



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY





ICAO WRC-27 Preparatory Workshop

ITU Preparatory process towards WRC-27

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WRC-27 Regional Preparatory Workshop (Lima, Peru, 31 August-1 September 2026)



International Telecommunication Union

- Based in Geneva, 194 Member states, 800 private-sector entities and academic institutions, 12 regional and area offices
- 700 staff from 80 countries, 6 official languages
- 3 ITU Sector:
 - **ITU-R Radiocommunications** – *spectrum management, radio standards*
 - **ITU-T Standardization** – *standards for wired networks*
 - **ITU-D Development** – *assistance to developing countries*
- The basic ITU document dealing with radio is **Radio Regulations**



WRC History



ITU's World Radiocommunication Conferences provide spectrum and regulations for radio systems since 1906

WRCs promote and accommodate **all** wireless technologies

Aviation communication and navigation systems are important, **but** you are not the only spectrum user

WRC Decisions on Aviation Spectrum

1927	aeronautical definitions
1938	HF AM(R)S allocations
1947	ARNS, AM(R)S allocations in VHF
1963	First satellite allocations
1959	Plan for HF AM(R)S
1971	allocations 1.5/1.6 GHz
....	
2015	Allocation for WAIC, GFT
2019	No decision on GADSS, sub-orbital
2023	VHF space-based, wide-band HF



WRC Objectives

- Allocate spectrum for new radio applications, while protecting the existing usage (example: *spectrum for aviation space-based VHF links -> protection of adjacent science services*)
- Maintain right balance between the spectrum allocated to radiocommunication services (*reasonable spectrum requirements and sound and objective sharing studies*)
- Achieve global interoperability of equipment, spectrum harmonization for economies of scale (*especially relevant for maritime, aeronautical, cellular systems*)
- Create regulatory certainty for users, regulators and industry -> decisions by consensus (*prerequisite for stable investments and development of the industry*)



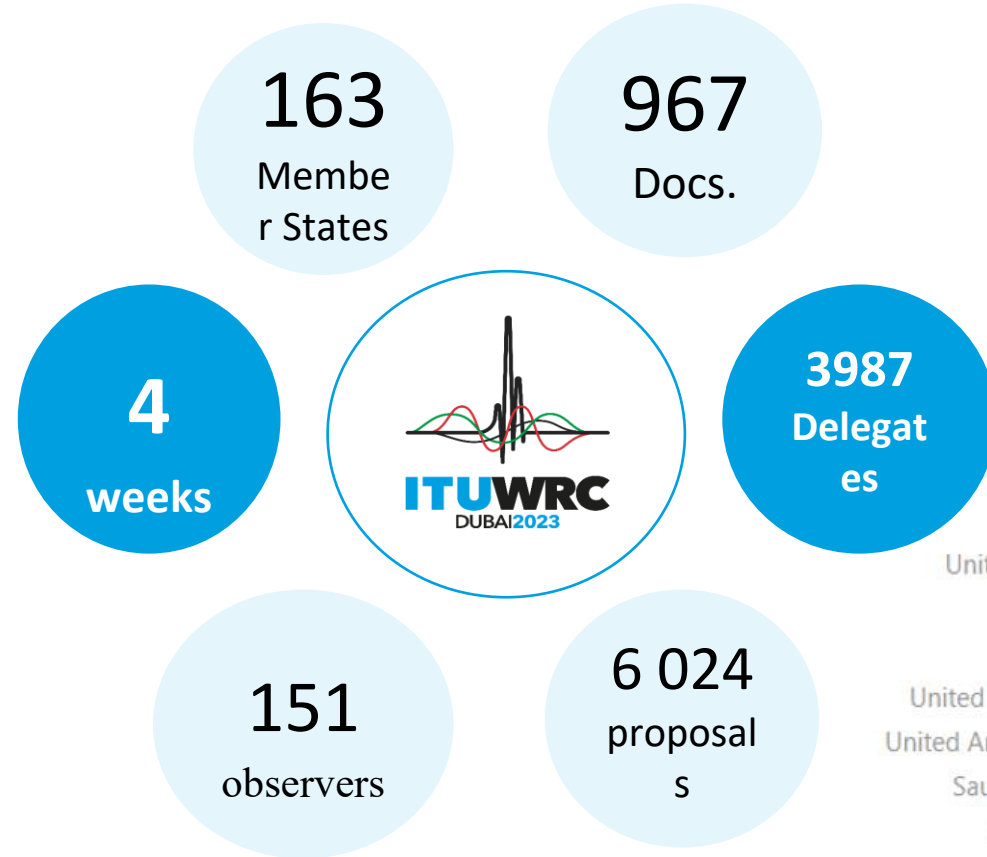
WRC evolution from 1906 to 2023

IRTC-1906 ('WRC-1906')

10 days
120 participants
30 countries



WRC-23

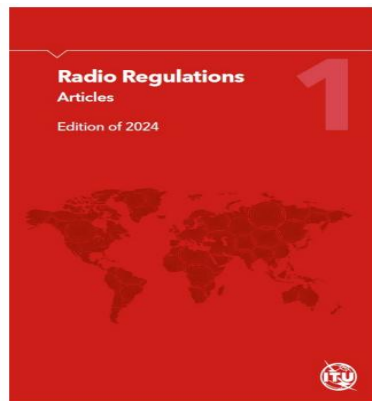


United States	287
China	280
Japan	164
United Kingdom	153
United Arab Emir...	149
Saudi Arabia	122
Germany	117
France	116
Türkiye	93
Nigeria	82
Korea (Rep. of)	77

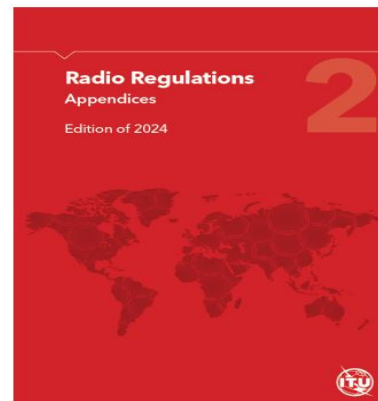
WRCs are held every 3-4 years (currently every 4 years)

ITU Radio Regulations

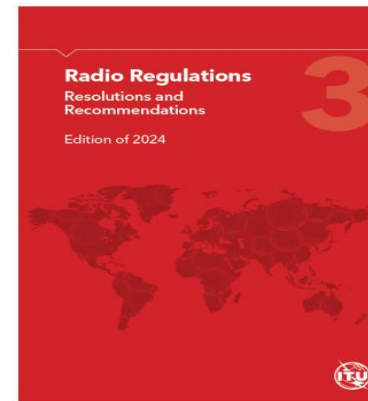
- World Radiocommunication Conferences develop and update **the Radio Regulations** (RR)
- RR contain international rules for use of spectrum and satellite orbits
- RR is an intergovernmental treaty: mandatory for application by ITU Member States
- Main goals of the RR:
 - interference free operation of stations
 - harmonization of spectrum spectrum/orbit use



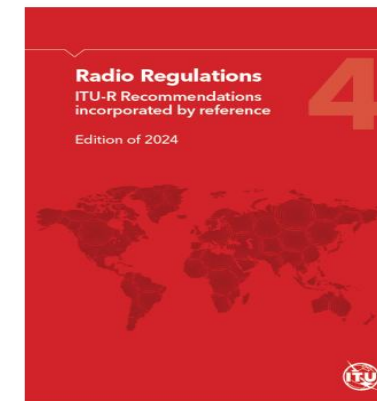
VOLUME 1:
Articles
(62)



VOLUME 2:
Appendices
(23)*



VOLUME 3:
Resolutions (202)*
and
Recommendations (25)*



VOLUME 4:
ITU-R Recommendations
incorporated by reference
(39)*

RR edition 2024 entered into force on 1.01.25, available in 6 UN languages at [Radio Regulations - ITU](#)



WRC-27 preparation cycle





Important steps of WRC process

- **Agenda** – determines the scope of discussions. WRC-27 Agenda in [Resolution 1422](#)
 - Agenda is important, stable. It has a legal notion
- **ITU-R Studies** - heart of all WRC preparations
 - Making sure that all interference scenarios are analysed and cleared, to keep interference within manageable limits
 - Study results are summarized in the report of the [Conference Preparatory Meeting](#) (CPM)
- **WRC** – allocates bands and establishes operational conditions for newly allocated services
 - WRC is a treaty making Conference, so the final say remains with ITU Member States

ICAO participates in all preparation steps (CPM, studies, WRC), except decision-making at WRC



ITU-R Preparatory Studies for WRC-27

www.itu.int/go/rcpm-wrc-27-studies

WRC-27 agenda Item (Chapter)	Topic	WRC Resolution (*)	Responsible Group(s)	Information from Responsible Group(s) 
1		-	-	-
1.1 (1)		Res.176 (Rev.WRC-23)	WP 4A	Doc. 4A/128 Annex 1 (b), Doc. 4A/1064 (d) Sec. 1, 2.8.1, 4.3, 4.3.1+sub-sec., 4.3.5, 5.1.4, 6, Annex 1 (c), Annex 2, Annex 3 (e)
1.2 (1)		Res.129 (WRC-23) (ex.COM6/1)	WP 4A (1)	Doc. 4A/128 Annex 3 (b), Doc. 4A/1064 (d) Sec. 1, 2.8.1, 4.3, 4.3.2, 4.3.5, 5.1.4, 5.3, 6, Annex 5, Annex 6 (Annex 1, Annex 2, Annex 3, Annex 4, Annex 5, Annex 6, Annex 7, Annex 8), Doc. 4A/1070 (d) all Sec., Annex 1 (c)
1.3 (1)		Res.130 (WRC-23) (ex.COM6/3)	WP 4A	Doc. 4A/567 Annex 6 (b), Doc. 4A/1064 (d) Sec. 1, 2.8.1, 4.2, 4.2.1, 4.2.7, 5.1.4, 6, Annex 7 (c), Annex 8
1.4 (1)		Res.726 (WRC-23) (ex.COM6/24)	WP 4A	Doc. 4A/1064 (d) Sec. 1, 2.8.1, 4.3, 4.3.3, 4.3.5, 5.1.2, 5.1.4, 6, Annex 9 (c), Annex 10, Annex 11 (b)
1.5 (1)		Res.14 (WRC-23) (ex.COM6/6)	WP 4A	Doc. 4A/1064 (d) Sec. 1, 2.8.1, 4.4, 4.4.1, 4.4.4, 5, 5.1.2, 5.1.4, 5.3, 6, Annex 12 (c), Annex 13, Doc. 4A/1075 (d) all Sec., Annex 1 (c), Annex 2
1.6 (1)		Res.131 (WRC-23) (ex.COM6/7)	WP 4A	Doc. 4A/128 Annex 11 (b), Doc. 4A/567 Annex 12, Doc. 4A/1064 (d) Sec. 1, 2.8.1, 4.4, 4.4.2, 4.4.4, 5.1.4, 6, Annex 14 (c)
1.7 (2)		Res.256 (WRC-23) (ex.COM6/26)	WP 5D	Doc. 5D/1394 (d) (a), Chapter 1 (a), Chapter 2 (a), Annex 2.9.9 (b), Chapter 4 (a), Annexes 4.1, 4.2 (c), 4.3, 4.4 (4.5, 4.6, 4.7, 4.8, 4.9, 4.10), 4.11 (4.12, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23, 4.24, 4.25), 4.26 (4.27, 4.28, 4.29, 4.30), 4.31, Chapter 6 (a), Chapter 7 (a)

- As of 26 August 2026
- Updated on a regular basis after meetings of the ITU-R Working Parties responsible for WRC-27 preparations



National and regional preparations

➤ *National preparations*

- Starting point of WRCs process. Development of a national position, which is injected in regional and international discussions
- Each telecom regulator has to keep a balance between different services to respond to the needs of the population and national objectives
- Aviation needs to actively participate in development of national positions. To protect the existing usage and satisfy its future requirements

➤ *Regional preparations*

- 6 Regional Telecommunication Organizations
- consolidate views at regional level, assist in discussions between regions, facilitate reaching a common understanding, save time during WRCs (6 views instead of 194)



Information on the regional preparation for WRC-27

www.itu.int/en/ITU-R/conferences/wrc/2027/Pages/reg-prep.aspx



Asia-Pacific Telecommunity
(APT)



Arab Spectrum
Management Group
(ASMG)



African
Telecommunications Union
(ATU)



European Conference of Postal
and Telecommunications
Administrations (CEPT)



Inter-American
Telecommunication
Commission (CITEL)



Regional Commonwealth
in the Field of
Communications (RCC)

- 6 Regional Telecommunication Organizations
- consolidate views at regional level, assist in discussions between regions, facilitate reaching a common understanding, save time during WRCs (6 views instead of 194)
- Inter-American Telecommunication Commission (CITEL) – 35 Member States. Next meeting: 30 November – 4 December 2026, Columbia

Inter-American Telecommunication Commission (CITEL)



- ▶ <http://www.citel.oas.org/en/Pages/PCCII>
- ▶ Chair of the PCC.II Working Group relative to the CITEL's Preparation for WRCs:
Mr. Ricardo Martinez, Colombia (Republic of)
ricardo.martinez@ane.gov.co
- ▶ [Status of the preparation for WRC-27 after the 47th meeting of PCC.II \(version of 10 May 2026\)](#)

Meetings

- ▶ 50th PCC.II: [30 August - 3 September 2027, Ottawa, Canada]
- ▶ 49th PCC.II: [24 - 28 May 2027, Brazil]
- ▶ 48th PCC.II: [30 November - 4 December 2026, Bogota, Colombia]
- ▶ 47th PCC.II: 6 - 10 April 2026, Portsmouth, Dominica (Commonwealth of)
- ▶ 46th PCC.II: 29 September - 3 October 2025, Salvador, Bahia, Brazil
- ▶ 45th PCC.II: 2-6 June 2025, Mexico City, Mexico
- ▶ 44th PCC.II: 23-27 September 2024, Merida, Mexico



Preparations at international level (ITU)

1. Studies in ITU-R responsible and contributing Groups
2. Sessions 1 and 2 of the Conference Preparatory Meeting
3. Three ITU Interregional Workshops on WRC-27 preparations:

1st Workshop: 3 – 5 December 2025

Presentation of challenging ITU-R studies. Presentation of preliminary views of regional groups, international organizations on their positions

2nd Workshop: 14 -16 December 2026

Presentation of the challenging parts of Draft CPM Report. Presentation of regional groups, international organizations on positions for CPM-2

3rd Workshop: [Q 3/4 of 2027]

Presentation of CPM & Director's Reports to WRC-27. Presentation of regional groups, international organizations on positions, common proposals to WRC-27



WRC-27 agenda

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
-
- 1.7** IMT
4400-4800 MHz / 7125-8400 MHz / 14.8-15.35
 - 1.8** 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

FIXED, MOBILE AND RADIOLOCATION

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

19 agenda items + 11 standing agenda items (AI).
80 % of the WRC-23 Agenda are space related issues
No aviation agenda items, but some AIs may affect aeronautical services



Preparations to WRC-31 and future challenges

➤ *WRC-31 preparations*

- WRC-31 preparations started. Preliminary agenda in Res. 814 (WRC-23). 14 agenda items
- WRC-31 agenda to be confirmed by WRC-27. Preliminary studies for WRC-31 are [here](#)
- Some WRC-31 agenda items may affect aviation, e.g. AI 2.9 – new RNSS in 5 GHz band

➤ *Some WRC challenges*

- How regulations can keep up with rapidly evolving technologies, given 4-year WRC cycle?
- How to keep balance between equitable access of countries to spectrum/orbit and the “first come, first served” approach that encourages spectrum efficiency and innovations ?
- How to better accommodate converging applications (direct-to device, ESIMs) under current RR that are based on allocating frequency blocks to defined radiocommunication services?
- How to ensure compliance of countries with international regulations they adopted at WRCs?



T h a n k y o u !