



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY





ICAO WRC-27 Preparatory Workshop

ITU Preparatory process towards WRC-27

Nikolai Vassiliev

Chief, Terrestrial Services Department
Radiocommunication Bureau, ITU

EUR/MID WRC-27 (World Radiocommunication Conference 2027) Workshop
(Paris, France, 06-07 October 2025)



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 emerging radio applications, while protecting the existing usage
(example: *spectrum for space-based VHF -> protection of adjacent science services*)
- Maintain the 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 telecom industry
(*prerequisite for stable investments and development of the industry*)

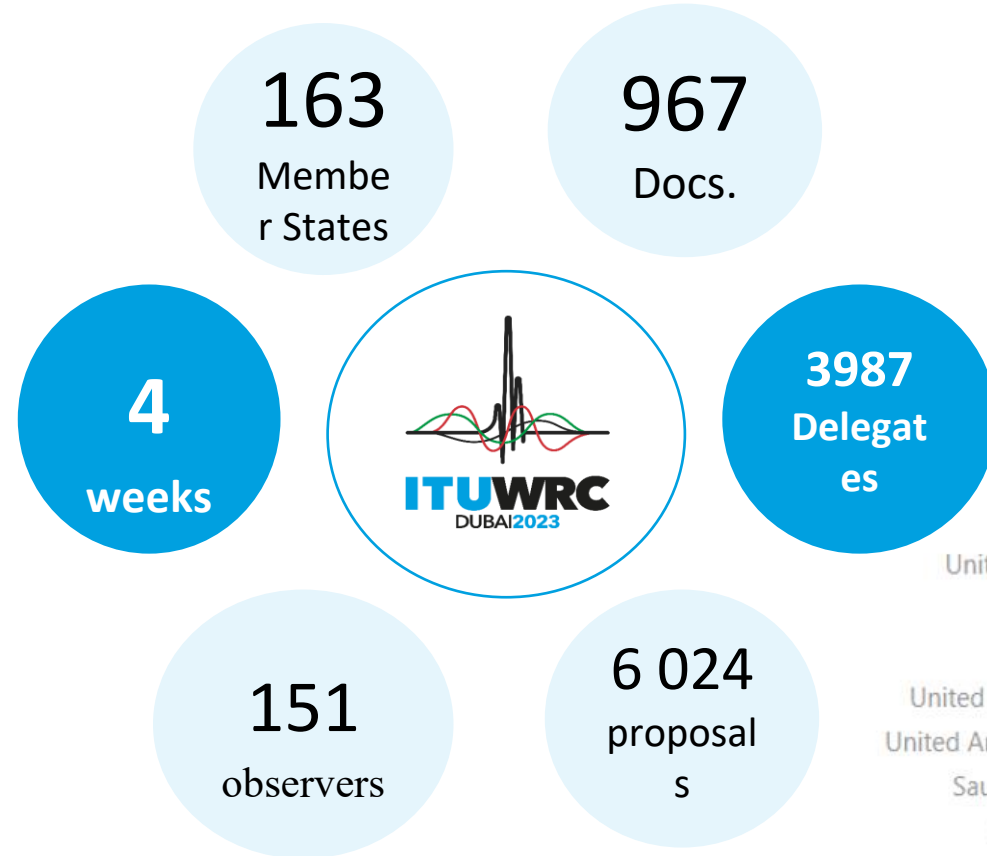
WRC evolution

IRTC-1906 ('WRC-1906')

10 days
120 participants
30 countries



WRC-23

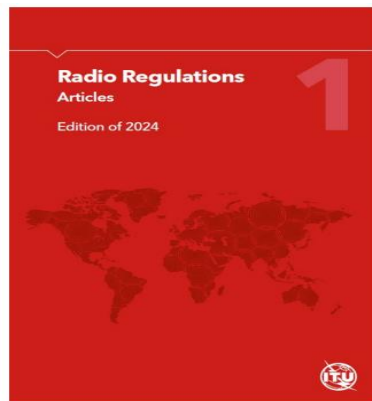


WRCs are held every 3-4 years

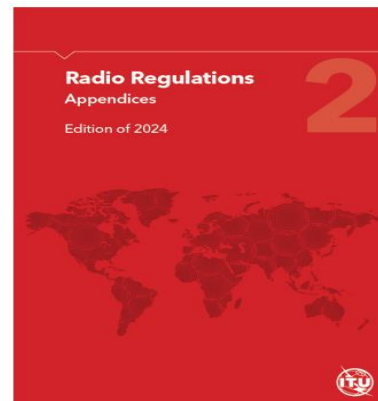


ITU Radio Regulations

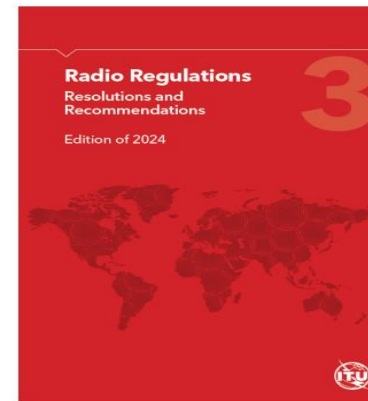
- World Radiocommunication Conferences develop and update **the Radio Regulations** (RR)
- RR contain international rules for use of spectrum and satellite orbits
- RR is an intergovernmental treaty: mandatory for application by ITU Member States
- Main goals of the RR:
 - interference free operation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



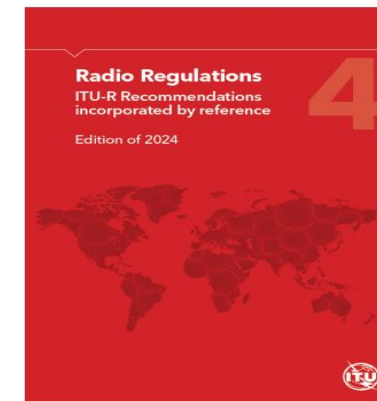
VOLUME 1:
Articles
(62)



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](https://www.itu.int/rr2024/)



WRC-27 preparation cycle





Important steps of WRC process


- **Agenda** – determines the scope of discussions
 - 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
- **WRC** – allocates bands and establishes operational conditions for newly allocated services
 - WRC is 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/567 (d) (Rev.1) Sec. 2.8.1, 3.3, 3.3.1, 3.3.5, Annex 1 (f)
1.2 (1)		Res.129 (WRC-23) (ex.COM6/1)	WP 4A (1)	Doc. 4A/128 Annex 3 (b), 4A/343 Annex 4 (c), Doc. 4A/567 (d) (Rev.1) Sec. 2.8.1, 3.3, 3.3.2, 3.3.5, 4.1.1, 4.2, Annex 3 (Part 2, Part 3, Part 4, Part 5, Part 6, Part 7)
1.3 (1)		Res.130 (WRC-23) (ex.COM6/3)	WP 4A	Doc. 4A/567 (d) (Rev.1) Sec. 2.8.1, 3.2, 3.2.1, 3.2.6, 4.1.4.1, Annex 4, Annex 5 (c), Annex 6 (b)
1.4 (1)		Res.726 (WRC-23) (ex.COM6/24)	WP 4A	Doc. 4A/567 (d) (Rev.1) Sec. 2.8.1, 3.2.1, 3.3, 3.3.3, 3.3.5, 4.1.1, 4.1.4.1, Annex 7, Annex 8 (c), Annex 9 (b)
1.5 (1)		Res.14 (WRC-23) (ex.COM6/6)	WP 4A	Doc. 4A/567 (d) (Rev.1) Sec. 2.8.1, 2.9.2, 3.4, 3.4.1, 3.4.4, 4, 4.1.4.2, Annex 10, Annex 11 (c)
1.6 (1)		Res.131 (WRC-23) (ex.COM6/7)	WP 4A	Doc. 4A/128 Annex 11 (b), Doc. 4A/567 (d) (Rev.1) Sec. 2.8.1, 3.4, 3.4.2, 3.4.4, Annex 12, Annex 13 (c)
1.7 (2)		Res.256 (WRC-23) (ex.COM6/26)	WP 5D	Doc. 5D/792 (d) (a), Chapter 1 (a), Annex 1.1 (a), Chapter 2 (a), Annex 2.9.6 (b), Chapter 4 (a), Annexes 4.8, 4.9 (c), 4.10, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19(Rev.1), 4.20, 4.21, 4.22, 4.23, 4.24, 4.25, 4.26, 4.27, 4.28, 4.29, 4.30, Chapter 6 (a), Chapter 7 (a)

- The Table is as of 1 October 2025
- Updated on a regular basis after meetings of the responsible groups



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



- ▶ <http://www.apr.int/APTAPG>
- ▶ Chair, APG-27:
Mr. Nobuyuki Kawai, Japan,
no-kawai@kddi.com
aptapg@apr.int
- ▶ APT Preliminary Views on WRC-27 agenda items
(as a result of APG27-2)

Meetings

- ▶ 3rd APG-27 (APG27-3): [July 2026, Japan]
- ▶ 2nd APG-27 (APG27-2): 28 July-1 August 2025, Pattaya, Thailand



- ▶ www.asmg.bh
- ▶ Chair, ASMG:
Mr. Tariq AL AWADHI, UAE,
tariq.alawadhi@tdra.gov.ae

Meetings

- ▶ 33rd ASMG: 8-11 September 2025, Abu Dhabi, UAE
- ▶ 32nd ASMG: 13-16 May 2024, Amman, Jordan

African Telecommunications Union (ATU)



- ▶ <http://www.atuuat.africa>
- ▶ Secretary General – African Telecommunications Union:
Mr. John OMO
sg@atuuat.africa

Meetings

- ▶ 2nd APM-27 (APM27-2): 11-15 August 2025, Nairobi, Kenya
- ▶ 1st African Group Preparatory Meeting (APM) for WRC-27 (APM27-1): 30 July-2 August 2024, Maseru, Lesotho

European Conference of Postal and Telecommunications Administrations (CEPT)



- ▶ <http://www.cept.org/ecc/groups/ecc/cpg>
- ▶ Chair, CPG:
Mr. Stephen Talbot, United Kingdom,
stephen.talbot@ofcom.org.uk
- ▶ CPG Chair - Presentation for Regional Groups
June 2025 (version of 9 July 2025)

Meetings

- ▶ 4th CPG-27 (CPG27-4): 15-18 December 2025, Nuuk, Greenland, Denmark
- ▶ 3rd CPG-27 (CPG27-3): 10-13 June 2025, Groningen, Netherlands

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

Regional Commonwealth in the Field of Communications (RCC)



- ▶ <http://en.rcc.org.ru>
- ▶ Chair, RCC WG WRC-27/RA-27 *:
Mr. Sergey Pastukh, Russian Federation
serg-past@mail.ru; pastuhsy@nic-t.ru
- ▶ Draft preliminary position of the RCC
Administrations on the WRC-27 agenda items



Preparations at international level (ITU)

1. Studies in ITU-R responsible and contributing Groups
2. Sessions 1 and 2 of the Conference Preparatory Meeting (now under improvement)
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: [2 -4] 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.
80 % of the WRC-23 Agenda are space related issues



T h a n k y o u !