



ITU and ITU-R Basics and Facts

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Overview UNDA

- ITU: Brief history and Structure
- ITU Radiocommunications Sector (ITU-R)
- ITU Radiocommunications Bureau (BR)



International Telegraph Union

153 years old : founded on 17 May 1865 by 20 nations

- common rules to standardize equipment to facilitate international interconnection,
- adopted uniform operating instructions which would apply to all countries,
- common international tariff and accounting rules.

Took ITU name on 1934

Became UN agency on 1947





History of ITU-R in brief

1906 (Berlin)	International Radiotelegraph Convention (1 st <i>Radio Regulations</i>)
1927 (Washington DC)	CCIR (International Radio Consultative Committee)
1932 (Madrid)	Telegraph & Radiotelegraph Conventions merged: the International Telegraph Union became the International Telecommunication Union
1947 (Atlantic City)	IFRB (International Frequency Registration Board) ITU as UN specialized agency
1992 (Geneva)	ITU-R (Radiocommunication Sector): <ul style="list-style-type: none">• ITU-R Study Groups• RRB (Radio Regulations Board)• BR (Radiocommunication Bureau)





International Telecommunication Union

Website: www.itu.int

193 Member States

**536 Sector Members
and 191
Associates**

**155
Academia
Members**

**700 staff / 70
nationalities**



United Nations
specialized
agency for
information and
communication
technologies –
ICTs:

allocate global
radio spectrum
and satellite
orbits,

develop the
technical
standards that
ensure
networks/technol
ogies
interconnect,

strive to improve
access to ICTs to
underserved
communities
worldwide.



Legal framework

comprises, in particular, the following legal instruments of the Union, which have treaty status:

The Constitution:

- **basic instrument of the International Telecommunication Union, with the object of facilitating peaceful relations, international cooperation among peoples and economic and social development by means of efficient telecommunication services**

The Convention:

- **complements the Constitution**

The Administrative Regulations:

- **Radio Regulations**, which incorporate the decisions of the World Radiocommunication Conferences, including all Appendices, Resolutions, Recommendations and ITU-R Recommendations incorporated by reference
- **International Telecommunication Regulations**, which establish general principles related to the provision and operation of international telecommunication services offered to the public as well as to the underlying international telecommunication transport means used to provide such services

Structure



Plenipotentiary
Conferences

Council

World Conferences
on International
Telecommunications

World/Regional
Radiocommunication
Conferences

Radiocommunication
Assemblies

Radio
Regulations
Board

Advisory
Group

Study
Groups

World
Telecommunication
Standardization
Assemblies

Advisory
Group

Study
Groups

World/Regional
Telecommunication
Development
Conferences

Advisory
Group

Study
Groups

General Secretariat

Secretary-General

Deputy
Secretary-
General

Director

Radiocommunication
Bureau

Director

Telecommunication
Standardization
Bureau

Director

Telecommunication
Development
Bureau

Radiocommunication
Sector

Telecommunication
Standardization
Sector

Telecommunication
Development
Sector



ITU Governance

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: Dubai, United Arab Emirates, 29/10 to 16/11 2018**
- PP22: 3Q 2022, venue tbd

<https://www.itu.int/web/pp-18>



Plenipotentiary Conferences, PP

Recent PP-18 elected officials (from 01-01-2019 to 31-12-2022)

- **Secretary General** : Houlin Zhao, China (re-elected)
- **Deputy-Secretary General**: Malcolm Johnson, United Kingdom (re-elected)
- **ITU Radiocommunications Bureau (BR)**: Mario Maniewicz, Uruguay
- **ITU Standardization Bureau (TSB)**: Chaesub Lee, Korea (re-elected)
- **ITU Development Bureau (BDT)**: Doreen Bogdan-Martin, USA

Radio Regulations Board:

- **Americas**: Chantal Beaumier, Canada; Fernando Borjón Figueroa, Mexico
- **West Europe**: Yvon Henri, France; Lilian Jeanty, Netherlands,
- **East Europe, North Asia**: Sahiba Hasanova, Azerbaijan, Nikolay Varlamov, Russia
- **Africa**: Elsayed Azzouz, Egypt; Hassan Talib, Morocco; Samuel Mandla Mchunu
South Africa
- **Asia**: Akira Hashimoto, Japan; Tariq Alamri, Saudi Arabia; Doan Hoan, Vietnam

<https://www.itu.int/web/pp-18/en/home/electionResult>



ITU Council

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: April 2018)

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>



ITU Council

New Council will be composed by (from 01-01-2019 to 31-12-2022):

- **Region A (Americas): 9 seats;** Argentina, Bahamas, Brazil, Canada, Cuba, El Salvador, Mexico, Paraguay, United States
- **Region B (Western Europe): 8 seats;** France, Germany, Greece, Hungary, Italy, Spain, Switzerland, Turkey
- **Region C (Eastern Europe and Northern Asia): 5 seats;** Azerbaijan, Czech Republic, Poland, Romania, Russian Federation
- **Region D (Africa): 13 seats;** Algeria, Burkina Faso, Côte d'Ivoire, Egypt, Ghana, Kenya, Morocco, Nigeria, Rwanda, Senegal, South Africa, Tunisia, Uganda
- **Region E (Asia and Australasia): 13 seats;** Australia, China, India, Indonesia, Iran, Japan, Korea (Rep. of), Kuwait, Pakistan, Philippines, Saudi Arabia, Thailand, United Arab Emirates



Radiocommunication Sector (ITU-R)

vital role in the global management of the radio-frequency spectrum and satellite orbits -

Manages limited natural resources which are increasingly in demand from a large and growing number of services

The ITU
Radiocommunication
Sector (ITU-R) role and
mission

rational, equitable, efficient and economical use of the radiofrequency spectrum by all radiocommunication services,

- ensure interference free operations of radiocommunication systems
- carry out studies and approve Recommendations on radiocommunication-related matters



VISION & MISSION





Radiocommunication Sector (ITU-R)

- **is to ensure interference free through the implementation and the efficient and timely update of the:**

- Radio Regulations and
- Regional Agreements.

Objective

- Developing and updating international regulations on the use of orbit /spectrum
- Applying these regulations
- Developing and adopting standards and best practices on the use of orbit/spectrum resources
- Disseminating information on these regulations, standards and best practices

Role/Duties

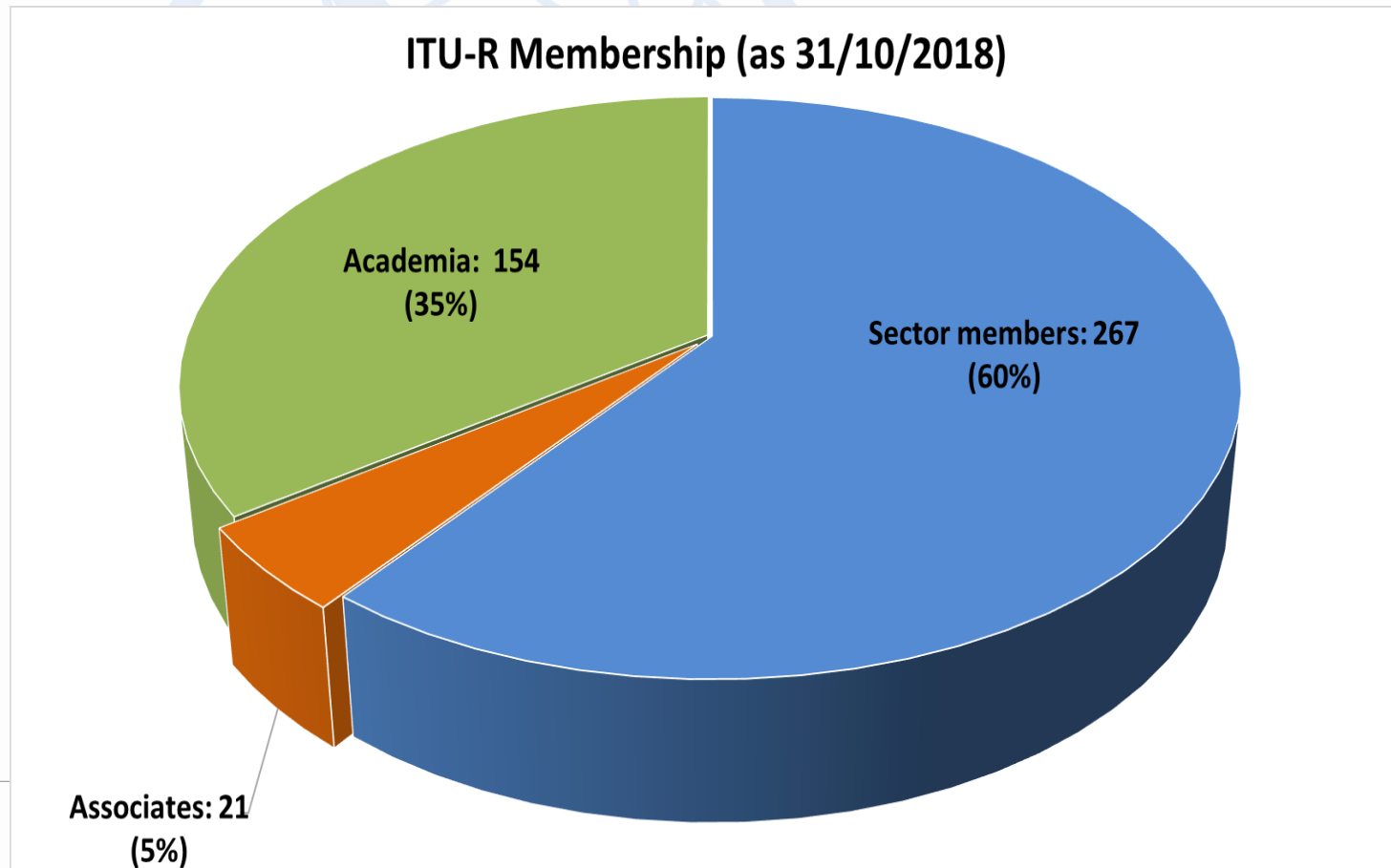
Radio standardization also establishes '*Recommendations*' intended to assure the necessary performance and quality in operating radiocommunication systems, and seeks ways and means to conserve spectrum and ensure flexibility for future expansion and new technological developments.



ITU-R Membership

ITU-R counts with all 193 ITU States members and 420 memberships coming from 58 countries and 81 Regional & International Organizations (as 31/Oct/2018). The distribution of Sector members, Associates and Academia is as follows:

- Sector members: 267
- Associates: 21
- Academia*: 154





World Radio Conferences, WRC

- considering the evolving spectrum requirements of all Radiocommunication services, the advances in technology, and the need for protection of existing services.

WRC reviews the requirements



- modify the RR and consider any radiocommunication matter of worldwide character
- Develop instructions to the RRB and the BR
- Determine issues considered by RA and SGs as part of the preparatory work for WRC future
- Set agenda of next WRC, and subsequent draft.

WRC has the authority, among others, to



- develop and maintain, by consensus, a sustainable ecosystem for radiocommunications and avoid disruptions.

On a consensus basis



Create regulatory certainty for a multi-trillion dollars activity which plays an increasingly important role in the development of our societies

Creating certainty requires consensus in order to achieve stable results on a sustainable use of orbit/spectrum resources



Challenges

Everybody is in favor of
spectrum harmonization

Everybody wants it
to be his own way





Radiocommunication Assembly (RA)

- Assign conference preparatory work and other questions to the Study Groups (CPM)
- Respond to other requests from ITU conferences
- Suggest suitable topics for the agenda of future WRCs (CPM)
- 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 need.

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

LINE OF DUTY

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

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

Next RAs

- **RA-19: 21-25 October Sharm El-sheikh, Egypt**
- RA-23: 4Q 2023; same venue of WRC-23, hold week before it





Radiocommunications Advisory Group (RAG)

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;

Recommends measures to foster cooperation/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 in Geneva.

Last meeting: 26-29 March 2018

Next meeting: 15-17 April 2019

RAG meetings are open to ITU-R members.



Radio Regulations Board, RRB

- **Approve the Rules of Procedure (RoP) to implement the provisions of RR, and registering frequency assignments made by Member States;**
- **Consider matters referred by the BR that cannot be resolved through the application of the Rules of Procedure;**
- **Consider reports on interference cases;**

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

<http://www.itu.int/en/ITU-R/conferences/RRB/Pages/default.aspx>

**RRB comprises
12 members,
elected during PP**





ITU-R Study Groups (SG)

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

develop the technical bases for decisions taken at WRCs and develop global standards (Recommendations), Reports and Handbooks on radiocommunication matters.

gather more than 5,000 specialists from ITU Member States, Sector and Associate Members, and Academia ;

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)

Currently 1165 Recommendations and 536 Reports in force, and also 42 Handbooks

ITU-R Publications: Resolutions (ITU-R RA), Recommendations, Reports, Handbooks, Opinions, Questions, and some software and databases are of public access (download), free of charge.

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





ITU-R Resources free access

 **Free** online access to ITU-R e-Publications:

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

ITU RADIO REGULATIONS:

www.itu.int/pub/R-REG-RR

ITU RULES OF PROCEDURE:

www.itu.int/pub/R-REG-ROP

WRC-19 AGENDA & RESOLUTIONS:

www.itu.int/en/ITU-R/conferences/wrc/2019/

WRC DOCUMENTS:

www.itu.int/en/ITU-R/conferences/wrc/

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-DB

ITU-R Handbooks

www.itu.int/pub/R-HDB

ITU-R BOOKLETS:

Book of ITU-R Resolutions

www.itu.int/pub/R-VADM-RES

ITU-R Radiocommunication Study Groups

www.itu.int/pub/R-GEN-SGB

ITU-R Radiocommunication Climate Change

www.itu.int/pub/R-GEN-CLC



ITU-R Radiocommunication Sector

www.itu.int



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 **Free** online access to ITU-R Software & Databases

ITU Radiocommunication Sector (ITU-R):

TERRESTRIAL SERVICES:

Terrestrial Software Tools & Databases

www.itu.int/en/ITU-R/terrestrial/Pages/Software-Tools-and-Databases.aspx

Global Administration Data System (GLAD)

www.itu.int/ITU-R/go/glad

Maritime mobile Access & Retrieval System (MARS)

www.itu.int/ITU-R/go/mars/

Emergency and disaster relief radiocommunication (Res.647)

www.itu.int/ITU-R/go/res647/

International monitoring

www.itu.int/ITU-R/go/terrestrial-monitoring

SPACE SERVICES:

Space Services (SSD)

www.itu.int/ITU-R/go/space/

Space Network List (SNL)

www.itu.int/ITU-R/go/space/en/

Space Network Systems (SNS)

www.itu.int/sns/ (available as a free service for TIES registered users only)

Space Services Software (BRsoft)

www.itu.int/ITU-R/go/space-software/

Space services emergency database (Res.647)

www.itu.int/net/ITU-R/space/res647/index.asp

RNSS (Res.609)

groups.itu.int/res-609/RES-609PORTAL.aspx

OTHERS:

SG3 Databanks (Radiowave propagation)

www.itu.int/pub/R-SOFT-SG3

ITU Patent Statement & Licensing Declaration Information

www.itu.int/pub/R-SOFT-PAT

ITU Digitized World Map (IDWM) & Subroutine Library (32-bit)

www.itu.int/pub/R-SOFT-IDWM



These Free eResources are available on the ITU-R homepage www.itu.int/ITU-R

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

ITU Committed to Connecting the World

www.itu.int

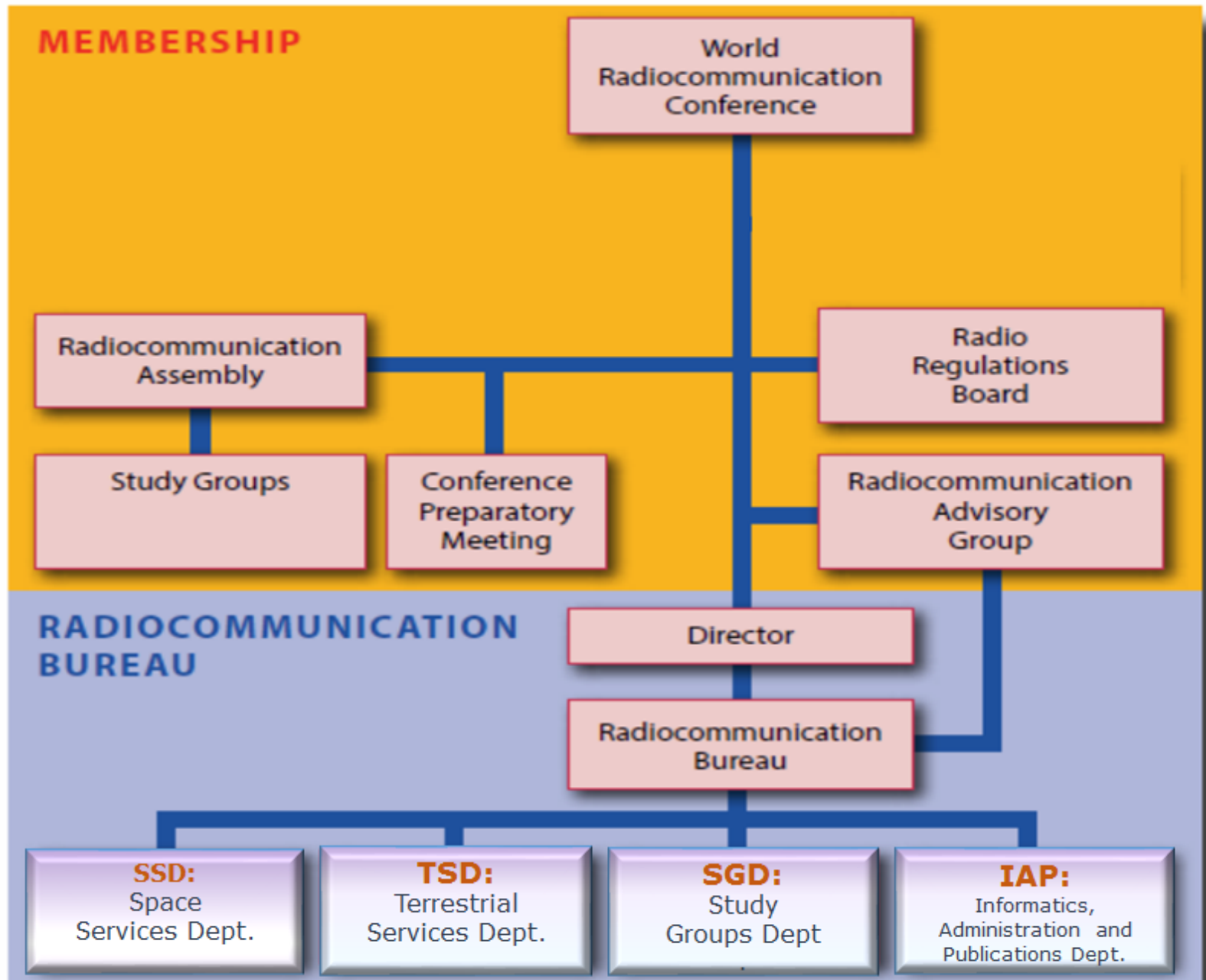


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<https://www.itu.int/oth/R040200003F/en>



ITU-R Structure





Radiocommunications Bureau (BR)

- BR is headed by an elected Director responsible for the coordination of the work of the Sector, managing professional and administrative teams of BR.

- administrative and technical support to WRCs, RAs, ITU-R SG, WPs and Task Groups;
- Applies the provisions of the RR and various Regional Agreements;
- Records and registers frequency assignments and orbital characteristics of space services,
- maintains the Master International Frequency Register, MIFR
- Coordinates the preparation, editing and dispatch of circulars, documents and publications developed within the Sector;

**BR
management**



BR duties

LINE OF DUTY



BR Study Groups Dept.

BR Study
Groups
Dept
supports
The work
of:

- **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)**



Space Services

www.itu.int/ITU-R/space/

Coordination and recording procedures for space systems and earth stations:

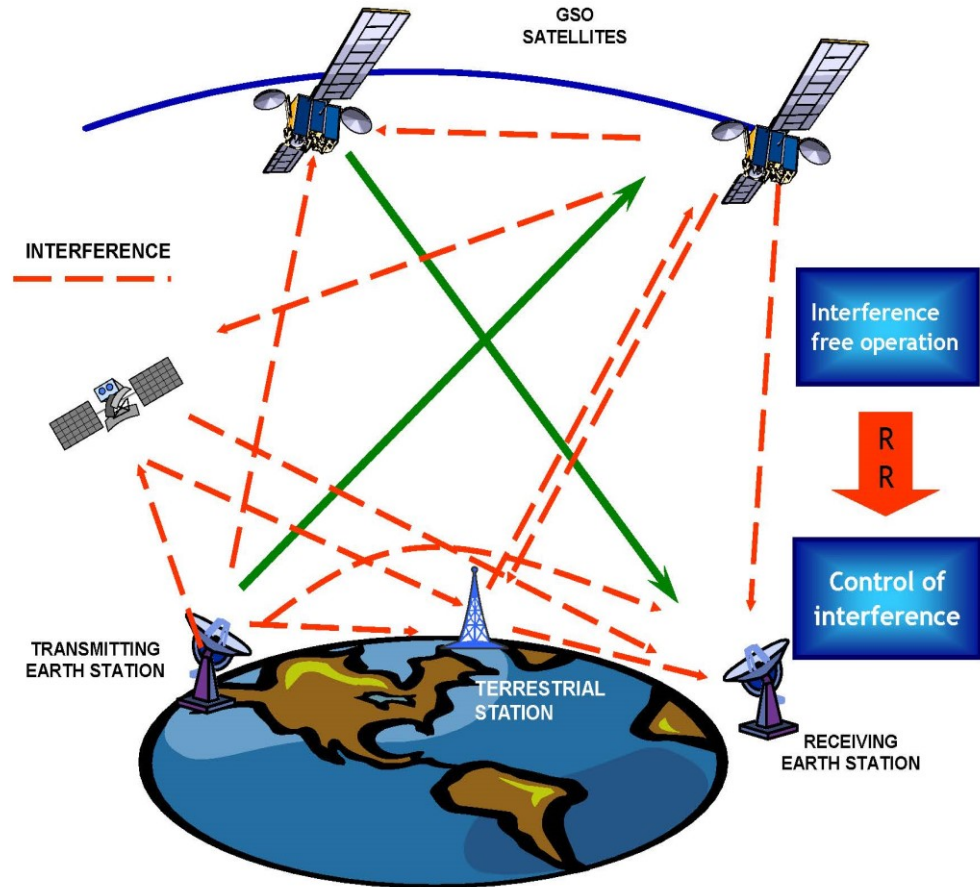
capture, processing and publication of data and examination of frequency assignment notices submitted by administrations for inclusion in the formal coordination procedures or recording in the Master International Frequency Register (MIFR).



Procedures for space related assignment or allotment *plans*



Assistance to administrations on all of the above issues





Terrestrial Services

(www.itu.int/ITU-R/terrestrial/)

Regulatory and Technical Functions

Broadcasting / Fixed and Mobile /
Maritime Mobile / Aeronautical Mobile

Terrestrial Plans

AP25, AP26, AP27, ST61, GE75, RJ81, GE84, GE85M, GE85N, RJ88, GE89, GE06

HF Broadcasting (Art.12)

Administrative and Operational Procedures

International means of identification: *all sign series/maritime identification
digits/blocks of selective call sign numbers*

Service Documents: *Ship stations / coast stations / radio determination /
call signs / MARS, etc*

Harmful interference & monitoring programs



IAP

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**
- **Membership and outreach in coordination with the General Secretariat and the other Bureaux.**
- **Development and enhancement of the Bureau's automation tools (IT resources)**
- **BR Administrative functions, including organization and support of ITU-R conferences and meetings**

IAP comprises four Divisions:





World and Regional Radio Seminars (WRS/RRS)

After WRC-15, BR a intra-WRCs WRS/RRS cycle was started, aimed at disseminating worldwide the revision of the Radio Regulations made by WRC-15 and the associated Rules of Procedure.

These Seminars foster human capacity building on the use of the radio-frequency spectrum and the satellite orbits, in particular the application of the provisions of the ITU Radio Regulations. RRS are complemented with Forum sessions dedicated to spectrum-related topics of particular interest to the involved region.

These seminars were hosted by the governments, the regulators or the spectrum management authorities of the host countries, in cooperation with the relevant regional organizations and the ITU regional/areas offices

- WRS-16: more than 350 participants from over 120 countries
- In eight RRS: more than 700 participants from over 110 countries

WRS18: more than 400 participants from over 130 countries

3 RRS are planned for 2019, concluding the 2016-2019 cycle



Thank you

ITU – Radiocommunication Bureau
Questions/request of assistance: brmail@itu.int