

ITUEvents

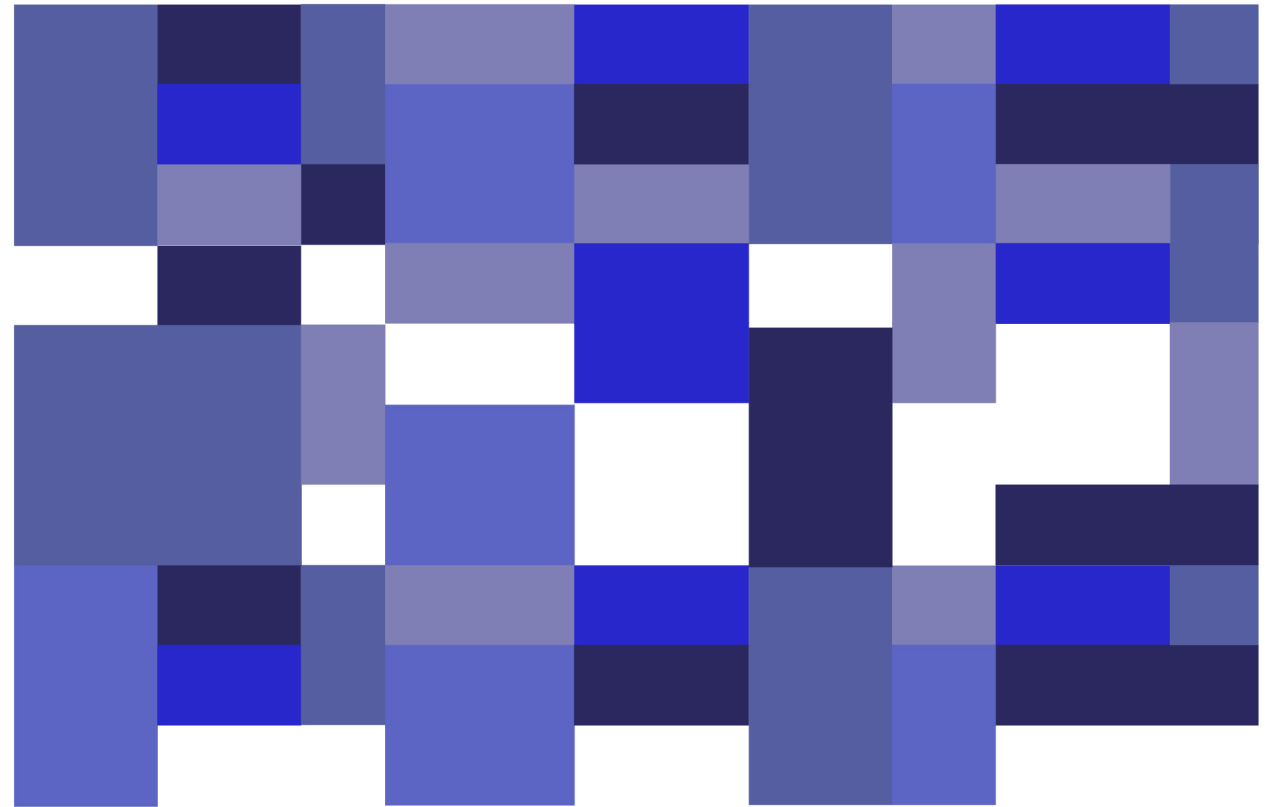
Workshop for Region 2 (RR)

National tables of frequency allocation (NTFA)

17-20 June 2024

Mexico City, Mexico

itu.int/go/ITU-R/NTFA-R2-WS-24



Organized by:



ITU-R STUDY GROUPS

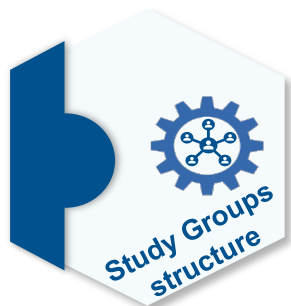
Joaquin RESTREPO

Capacity Building Coordinator,
Study Groups Department, SGD
Radiocommunication Bureau, BR

International Telecommunications Union, ITU

Study Groups

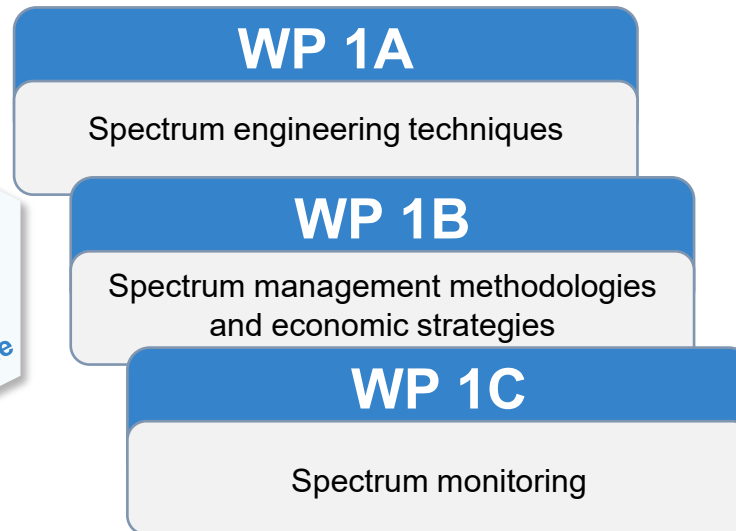
- ❖ The work of the Study Groups is governed by the **ITU-R Resolutions**, in particular Resolution ITU-R 1, and **WRC agenda items** requesting preparatory studies
- ❖ The studies are driven by Contributions from the Membership.
- ❖ Each Study Group carries out studies, adopting Recommendations and Questions, as well as approving Reports, Decisions, Opinions and Handbooks, on radiocommunication matters under its mandate.
- ❖ These are the technical, operational and procedural bases for decisions taken at WRCs and for efficient use of the radio spectrum and the geostationary-satellite orbit.





ITU-R Study Groups and their Working Parties

SG 1	<p>WP 1A Spectrum engineering techniques</p> <p>WP 1B Spectrum economic approaches</p> <p>WP 1C Spectrum monitoring</p>
SG 3	<p>WP 3J Propagation fundamentals</p> <p>WP 3K Point-to-point propagation</p> <p>WP 3L Ionospheric propagation and radio noise</p> <p>WP 3M Earth-space propagation</p>
SG 4	<p>WP 4A Efficient orbit/satellite utilization for FSS and BSS</p> <p>WP 4B Systems, air interfaces, performance and availability objectives for FSS, BSS & MSS</p> <p>WP 4C Efficient orbit/satellite utilization for MSS and RDSS</p>
SG 5	<p>WP 5A Land mobile, fixed, amateur and amateur-satellite services</p> <p>WP 5B Maritime and aeronautical mobile services and radiodetermination</p> <p>WP 5C HF and systems in the fixed and land mobile services</p> <p>WP 5D IMT systems</p>
SG 6	<p>WP 6A Terrestrial broadcasting delivery</p> <p>WP 6B Broadcast service assembly and access</p> <p>WP 6C Programme production and quality assessment</p>
SG 7	<p>WP 7A Time signals and frequency standard emissions</p> <p>WP 7B Space radiocommunication applications & research, meteorological satellite, etc.</p> <p>WP 7C Remote sensing systems: Earth exploration, space weather sensors, etc.</p> <p>WP 7D Radio astronomy</p>
CCV	<p>Coordination Committee for Vocabulary</p>



Study Group 1

Spectrum management

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;
- ❖ Assistance to developing countries;
- ❖ Wireless Power Transmission (incl. for electric vehicles);
- ❖ Harmonization for short-range devices;
- ❖ Performance evaluation of mobile Direction Finder units;
- ❖ Electromagnetic field measurements to assess human exposure.



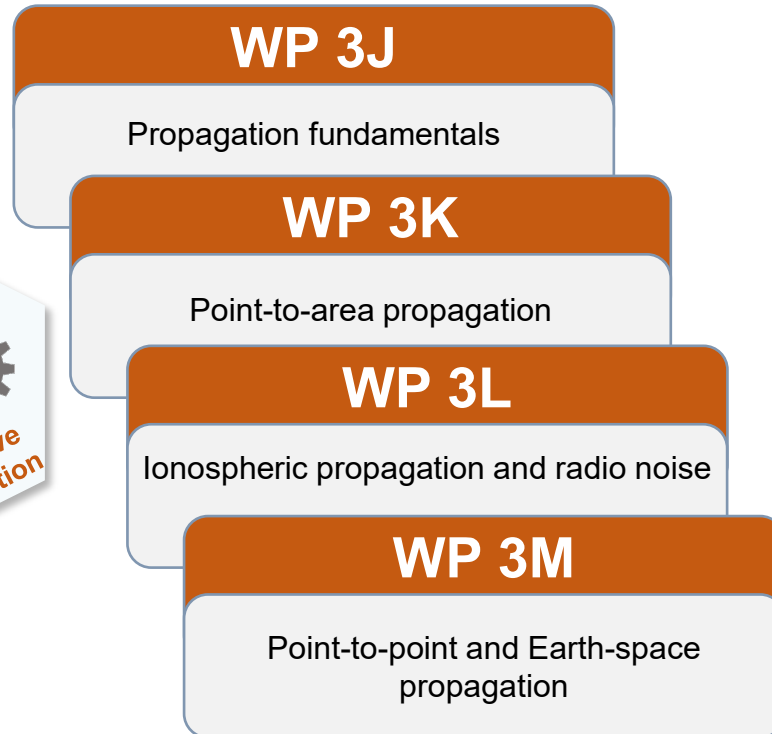
Chairman: Mr. Wael Sayed



Counsellor: Mr. Philippe Aubineau



[SG 1 website](#)






Study Group 3

Radiowave propagation

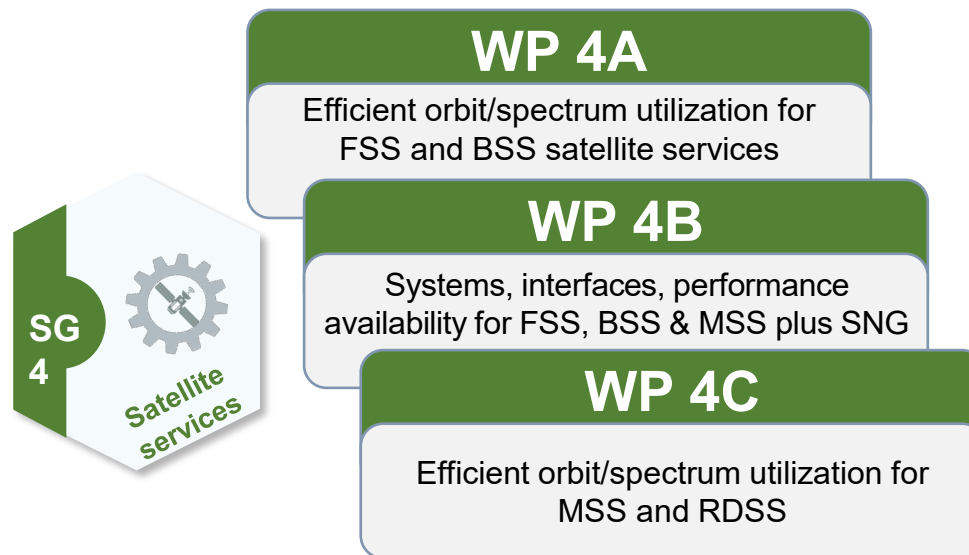
Scope

- ❖ Propagation of radio waves in ionized and non-ionized media;
- ❖ Characteristics of radio noise, for the purpose of improving radiocommunication;
- ❖ Propagation models in support to all radio services;
- ❖ Building entry loss models;
- ❖ Clutter loss models.

 Chairman: Mrs. Carol Wilson
 Counsellor: Mr. David Botha
 [SG 3 website](#)

Study Group 4

Satellite services



Scope

- ❖ Systems and networks for:
 - fixed-satellite service;
 - mobile-satellite service;
 - broadcasting satellite service;
 - Radiodetermination and radio navigation-satellite service.
- ❖ IP global broadband Internet access via satellite;
- ❖ Integration of satellite systems into Next Generation Access Technologies (5G);
- ❖ Early warning and relief operations.



Chairman: Mr. Victor Strelets



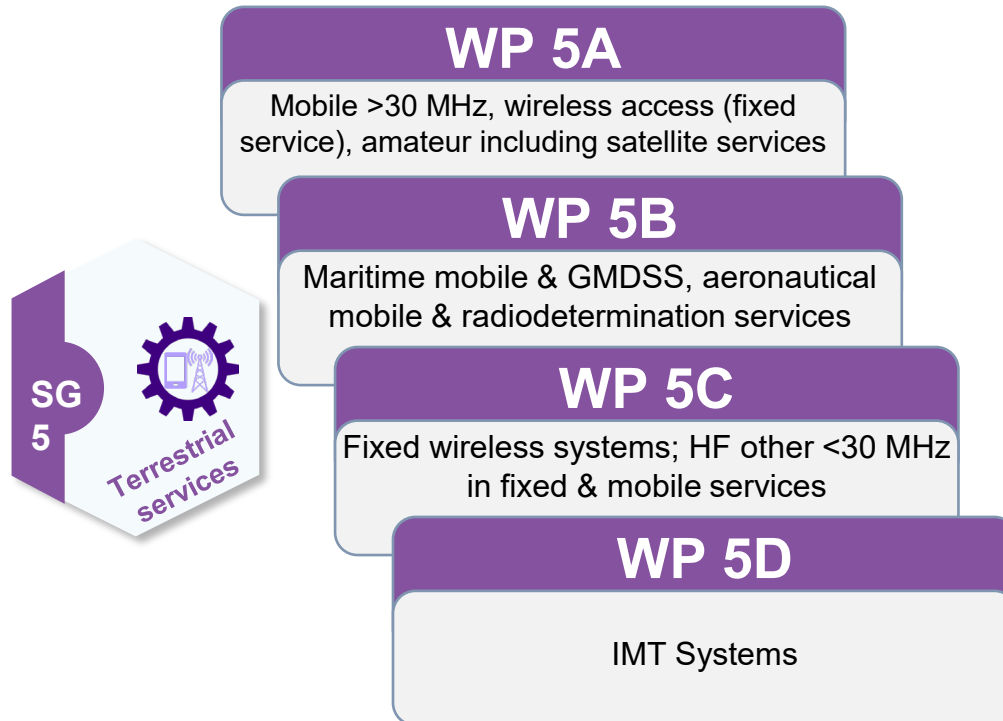
Counsellor: Mr. Nelson Malaguti



[SG 4 website](#)


Study Group 5

Terrestrial services



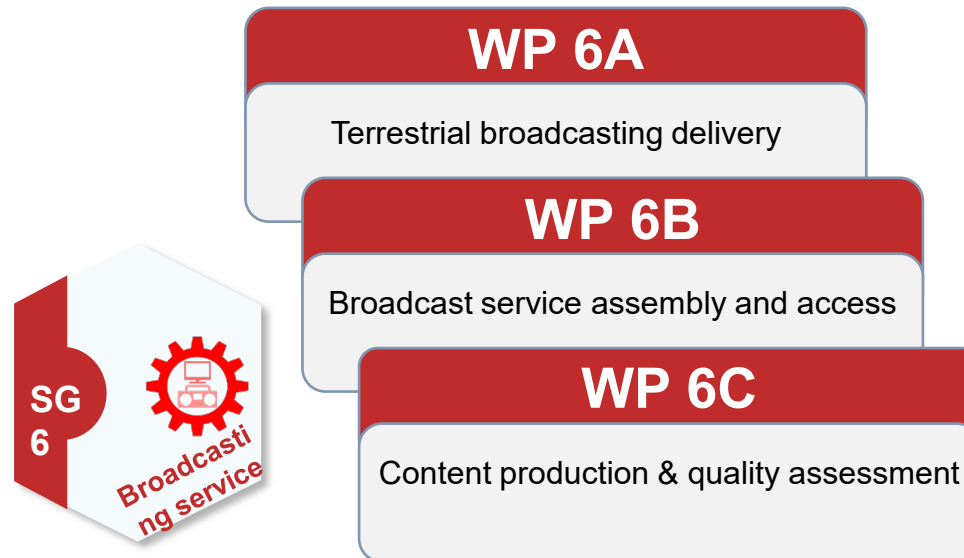
Scope

- ❖ Radio local area networks (RLANs), amateur service and emergency telecommunications and Intelligent Transport Systems (ITS);
- ❖ Global Maritime Distress and Safety System (GMDSS), the aeronautical mobile service, the radiodetermination service, including both radiolocation and radionavigation services;
- ❖ Fixed wireless access (FWA) systems and HAPS;
- ❖ IMT-2000, IMT-Advanced and IMT-2020: which provide the global platform on which to build the next generation (5G) of mobile broadband connectivity;
- ❖ Internet of Things (IoT): Machine Type Communications in IoT to be connected through IMT networks, dedicated networks and short-range radio devices.

-  Chairman: Mr. Martin Fenton
-  Counsellor: Mr. Uwe Löwenstein
-  Counsellor WP 5B: Mr Vadim Nozdrin
-  [SG 5 website](#)




Study Group 6

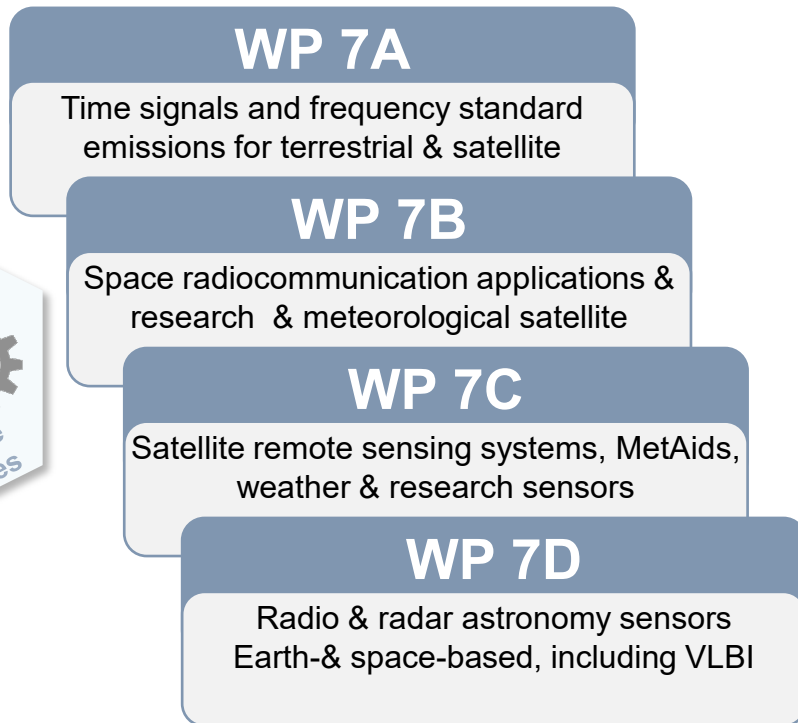
Broadcasting service



Scope

- ❖ Radiocommunication broadcasting, including vision, sound, multimedia data services intended for delivery to the general public.
- ❖ New audio-visual formats (HDTV, UHD TV, immersive sound);
- ❖ Formats for international content exchange;
- ❖ Compression techniques & new multiplexing techniques (MMT);
- ❖ New DTTB systems and development in IBB systems;
- ❖ Advancing accessibility services;
- ❖ In Region 1, review spectrum use & needs of existing services & consider possible regulatory actions in the 470-694 MHz band in accordance with Resolution **235 (WRC-15)**.

 Chairman: Dr. Yukihiro Nishida
 Counsellor: Mr. Ruoting Chang
 [SG 6 website](#)



Study Group 7

Science services

Scope

- ❖ Preserving spectrum for operation and development of meteorological applications;
- ❖ Global environment monitoring – atmosphere (including greenhouse gases emissions), oceans, land surface, biomass, etc.;
- ❖ Weather forecasting and climate change monitoring and prediction;
- ❖ Detection and tracking of many natural and man-made disasters (earthquakes, tsunamis, hurricanes, forest fires, oil leaks, etc);
- ❖ Providing alerting/warning information;
- ❖ Damage assessment and planning relief operations.
- ❖ Use of radio spectrum for meteorology in close collaboration with WMO.



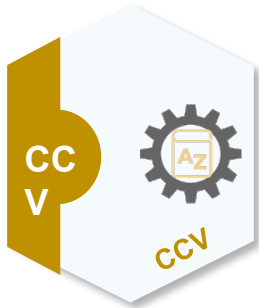
Chairman: Mr. John Zuzek



Counsellor: Mr. Vadim Nozdrin



[SG 7 website](#)



CCV

Coordination Committee for Vocabulary
The terminology is included in the "ITU Terms and Definitions" database.

CCV

Role of the CCV




Scope

Coordination and approval of:

- ❖ vocabulary, including abbreviations and initials;
- ❖ related subjects, quantities and units, graphical & letter symbols.

In close collaboration with:

- ❖ the Radiocommunication Study Groups;
- ❖ ITU-D and ITU-T Sectors
- ❖ the General Secretariat;
- ❖ Conferences and Publications Department;
- ❖ the International Electrotechnical Commission (IEC);
- ❖ other interested organizations.

-  Chairman: Mr. Christian Rissone
-  Counsellor: Mr. Nelson Malaguti
-  [CCV website](#)

CPM

Role of the CPM

Scope

- ❖ The CPM shall prepare a consolidated Report on the ITU-R preparatory studies and possible solutions to the WRC agenda items, to be used in support of the work of WRCs.
- ❖ The CPM will normally hold **two sessions** during the interval between WRCs.
- ❖ The **first session** will be of the purpose of:
 - coordinating the work programmes of the relevant ITU-R Study Groups;
 - preparing a draft structure for the CPM Report, based on the agenda for the next and subsequent WRCs.
- ❖ The **second session** of the CPM shall prepare the CPM Report for the next WRC.



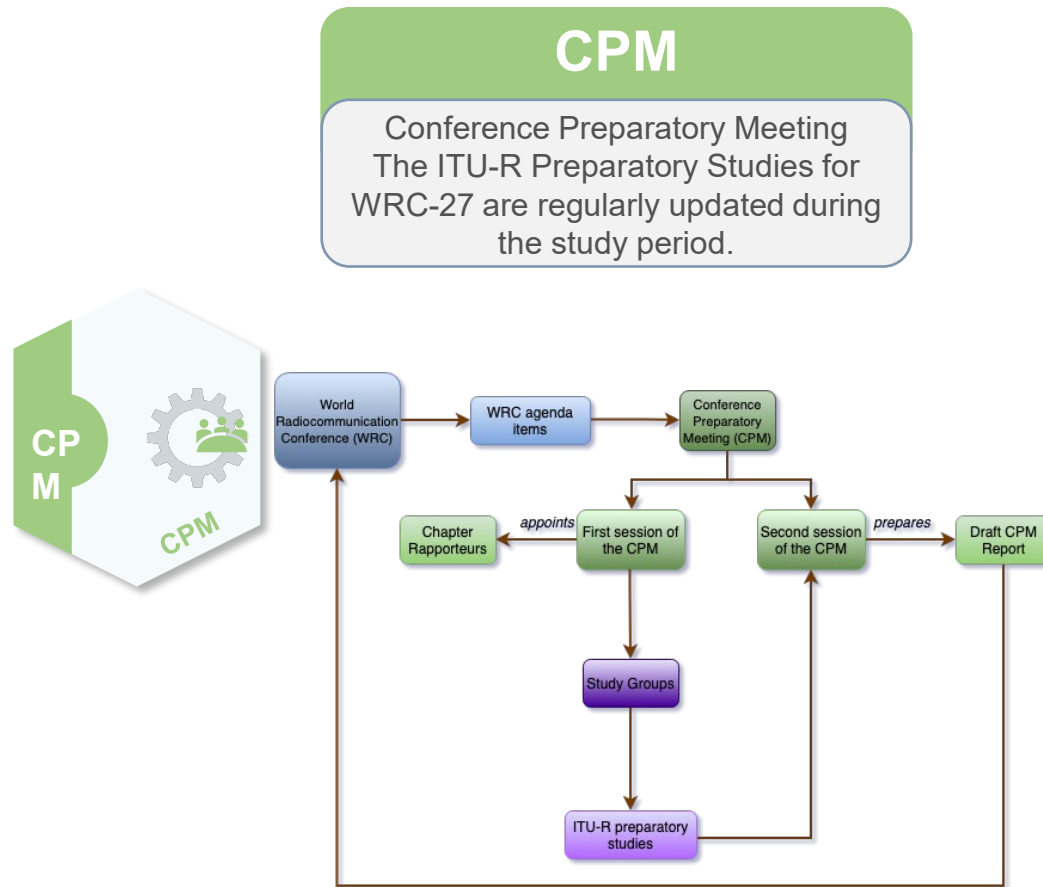
Chairman: Ms. Cindy Cook



Counsellor: Mr. Philippe Aubineau



[CPM website](#)



CPM

Conference Preparatory Meeting
The ITU-R Preparatory Studies for WRC-27 are regularly updated during the study period.



Topics of common interest and intersectoral activities



- ❖ Cooperation with ITU Climate Change
- ❖ Cooperation Emergency Telecommunications Task Force
- ❖ Implementation of Resolution 136 (Rev. Dubai, 2018)
- ❖ Studies in response to Resolution ITU-R 60-2



- ❖ Active participation in Joint Coordination Activity on Accessibility & Human Factors
- ❖ Contribution to the studies carried out under Question ITU-D 7/1
- ❖ Studies relating to the UN Charter under Question ITU-R 145/6



- ❖ Liaison with external organizations
- ❖ Collaboration with ITU-D to contribute to WTDC Resolution 9

Common resources for meetings and studies



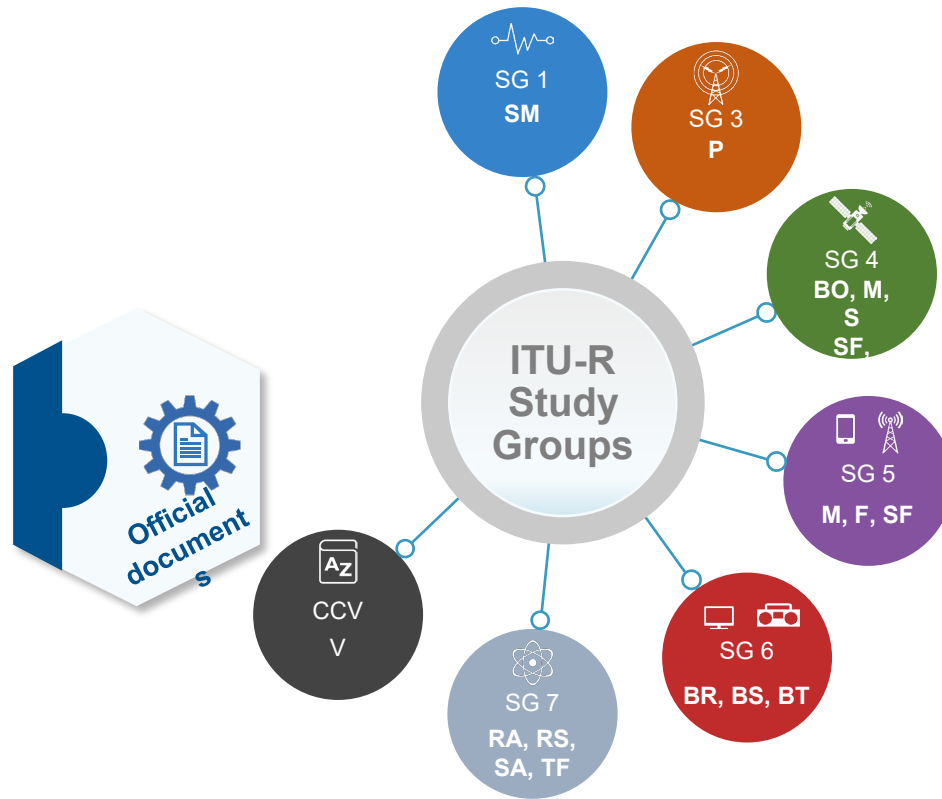
- ❖ Preparation and participation in the Plenipotentiary Conference, the ITU Council, WTSA, WTDC, WRC, WSIS, ITU TELECOM World



- ❖ Coordination Committee for Vocabulary



- ❖ Used for informal documents during meetings
- ❖ Available for between meeting activities



BR Document Search Tool

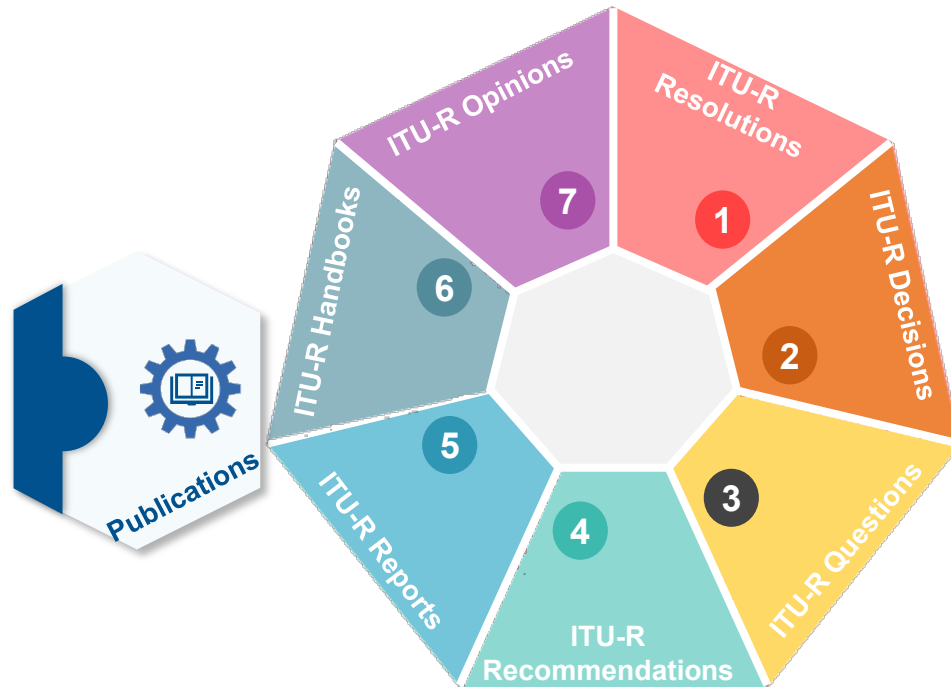
SG official documents

Published documents types

Series	Title
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/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 & coordination between fixed-satellite & fixed service systems
SM	Spectrum management
SNG	Satellite news gathering
TF	Time signals and frequency standards emissions
V	Vocabulary and related subjects

Documentation of ITU-R

Publications



- 1** A text giving instructions on the organization, methods or programmes of RA or SG work. (§ [A2.3.1](#))
- 2** A text giving instructions on the organization of the work of a Study Group. (§ [A2.4.1](#))
- 3** A statement of a technical, operational or procedural study, generally seeking a Recommendation, Report or Handbook. (§ [A2.5](#))
- 4** An answer to a Question or part(s) of a Question or other topics defined in Annex 1 (§ [A1.3.1.2](#))
- 5** A technical, operational or procedural statement, prepared by a Study Group on a given subject. (§ [A2.7](#))
- 6** Provide a statement of the current knowledge, the present position of studies, or of good operating or technical practice. (§ [A2.8.1](#))
- 7** A text containing a proposal or a request destined for another and not necessarily relating to a technical subject (§ [A2.9.1](#))

ITU-R Series

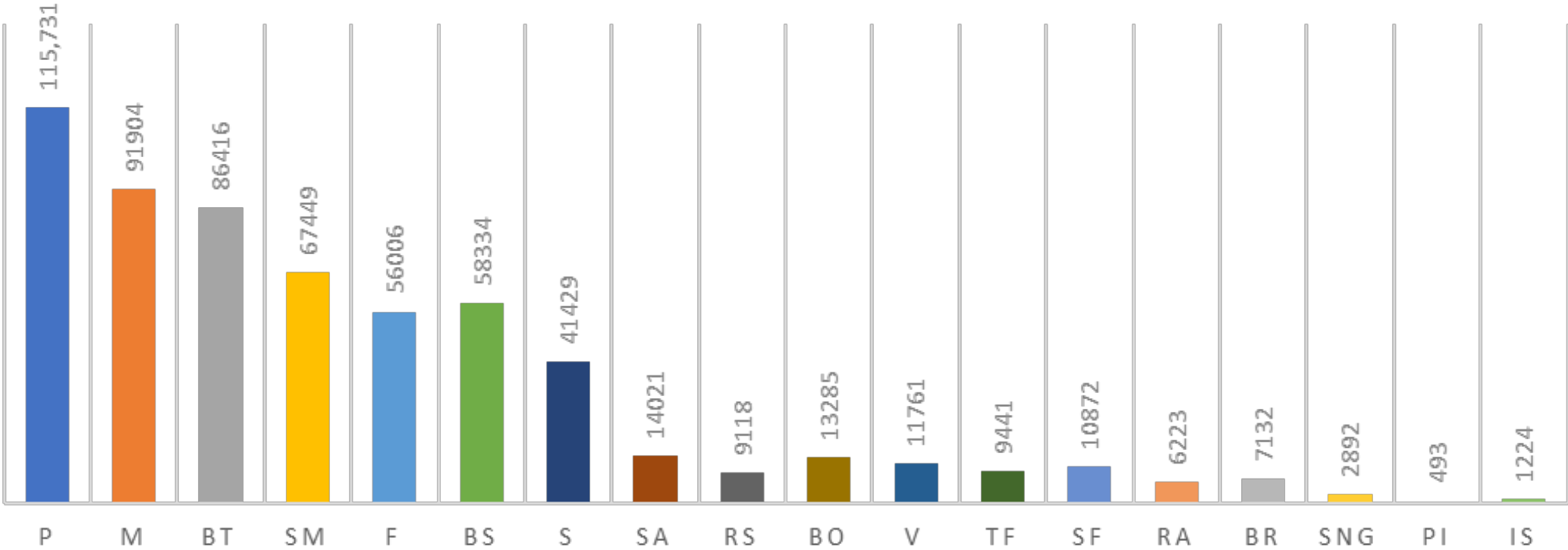
- **BO:** Satellite delivery
- **BR:** Recording for production, archival and play-out; film for television
- **BS:** Broadcasting service (sound)
- **BT:** Broadcasting service (television)
- **F:** Fixed service
- **M:** Mobile, radiodetermination, amateur and related satellite services
- **P:** Radiowave 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
- **Nomenclature :**

SERIES	TOPIC	Study Group*	SG matters	Recommendations	Reports
BO	Satellite delivery	SG4 & SG6		45	29
BR	Recording for production, archival and play-out; film for television	SG6	Broadcasting service	4	0
BS	Broadcasting service (sound)	SG6	Broadcasting service	82	47
BT	Broadcasting service (television)	SG6	Broadcasting service	161	99
F	Fixed service	SG5	Terrestrial services	146	19
M	Mobile, radiodetermination, amateur and related satellite services	SG4 & SG5		247	166
P	Radiowave propagation	SG3	Radiowave Propagation	86	11
RA	Radio astronomy	SG7	Science services	14	9
RS	Remote sensing systems	SG7	Science services	38	22
S	Fixed-satellite service	SG4	Satellite services	141	22
SA	Space applications and meteorology	SG4 & SG7		58	28
SF	Frequency sharing and coordination between fixed-satellite and fixed service systems	SG4 & SG7		20	1
SM	Spectrum management	SG1	Spectrum Management	92	46
SNG	Satellite news gathering	SG4	Satellite services	9	0
TF	Time signals and frequency standards emissions	SG7	Science services	15	0
V	Vocabulary and related subjects	(CCV)	Coordination Comitee for Vocabulary	5	0
TOTAL				1163	499

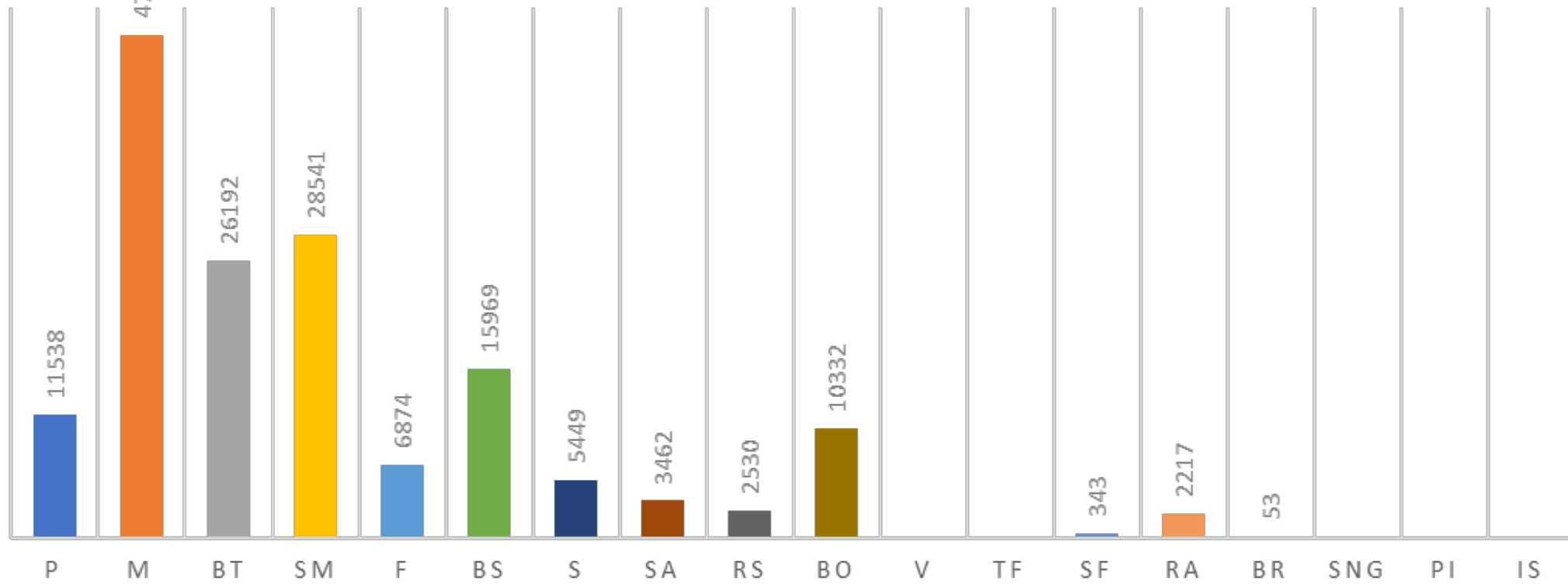
*SGs mainly involved; due to transversal nature, some series also involves other(s) SG

SG	SG1	SG3	SG4	SG5	SG6	SG7	Special Supplements	TOTAL
	Spectrum Management	Radiowave Propagation	Satellite Services	Terrestrial Services	Broadcasting Services	Science Services		
Handbooks	4	8	4	13	7	6	1 (1-4) - MSS	43

ITU-R RECOMMENDATIONS DOWNLOADS TREND



ITU-R REPORTS DOWNLOADS TREND



ITU-R Resources free access

Free online access to ITU Radiocommunication Sector (ITU-R) Publications:

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

ITU-R Publications are available in paper format, CD-ROM, DVD-ROM and Online versions.

WRC-15 Agenda and Resolutions:

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

Radio Regulations:

www.itu.int/pub/R-REG-RR-2012

Rules of Procedure:

www.itu.int/pub/R-REG-ROP-2012

ITU-R Handbooks:

Computer-aided Techniques for Spectrum Management (CAT)

www.itu.int/pub/R-HDB-01

Spectrum Monitoring

www.itu.int/pub/R-HDB-23

National Spectrum Management

www.itu.int/pub/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

ITU Committed to Connecting the World

www.itu.int



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Free online access to ITU-R Software and Databases

ITU Radiocommunication Sector (ITU-R):

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 [ITU-R](http://www.itu.int/ITU-R) 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 (32-bit)

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



These resources are available online on the ITU-R homepage www.itu.int/ITU-R "Free Resources" – in six languages of ITU (Arabic, Chinese, English, French, Russian, Spanish) whenever possible.

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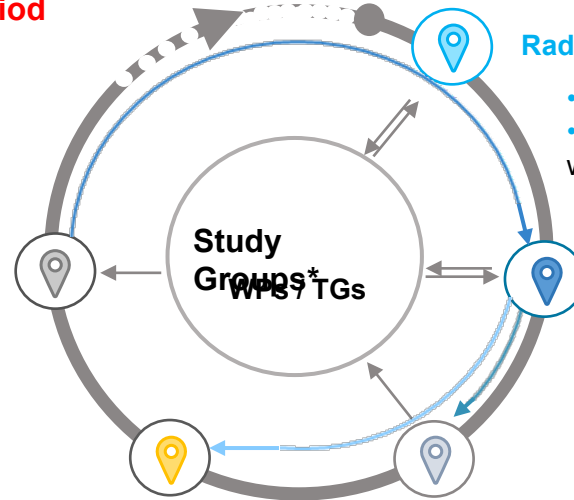
Development of the study period

Continuous activities

RAG
<ul style="list-style-type: none"> • Advises the BR Director; • May take some of the responsibilities of the RA between assemblies.
*Study Groups
<ul style="list-style-type: none"> • Adopt ITU-R Recommendations; • Approve ITU-R Reports and other documents.
Working Parties / Task Groups
<ul style="list-style-type: none"> • Conduct studies in response to ITU-R and WRC Resolutions; • Carry out preliminary studies on WRC agenda items; • Prepare ITU-R Recommendations, Reports and other documents.

4-year study period

Second session CPM
 • Consolidates the draft CPM Report.



Radiocommunication Assembly

- Approves ITU-R Resolutions;
- Establishes the work programme, working methods and structure.

World Radiocommunication Conference

- Reviews and revises the Radio Regulations;
- Approves WRC Resolutions;
- Recommends an agenda for future conferences;
- Establishes the WRC agenda items.

Council

- Sets up the agenda for the next conference **two years in advance**.

First session CPM

- Assigns responsible groups for each WRC agenda item;
- Appoints Chapter Rapporteurs.

WRS and RRSs and other capacity building events

World and Regional Radio Seminars

- ❖ During the study cycle, the Bureau organizes events worldwide to convey latest changes to the Radio Regulations (RR) made by a WRC and other associated Rules of Procedure (RoP).
- ❖ It provides latest information on the status of the studies currently ongoing in ITU-R



World Radio Seminars (WRS)

- The BR organizes the World Radiocommunication Seminars (WRS) on a **biennial basis**.
- WRS are held at ITU Geneva, every other year.
- The agenda includes theoretical sessions and some days for workshops on terrestrial and space services.

Regional Radio Seminars (RRS)

The BR maintains its strategy for **regional outreach** through the organization of RRS to visit every developing region worldwide, **fostering human capacity building** on the use of the radio-frequency spectrum and satellite orbits.

About 3-4 times per year, RRS are held around the world and are jointly organized with the spectrum management authorities of host countries, in close cooperation with relevant regional organizations and the ITU regional/areas offices.

The agenda is complemented with a one or two-day forum, dedicated to spectrum-related topics of particular interest to the region.

WRS/RRS cycle 2023-2027

WRS and RRS: 2024-2027

- WRS-24 (02-06 Dec; Geneva)
- WRS-26: Geneva Dec 2026
- 6 UN languages

- RRS-Africa (2, E&F)
- RRS-Americas (3, S, E)
 - RRS-24-Americas: St. George's, Grenada, 22-27 July 2024
- RRS-Arab States (1, A)
- Asia& Pacific (3, E):
 - RRS-24-Asia&Pacific: Apia, Samoa, Sept 2024
 - RRS-25-Asia&Pacific: China, 1Q2025 (tba)
- CIS (1, R)
 - RRS-24-CIS: Astana, Kazakhstan, 15-19 April 2024
- Europe (1, E)



Thank you!

ITU – Radiocommunication Bureau

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