An annual peer-reviewed academic conference that increases dialogue between academics and experts working on ICT standardization.

Here, Academia get to submit papers with innovative approaches to research on the role of ICT standardization in today's global economy and have the opportunity to be published.

Total prize of USD 10,000 for top 3 papers

Best papers published in:
IEEE Communications Magazine
Global recognition for your
research/and your top students



ICT Challenges:

ITU offers challenges that are targeted for Academia to discuss pressing issues within the information and communication technology world.

ITU Academy:

ITU offers a wide and growing range of general and specialized courses on all aspects of telecommunications as experts, policy makers, and regulators meet to discuss emerging issues.

ITU Academy is an ideal platform for professors and students to be involved with current changes in ICT, and use these courses as an integrated part of the curriculum.

Professors can serve as expert presenters in their field

Join ITU - How You Will Benefit

All this...

- ✓ Increase Your Technical Knowledge
- ✓ Contribute to international standards and best practices
- ✓ Become an editor or rapporteur of ITU documents
- ✓ Raise the profile of your institution
- ✓ Share your expertise and access training and specialized seminars
- ✓ Engage in global and regional debates
- ✓ Launch innovative public-private partnerships
- ✓ Get access to world-leading ICT statistics

For only:

Institutions in developing countries:

- ~CHF 2,000/year

Institutions from developed countries:

- ~CHF 4,000/year

- **This fee allows to join all 3 Sectors!**

For more information on Joining ITU contact membership@itu.int or visit: [Join ITU Website](#)

Academia Membership

79 universities and research centers in 41 countries





What Our Members Say..

“Exceptional opportunity to contribute to ITU standards...Increased visibility at the national and international level”- Dr. Wael Bazzi, Associate Professor of Electrical and Computing Engineering



“In addition to falling closely in line with Georgia Tech’s strategic vision...our collaboration with ITU also aims at fostering productive relationships with industry, academia and other organizations actively working in the ICT arena”

– Alain Louchez, Director of Center for the Development and Application of Internet of Things Technology



“[ITU makes] students aware of the impact when standards are not used or defined in terms of security and quality of work”

- Prof. Maurizio Talamo, Computer Science Information Security



“We strongly believe that ITU has been playing and will continue to play an important role for shaping the whole IT industry and therefore the human's life” - Jian Song, Director of Tsinghua DTV Technology R&D Center, Tsinghua University



Radio Regulations: www.itu.int/pub/R-REG-RR-2012

Rules of Procedure: www.itu.int/pub/R-REG-ROP-2012

WRC-15 Agenda and Resolutions: www.itu.int/go/ITU-R/WRC-15-Agenda

ITU-R Handbooks:

Computer-aided Techniques for Spectrum Management (CAT): www.itu.int/publ/R-HDB-01

Spectrum Monitoring: www.itu.int/publ/R-HDB-23

National Spectrum Management: www.itu.int/publ/R-HDB-21

Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction:
www.itu.int/pub/R-HDB-45

ITU-R Study Group Outputs:

ITU-R Recommendations: www.itu.int/pub/R-REC

ITU-R Reports: www.itu.int/pub/R-REP

ITU-R Questions: www.itu.int/pub/R-QUE

ITU-R Opinions: www.itu.int/pub/R-OP

ITU-R/ITU-T Terms and Definitions: www.itu.int/pub/R-TER

ITU-R Booklets:

ITU-R Book of Resolutions: www.itu.int/pub/R-VADM-RES

ITU-R Radiocommunication: Committed to connecting the world: www.itu.int/pub/R-GEN-OVW

ITU-R Radiocommunication: Study Groups: www.itu.int/pub/R-GEN-SGB

ITU-R Radiocommunication: Climate Change: www.itu.int/pub/R-GEN-CLC

Terrestrial Services:

Terrestrial Services Software: www.itu.int/pub/R-SOFT-TER

Global Administration Data System (GLAD): www.itu.int/pub/R-SOFT-GLAD

Maritime Mobile Access and Retrieval System (MARS): www.itu.int/pub/R-SOFT-MARS

Emergency (Res.647): www.itu.int/net/itu-r/terrestrial/res647

Monitoring reports: www.itu.int/ITU-R/go/terrestrial-monitoring

Space Services:

Space Network List (SNL): www.itu.int/pub/R-SOFT-SNL

Space Network Systems (SNS): www.itu.int/pub/R-SOFT-SNS (available as a free service for TIES registered users only)

Others:

SG3 Databanks (Radiowave propagation): www.itu.int/pub/R-SOFT-SG3

ITU Patent Statement and Licensing Declaration Information: www.itu.int/pub/R-SOFT-PAT

ITU Digitized World Map (IDWM) and Subroutine Library(32bit): www.itu.int/pub/R-SOFT-IDWM

Both of free resources are available online on the ITU-R homepage: www.itu.int/ITU-R

Tab: “Free Resources”

in six languages of ITU (Arabic, Chinese, English, French, Russian, Spanish)
whenever possible.

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