ITU POLICY AND ECONOMICS COLLOQUIUM FOR AMERICAS (IPEC-25)

REGIONAL ECONOMIC DIALOGUE

Montevideo, Uruguay, 7-10 October 2025

WRC-27: Cycle and Agenda

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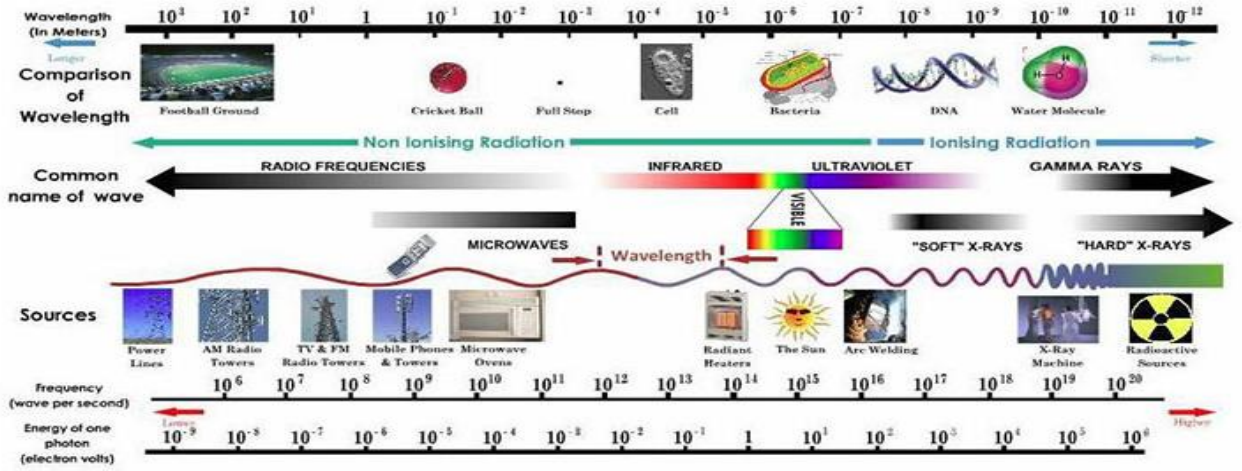
RADIOELECTRIC SPECTRUM

- ***RR 1.3: Telecommunication:*** *Any transmission, emission or reception of signs, signals, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems.*
- ***RR 1.5: Radio waves (or hertzian waves):*** *Electromagnetic waves of frequencies arbitrarily lower than 3000 GHz, propagated in space without artificial guide." (usually refers as: "**radio**")*
- ***RR. 1.6 Radiocommunication:*** *Telecommunication by means of radio waves*

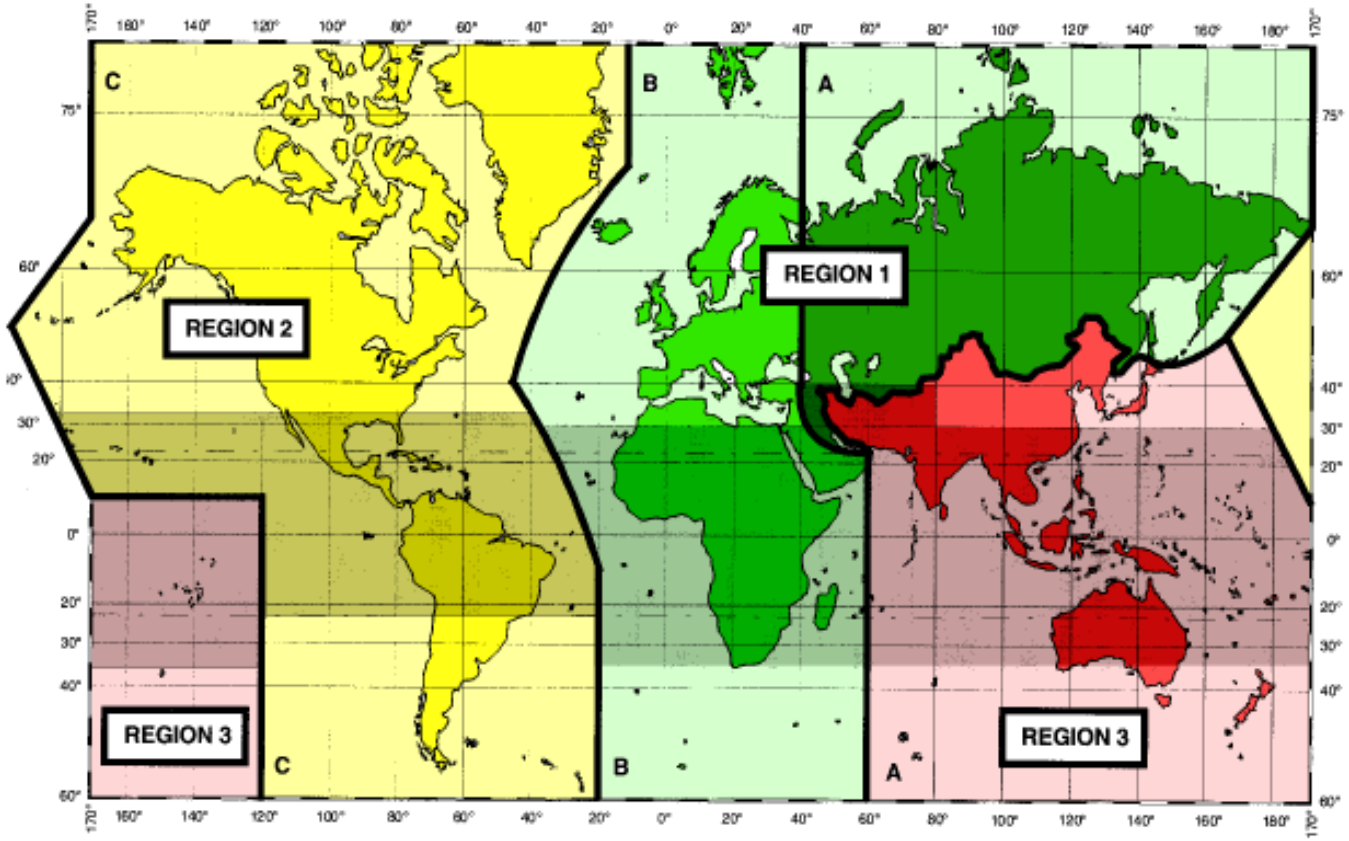


RADIOELECTRIC vs. ELECTROMAGNETIC SPECTRUM

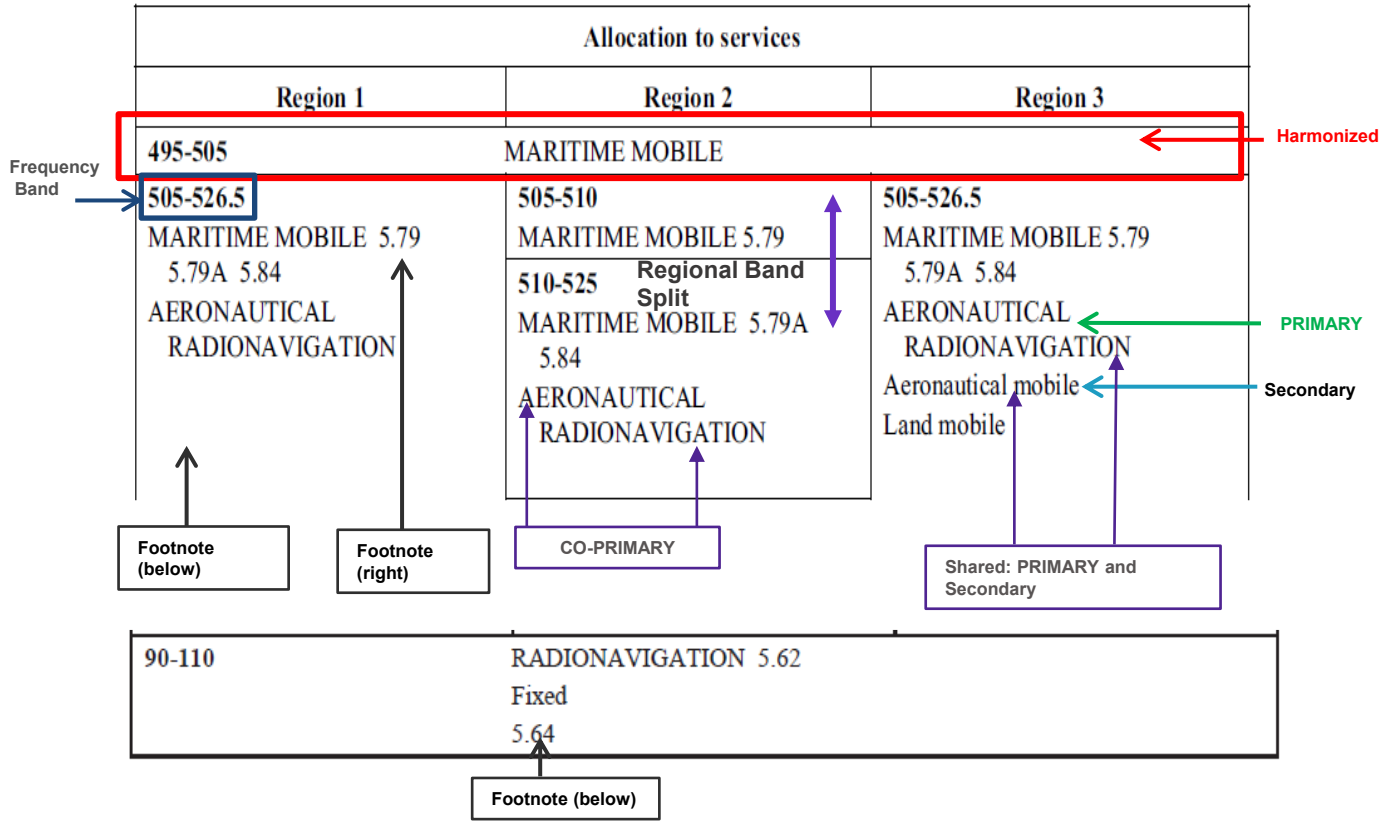
- **Radioelectric Spectrum** is the lower part of Electromagnetic Spectrum, used for Telecommunications
- Expression: "***Spectrum***" refers by default to Radioelectric Spectrum
- Communications systems that DO NOT use Spectrum (in red) may be regulated (National/International); but their regulatory framework is different than *Spectrum R*egulations

	Frequencies < 3.000 GHz?	Free Propagation?	Radioelectric Spectrum?
Infra-red Wireless link	NO	YES	NO
Cable TV (Coaxial)	YES	NO	NO
Optical Fiber	NO	NO	NO
Broadcasting TV	YES	YES	YES

RR: WORLD REGIONS



RR: TABLE OF FREQUENCY ALLOCATIONS (Art. 5)



Radio Regulations: Art. 4.4. :

Administrations of the Member States **shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations in this Chapter or the other provisions of these Regulations**, except on the express condition that such a station, when using such a frequency assignment, **shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station** operating in accordance with the provisions of the Constitution, the Convention and these Regulations.

Bands Harmonization

- Harmonized utilization of spectrum by different nations is an essential need to support international roaming, to facilitate interconnection and to provide more economical radiocommunication services,

- Frequency bands can be utilized at same point, in same time, almost once while there could be more than one demand for utilization,

- Uncoordinated electromagnetic radiation of individual and independent spectrum users increase interferences matters

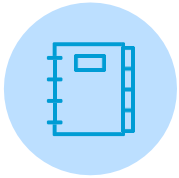
- **Global Harmonization:** Ultimate goal (as possible); RR Recommendation 34: *recommends that future world radiocommunication conferences:*
- *2. Should, wherever possible, allocate frequency bands on a worldwide basis (aligned services, categories of service and frequency band limits) taking into account safety, technical, operational, economic and other relevant factors;*
- *3. Should, wherever possible, keep the number of footnotes in Article 5 to a minimum when allocating frequency bands through footnotes, in line with the Resolution 26*

Purpose of WRCs

- Create regulatory certainty for a multi-trillion dollars activity that provides radiocommunications services to billions of people in all countries worldwide, playing an increasingly important role in the development of our societies
- Strike the right balance between the spectrum requirements of all radiocommunication services
- Creating certainty requires consensus in order to achieve stable results on a sustainable use of orbit/spectrum resources
- Reaching consensus requires time, efforts and patience
- This is the price to pay for developing and maintaining a sustainable ecosystem for radiocommunications and avoid massive disruptions

World Radiocommunication Conference (WRC)

Held every four years



Reviews and revises the Radio Regulations

Addresses any radiocommunication matter of worldwide implication

Considers evolution of existing, emerging and future applications, systems and technologies

Considers results of ITU-R studies on spectrum needs, sharing and compatibility

Considers proposals from ITU Member States

World Radiocommunication Conference (WRC)

Brings together all stakeholders to building consensus on the most profitable and efficient ways to exploit the limited resource of radio frequency spectrum and manage satellite orbits

Protects operation of existing services and provides a stable and predictable regulatory environment needed for future investments

Determines the agenda for the next WRC and necessary studies to be carried out by ITU-R Study Groups

WRC-23

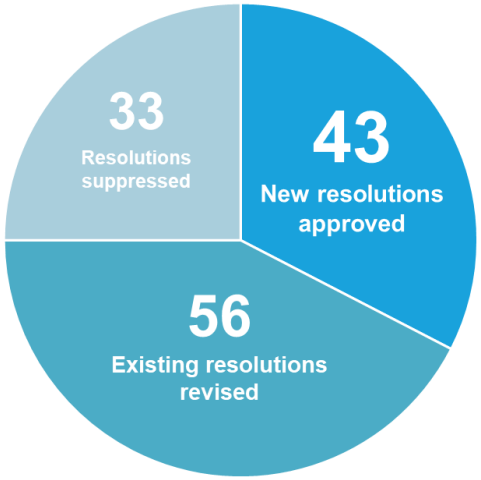
20 November – 15 December 2023

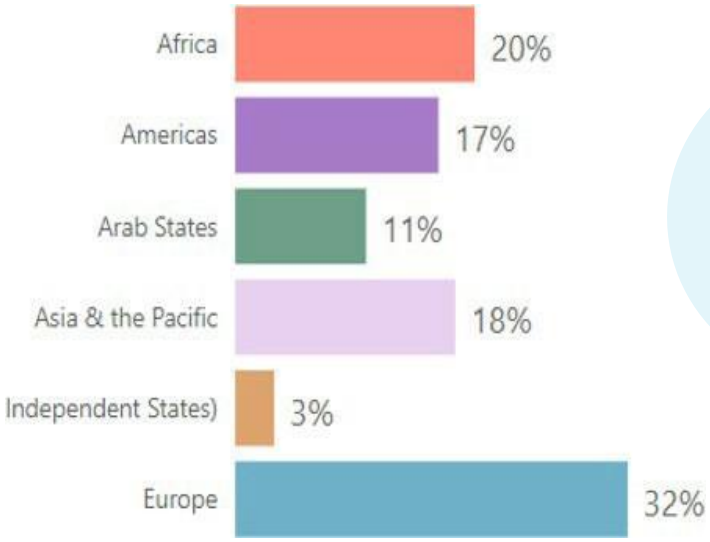
3987
Delegates

163
Member States

967
Docs.

ITUWRC
DUBAI2023

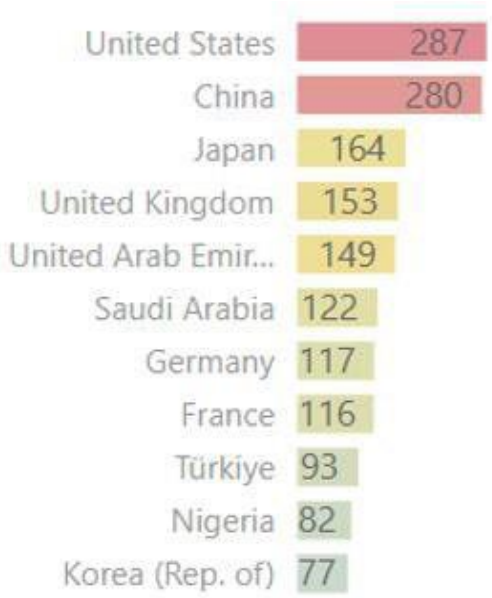




151
observers

4
weeks

6 024
proposals



World Radiocommunication Conference

Structure – Statutory Committees

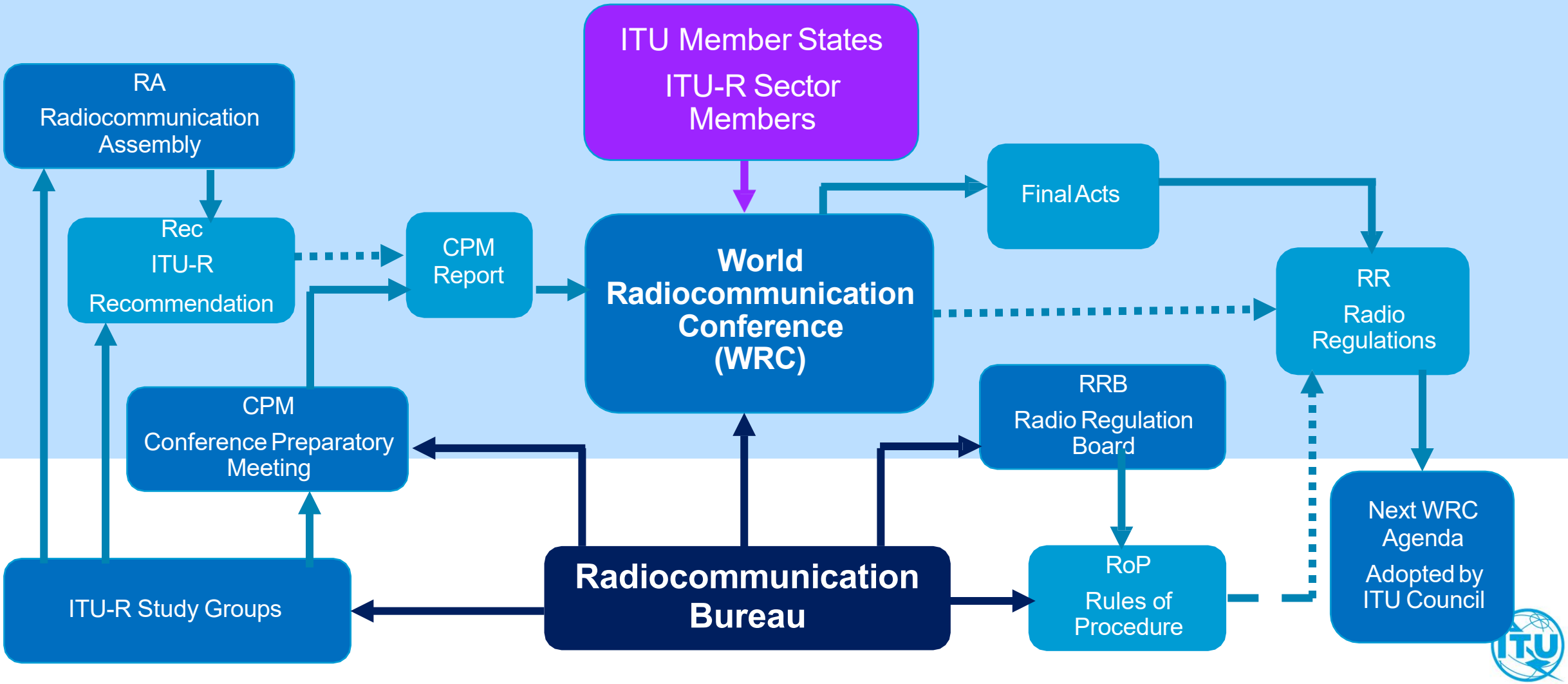
Committee 1 (Steering Committee)	Composed of the Chairman and Vice-Chairmen of the Conference and the Chairmen and Vice-Chairmen of the Committees. Committee 1 coordinates all matters connected with the smooth execution of the work of WRC, including planning the order and number of meetings, while avoiding overlap wherever possible in view of the limited number of members of some delegations. *(No. 67 of the General Rules)*
Committee 2 (Credentials Committee)	Committee 2 verifies the credentials of delegations and reports on its conclusions to the Plenary Meeting within the time specified by the latter. *(No. 68 of the General Rules)*
Committee 3 (Budget Control Committee)	Committee 3 determines the organization and the facilities available to the delegates, examines and approves the accounts for expenditure incurred throughout the duration of the Conference, reported on the estimated total expenditure, and submits an estimate of the financial implications *(No. 488 of the Convention)* that may be entailed by the execution of the decisions taken by the Conference. *(Nos. 71 to 74 of the General Rules)*
Committee 7 (Editorial Committee)	The Editorial Committee perfects the form of the texts to be included in the Final Acts of the Conference for submission to the Plenary Meeting. *(Nos. 69 and 70 of the General Rules).*

World Radiocommunication Conference

Structure – Committees dealing with specified agenda items

Committee 4 (Specified agenda items)	Committee 4 dealt the following items on the WRC-23 agenda: (item 1.1); (item 1.8); (item 1.9) (item 1.9.1); (item 1.9.2); (item 1.10); (item 1.11); (item 1.12); (item 1.13); (item 1.14); (item 1.15); (item 1.16); (parts of item 3); (parts of item 5); (item 9); (parts of item 9.1); (parts of item 9.2).
Committee 5 (Specified agenda items)	Committee 5 dealt with the following items on the WRC-23 agenda: (item 1.2); (item 1.3); (item 1.4); (item 1.5); (item 1.6); (item 1.7); (parts of item 3); (parts of item 5); (item 7); (item 9): (parts of item 9.1), (parts of item 9.2); (item 9.3).
Committee 6 (Specified agenda items)	Committee 6 dealt with the following items on the WRC-23 agenda: (item 2); (parts of item 3); (item 4); (parts of item 5); (item 6); (item 8); (item 9): (parts of item 9.1) (parts of item 9.2); (item 10)

WRC process


ITU Member States
ITU-R Sector Members
RA
Radiocommunication Assembly
Rec
ITU-R
Recommendation
CPM Report
World Radiocommunication Conference (WRC)
Final Acts
RR
Radio Regulations
CPM
Conference Preparatory Meeting
RRB
Radio Regulation Board
Next WRC Agenda
Adopted by ITU Council
ITU-R Study Groups
Radiocommunication Bureau
RoP
Rules of Procedure

WRC Cycle

WRC-23

Modified the RR (2020), Defined the agenda for WRC-27

CPM27-1

Allocated the work of the agenda items to relevant working parties of ITU-R Study Groups, defines chapter Rapporteur and the structure of the CPM Report

ITU-R Study Groups

Conducts studies for 4 years and prepares draft CPM text

ITU-R Study Groups:
- SG-1: Spectrum management
- SG-3: Radiowave propagation
- SG-4: Satellite services
- SG-5: Terrestrial services
- SG-6: Broadcasting service
- SG-7: Science services

CPM27-2

Consolidates the results of studies in CPM text that includes the methods to solve each agenda item

RA-27

Appoints the chairmen and vice chairmen of the Study Groups, revises the structure of the Study Groups, approves ITU-R recommendations, revises ITU-R resolutions

WRC-27

Modifies the RR (2024) (e.g. allocates frequencies), Defines the agenda for WRC-31

Regional Groups / Multi-countries
Consolidates Regional and multi-country proposals

WRC-27

WRC-27 AGENDA – SPACE SERVICES

FIXED-SATELLITE AND BROADCASTING-SATELLITE

1.1 **Aeronautical/maritime earth stations in motion**
47.2-50.2 GHz / 50.4-51.4 GHz

1.2 **Uplink earth stations** – 13.75-14 GHz

1.3 **Gateway earth stations** – 51.4-52.4 GHz

1.4 **Fixed/broadcasting allocation in Region 3** – 17.3-17.7/8 GHz

1.5 **Unauthorized operations of non-geostationary-satellite orbit earth stations**

1.6 **Space sustainability**
37.5-42.5 GHz / 42.5-43.5 GHz / 47.2-50.2 GHz / 50.4-51.4 GHz

7 **Satellite regulatory issues**

FIXED, MOBILE AND RADIOLOCATION

7. **IMT**
4400-4800 MHz / 7125-8400 MHz / 14.8-15.35

8. **Radiolocation**
231.5-275 GHz / 275-700 GHz

1.9 **Aeronautical mobile (OR) high frequency modernization**

1.10 **Power flux-density / power limits**
71-76 GHz / 81-86 GHz

MOBILE-SATELLITE

Space-to-space links **1.11**
1 518-1 544 MHz / 1 545-1 559 MHz
1 610-1 645.5 MHz / 1 646.5-1 660 MHz
1 670-1 675 MHz / 2 483.5-2 500 MHz

MSS - Allocations for IoT development **1.12**
1427-1432 MHz / 1645.5-1646.5 MHz
1880-1920 MHz / 2010-2025 MHz

MSS - IMT-space stations connectivity **1.13**

MSS - Additional allocations **1.14**
2010-2025 MHz / 2160-2170 MHz
2 120-2 160 MHz

Lunar communications **1.15**

Radio Quiet Zones **1.16**

Space weather sensors protection **1.17**

≥ 76 GHz – **Earth exploration service protection** **1.18**

Earth exploration-satellite service allocation **1.19**
4200 – 4400 MHz / 8400-8500 MHz

SCIENCE

WRC-27 AGENDA – SPACE SERVICES

FIXED-SATELLITE AND BROADCASTING-SATELLITE

7 Satellite regulatory issues –

- Possible measures to enhance long-term protection and sustainable development of BSS in the plan band against severe misaligned FSS in other regions

- Inclusion of the territory of a country in the service area of a notified geostationary (GSO) satellite networks in the planned and unplanned BSS frequency bands and in the planned FSS frequency bands subject to Appendices 30A and 30B, without imposing new coordination restrictions to satellite networks already submitted to the bureau
  - Proposed revision to Resolution 170 (Rev.WRC-23)
  - Proposed revision to Resolution 553 (Rev.WRC-23)

- Exclusion of the territory of a country from the service area of a geostationary satellite network (GSO) in the fixed-satellite service (FSS) or mobile-satellite service (MSS) in a frequency band not subject to a Plan

WRC-27 AGENDA – SPACE SERVICES

FIXED-SATELLITE AND BROADCASTING-SATELLITE

- Measures to restrict the use of the same satellite to BIU frequency assignments of different GSO satellite networks (within 0.5 degrees of longitude of the physical satellite) without moving the satellite ("Hop without move")

- The use of the same satellite or different satellites to repeatedly bring into use and bring back into use the same frequency assignments of a satellite network or system for a short period of time

- Proposed modifications to Appendix 4

- Recording of frequency assignments in space services under RR No. 11.41

- Transparency measures and improvements to the application of RR No. 4.4 to space/satellite services
- Potential advantage to define coordination arc for some frequency bands above 3.4 GHz and services currently not subject to the application of the coordination arc concept, and to review the existing coordination arc thresholds

WRC-27 Terrestrial Agenda items (Res.813)

1.7 to consider studies on sharing and compatibility and develop technical conditions for the use of International Mobile Telecommunications (**IMT**) in the frequency bands **4 400-4 800 MHz** and **7 125-8 400 MHz** (or parts thereof), and **14.8-15.35 GHz** taking into account existing primary services operating in these, and adjacent, frequency bands, in accordance with Resolution **256 (WRC-23);**

Overlapping frequency band **7190-7235 MHz** with WRC-27 a.i. **1.15** (**WP 7B**)

Responsible ITU-R: **WP 5D**

4 400-4 990 MHz is allocated to the MS on a primary basis and is used by the AMS and MMS. In portions of Region 2, RR No. 5.440A applies.
14.5-15.35 GHz is allocated to the MS on a primary basis and is used by the aeronautical mobile service.
WP 5B notes that the adjacent band 4 200-4 400 MHz is allocated to the primary AM (route) service (AM(R)S) for use by wireless avionics intra-communication systems (WAIC) under RR No. **5.436**, and to the primary aeronautical radionavigation service (ARNS) for use by radio altimeters onboard aircraft and associated transponders on the ground as stated in RR No. 5.438.

WRC-27 Terrestrial Agenda items (Res.813)

1.8 to consider possible additional spectrum allocations to the **radiolocation service on a primary** basis in the frequency range **231.5-275 GHz** and possible new identifications for radiolocation service applications in frequency bands within the frequency range **275-700 GHz** for millimetric and sub-millimetric wave imaging systems, in accordance with Resolution **663 (Rev.WRC-23);**

Overlapping frequency band with another WRC-27 a.i: **None**

Responsible ITU-R: **WP 5B**

Working document towards a preliminary draft new Report ITU-R M.[RLS_231.5-700GHz] (Document 5B/216 (Annex 6)

WRC-27 Terrestrial Agenda items (Res.813)

1.9 to consider appropriate regulatory actions to update Appendix **26** to the Radio Regulations in support of **aeronautical mobile (OR)** high frequency modernization, in accordance with Resolution **411 (WRC-23);**

Overlapping frequency band with another WRC-27 a.i: **None**

Responsible ITU-R: **WP 5B**

Appendix **26**: Frequency allotment Plan for the aeronautical mobile (OR) service in the bands allocated exclusively to that service between 3 025 kHz and 18 030 kHz – WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW [RECOMMENDATION/REPORT] ITU-R M.[MODERNIZATION OF HF AM(OR)S]Document 5B/216 (Annex 20)

WRC-27 Terrestrial Agenda items (Res.813)

1.10 to consider developing power flux-density and equivalent isotropically radiated power limits for inclusion in Article 21 of the Radio Regulations for the fixed-satellite, mobile-satellite and broadcasting-satellite services to protect the fixed and mobile services in the frequency bands 71-76 GHz and 81-86 GHz, in accordance with Resolution **775 (Rev.WRC-23);**

Overlapping frequency bands:

- **71-76 GHz** with WRC-27 a.i.s **1.16** (**WP 7D**) and **1.18** (WPs **7C** & **7D**)
- **81-86 GHz** with **1.18** (WPs **7C** & **7D**)

Responsible ITU-R: WP 5C

WORKING DOCUMENT ON SHARING STUDIES UNDER AGENDA ITEM 1.10 Document 5C/152 (Annex 2.4)

Allocation of ITU-R preparatory work for WRC-27

- Terrestrial issues -

WRC-27 agenda item/topic	WRC Resolution	Responsible Group	Contributing Group
1.7	256 (WRC-23)	WP 5D	WP 3K; WP 3M; WP 4A; WP 4C; WP 5A; WP 5B; WP 5C; WP 7B; WP 7C; WP 7D
1.8	663 (Rev.WRC-23)	WP 5B	WP 3J; WP 3K; WP 3M; WP 4A; WP 4C; WP 5A; WP 5C; WP 7C; WP 7D
1.9	411 (WRC-23)	WP 5B	WP 3L; WP 5C; WP 6A; WP 7A
1.10	775 (Rev.WRC-23)	WP 5C*	WP 3J; WP 3M; WP 4A*; WP 4B; WP 4C*; WP 5A*; WP 5B; WP 6A; WP 7C; WP 7D

ITU-R WPs responsibility and studies for WRC-27

to exchange the necessary characteristics, parameters and protection criteria to complete studies addressing mutual compatibility and sharing feasibility among the applicable services/applications.

To coordinate their work and review, as appropriate, the progress of studies so that any potential difficulties can be addressed.

For the sharing and compatibility studies, deadline to provide criteria, characteristics and methodologies by **31 December 2024** (may be extended up to the **1 July 2025** by the CPM-27 Steering Committee if requested by a WP) (see Annex 4 to CA/270)

Results of ITU-R Studies update https://www.itu.int/en/ITU-R/study-groups/rcpm/Pages/wrc-27-studies.aspx

Draft CPM Report – ToC (see Annex 5 to CA/270)

Chapter number	Chapter title	WRC-27 agenda items	Chapter Rapporteurs
1	Fixed-satellite and Broadcasting satellite issues	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 7	Mr Andrew PEGUES (for 1.1, 1.2, 1.3, 1.4, 1.6) Mr Mostafa MOUSA (for 1.5, 7)
2	Fixed, mobile and radiolocation issues	1.7, 1.8, 1.9, 1.10	Mr Richard MAKGOTLHO (for 1.8, 1.9) Mr Abdulla JABER (for 1.7, 1.10)
3	Mobile-satellite issues	1.11, 1.12, 1.13, 1.14	Mr Sergey S. UVAROV
4	Science issues	1.15, 1.16, 1.17, 1.18, 1.19	Mr Jean PLA
5	General issues Annex 1 Annex 2	2, 4 10 (for information only) 8 (for information only)	Mr Bin LIU

Duties of Chapter Rapporteurs

- To act for the Chair of the CPM to ensure that the consistency of format and structure and the guidelines of amount of text are observed.
- To ensure integration of most recent Working Party outputs into consolidated draft CPM text by consultation with or assistance from Working Party Chairs to ensure that CPM work is complete and on time.

THANKS ☺
GRACIAS ☺

Further info:

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