



Seminario Regional de Radiocomunicaciones 2021
para las Américas (SRR-21-Américas)

26 Abril – 7 Mayo 2021

World Radio Conferences, WRC

Joaquin RESTREPO

Capacity Building Coordinator/ SGD
Radiocommunications Bureau, BR



World Radio Conferences, WRC

WRC performs a complete and detailed review of the Radio Regulations RR (RR), and its Rules of Procedure (RoP)

WRC updates RR & RoP considering technological developments on Spectrum Radio and sector realities and challenges, to respond early and appropriately to these changes.

WRC have the authority to modify the RR by addenda, modifications or deletions they deem pertinent. These modifications are made by consensus, and only if necessary, would vote (one vote per administration).

Purpose of ITU WRC

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

WRC Duties

1. Consider any radiocommunication matter of worldwide character
2. Develop instructions to the Radio Regulations Board and the Radiocommunication Bureau, and review their activities
3. Determine issues considered by Radiocommunication Assembly and Study Groups as part of the preparatory work for WRC future
- 4 . **Set agenda of next WRC, and subsequent draft.**

World Radiocommunication Conferences (WRCs)

- -Update the Radio Regulations, the international treaty on the use of radio spectrum and satellite orbits
- Brought together all stakeholders in a process that is aimed at building consensus
- Provided a stable and predictable regulatory environment needed for future investments
- Enabled new radiocommunication systems and applications to access the radio spectrum
- Protected the operation of existing radiocommunication services
- Ensured the rational, equitable, efficient and economical use of the radio-frequency spectrum and satellite-orbit resources

WRC Calendar

WRCs performs every 4 years; normally is held at Geneva, Switzerland, with a typical duration of 4 weeks

WRC-15: Geneva, Switzerland 2-27 November 2015 (WRC-15)

WRC-19: Sharm el-Sheikh (Egypt) 28/10 – 22/11 2019 (WRC-19)

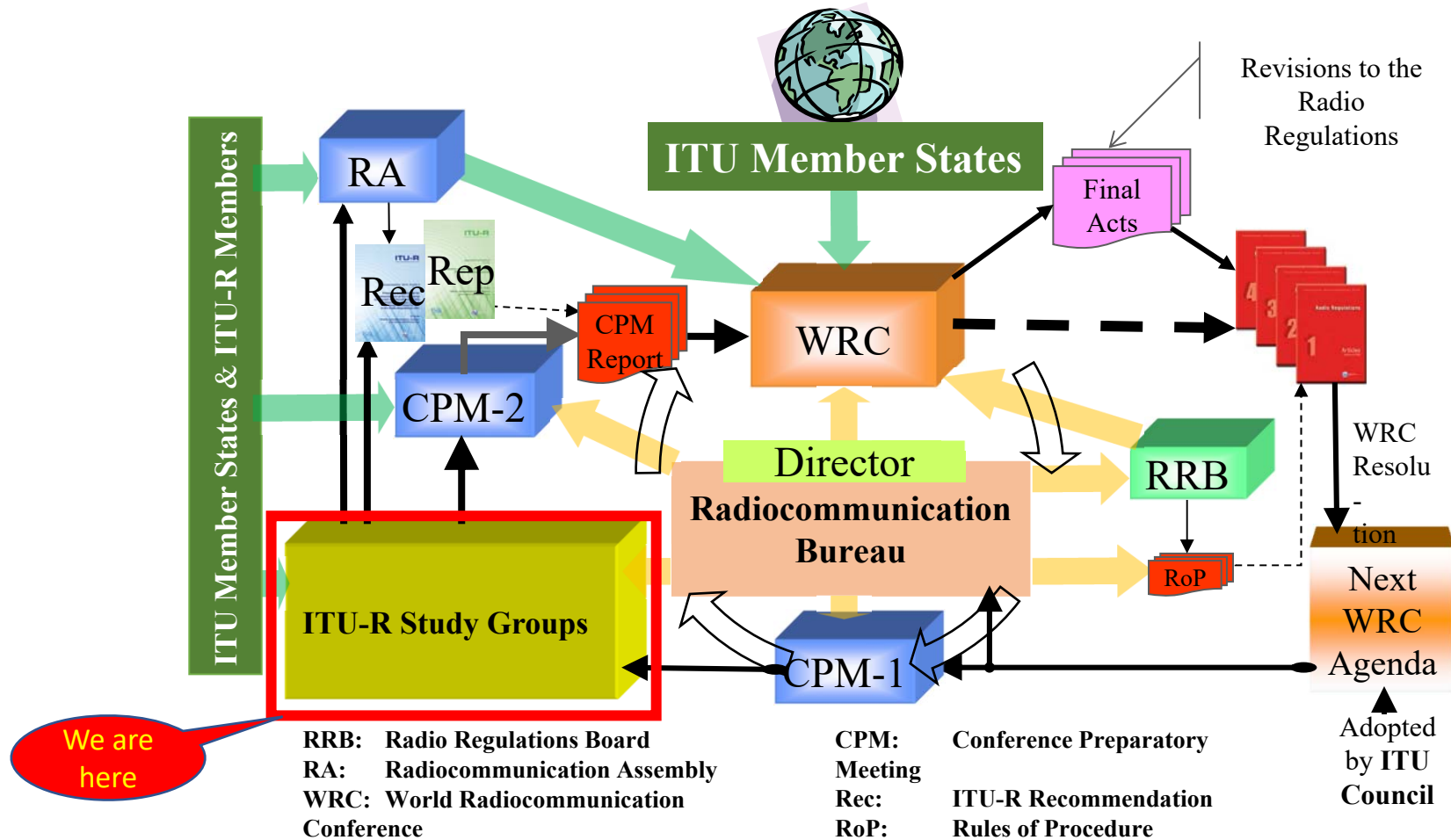
WRC-23: Geneva, Switzerland (tbc) 2023 (WRC-23)

Inter WRC preparatory meetings (CPM) are held, typically two:

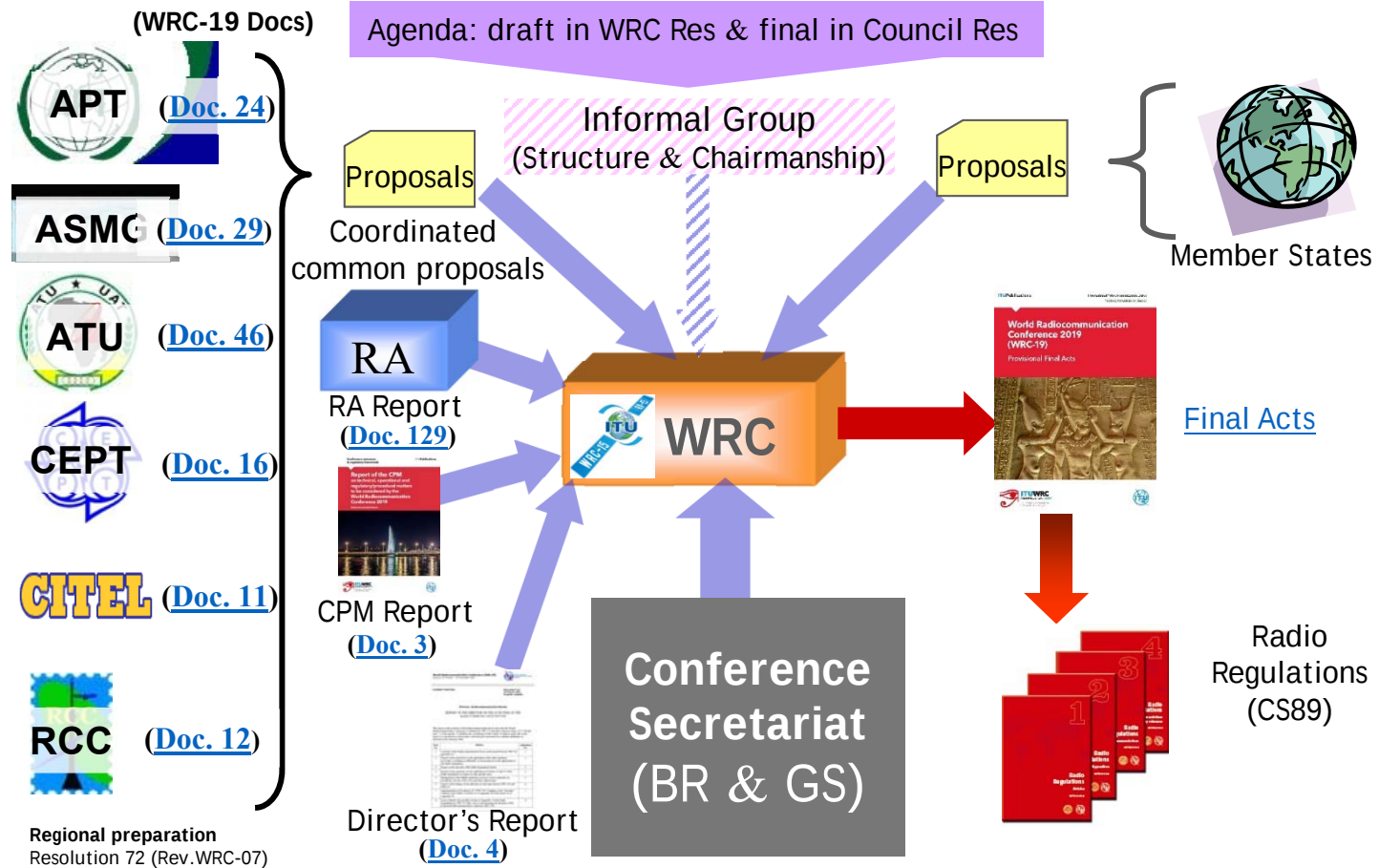
1st : the week after the WRC; 2nd : ~ 6 months before next WRC.

Regional conferences are held, usually one for each regional ICT Organization, 6 to 12 months before each WRC.

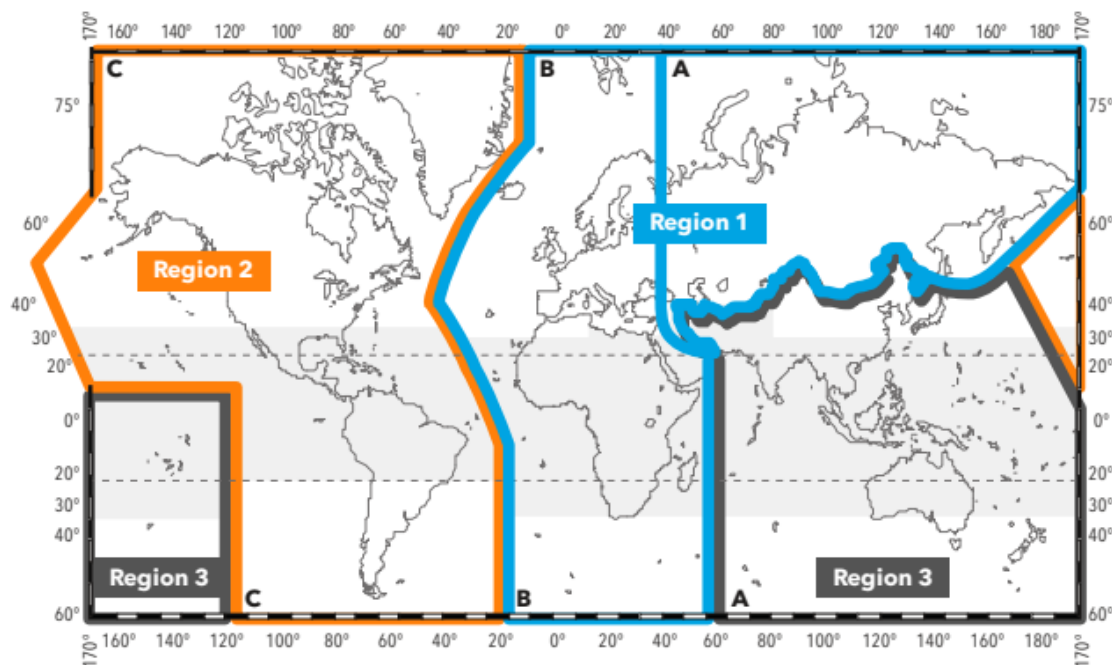
The WRC Cycle



The WRC Process



Worldwide or Regional Spectrum Harmonization



Benefits :

- Reduces the potential for **harmful interference**
- Enables interoperability and **international roaming**, allowing citizens to use the same device in different countries
- Increases economies of scale, thereby enabling **affordable devices and services**
- Supports **emergency communications**

World Radiocommunication Conference 2019 (WRC-19)

Provisional Final Acts



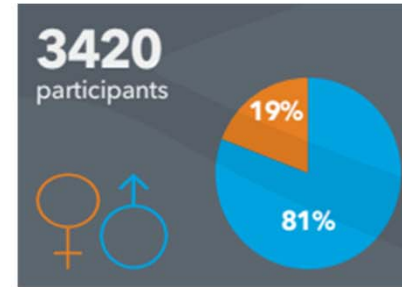
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<https://www.itu.int/en/ITU-R/conferences/wrc/2019/Documents/PFA-WRC19-E.pdf>



WRC-19 in numbers



A 113 year-old international treaty

568 documents

163 countries

51 amended existing resolutions

5811 Proposals

129 participating entities

52 new resolutions

RA-19:

- 521 participants,
- 473 delegates from 91 ITU Member States
- 48 from ITU-R Sector members



Topics considered at WRC-19

1.13
1.14
1.15
1.16



Fix. & Mob. BB Apps
(24.25 < IMT < 86 GHz,
HAPS, Apps.Id>275 GHz,
WAS/RLAN @ 5 GHz)

**Maritime (GMDSS
modernization (+Sat.),
use of radio devices,
VDES Sat component)**

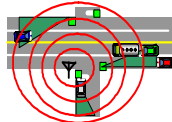


1.8
1.9.1
1.9.2

1.1



**Amateur in R1
@ 50-54 MHz**
(4WW allocation)



1.11
1.12



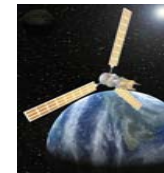
**New Transport
systems**
(harmonized bands
for railways, ITS)



**Aeronautical
(GADSS needs)
Satellite issues**
(BSS/FSS @12 GHz,
ESIM, regul. for N-
GSO FSS @ 37.5 to
51.4 GHz)



1.10



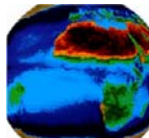
1.4, 1.5, 1.6

Regulatory issues
(Sat. regulations,
harmonization of
spectrum use, etc.)



7 (incl. 11 issues)
8

1.2
1.3
1.7



**Earth resources &
Climate monitoring
Weather forecast,
DCS improvement, TT&C for
N-GSO Sat. of short duration**

Note: WRC-19 agenda item numbers indicated in italic

*Plus other standing agenda items:
2, 4, 9.1 (incl. 10 issues), 9.2, 9.3 and 10*

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-19 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-19 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-19 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)

Ad Hoc Group of the Plenary

WRC-19 established an Ad Hoc Group of the Plenary to draft the text of the Gender Declaration to promote gender equality, equity and parity in the ITU Radiocommunication Sector.

Main WRC-19 key achievements

IMT

Additional bands identified in the 24.25-27.5 GHz, 37-43.5 GHz, 45.5-47 GHz, 47.2-48.2 and 66-71 GHz bands, facilitating development of fifth generation (5G) mobile networks.

WiFi networks

Regulatory provisions revised to accommodate both indoor and outdoor usage and the growth in demand for wireless access systems, including RLANs for end-user radio connections to public or private core networks, such as WiFi, while limiting their interference into existing satellite services.

High-altitude platform stations (HAPS)

Additional frequency bands Identified for High Altitude Platform Systems – radios on aerial platforms hovering in the stratosphere – to facilitate telecommunications within a wide coverage area below for affordable broadband access in rural and remote areas.

Main WRC-19 key achievements

Intelligent Transport Systems (ITS)

ITU Recommendation (standard) approved to integrate ICTs in evolving Intelligent Transport Systems (ITS) to connect vehicles, improve traffic management and assist in safer driving.

Railway radiocommunication systems between train and trackside (RSTT)

Resolution approved on Railway radiocommunication systems to facilitate the deployment of railway train and trackside systems to meet the needs of a high-speed railway environment in particular for train radio applications for improved railway traffic control, passenger safety and security for train operations.

Main WRC-19 key achievements

Non-Geostationary Satellites

Regulatory procedures established for non-geostationary satellite constellations in the fixed-satellite service, opening the skies to next-generation communication capabilities. Mega-constellations of satellites consisting of hundreds to thousands of spacecraft in low-Earth orbit are becoming a popular solution for global telecommunications, as well as remote sensing, space and upper atmosphere research, meteorology, astronomy, technology demonstration and education.

Regulatory changes introduced to facilitate rational, efficient and economical use of radio frequencies and associated orbits, including the geostationary-satellite orbit.

Earth stations in motion (ESIM)

The decision on ESIMs will connect people while in planes, ships, and trains to communication links with geostationary satellites.

1
7

Main WRC-19 key achievements

Broadcasting-satellite service (BSS)

Protection of frequency assignments, providing a priority mechanism for developing countries to regain access to spectrum orbit resources.

Earth exploration-satellite (EESS) service

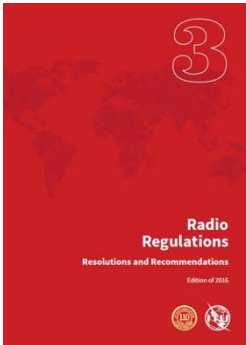
Protection accorded to EESS with the possibility of providing worldwide primary allocation in the frequency band 22.55-23.15 GHz in order to allow its use for satellite tracking, telemetry and control.

Global Maritime Distress and Safety System (GMDSS)

Expanded coverage and enhanced capabilities for GMDSS.

Review of W(A)RC Res. & Rec.

WRC-19 agenda item 4



- Modification of 30 Resolutions and 7 Recommendations to take into account results of requested activities and outdated references, including updating of **Res. 155** (UAS CNPC links), **Res. 647** (emergencies and disasters) and clarifications on **Res. 750** (protection of EESS)
- Modification of **Res. 95** to **clarify the procedure for implementing this agenda item (including at CPM)**

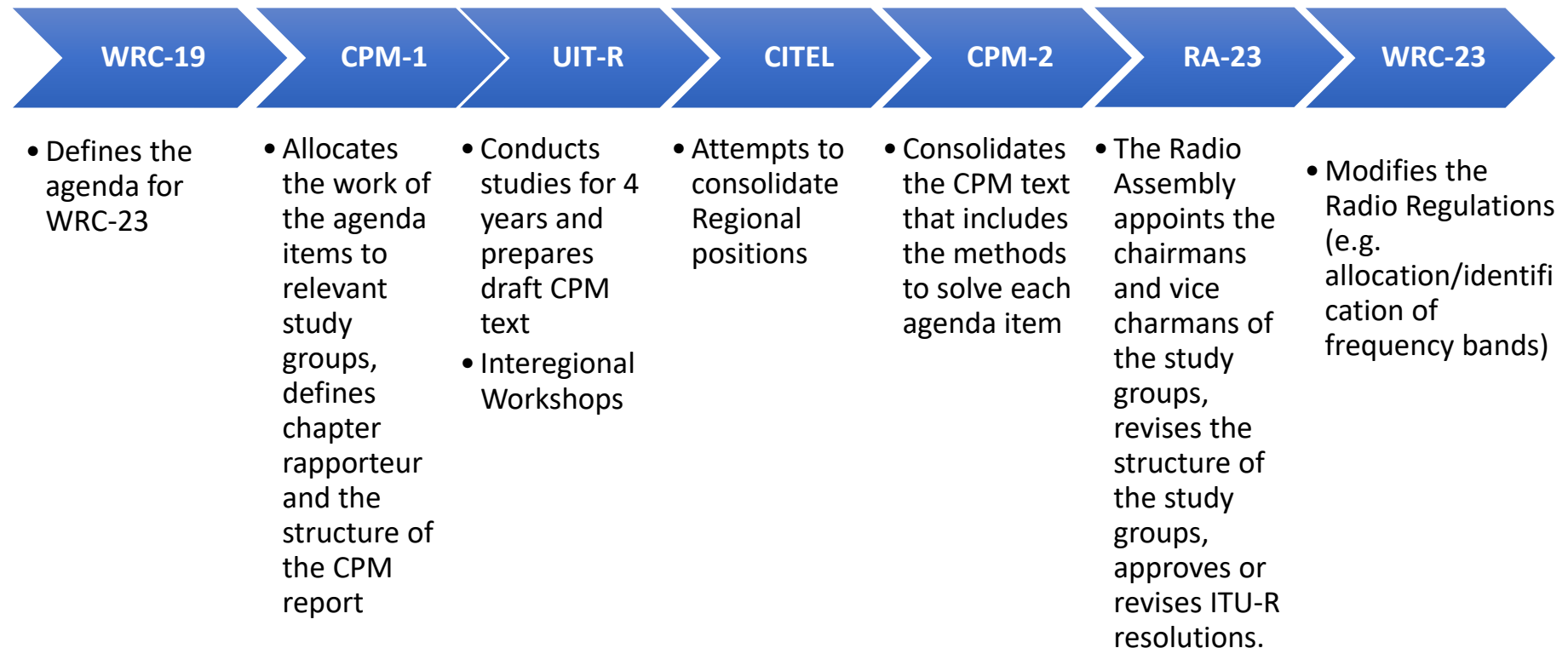
Review of Country footnotes in RR Article 5

WRC-19 agenda item 8



- SUP of several country names ► **higher harmonization of the spectrum use**
- ADD of country names to some footnotes to recognize specific national uses
- Modification of **Res. 26** to **include guidance on the approach taken at previous WRCs for implementing this agenda item**, in particular with respect to proposals to add country names to existing footnote, while recognizing that it is **not the intention of WRCs to encourage the addition of country names to existing footnotes**

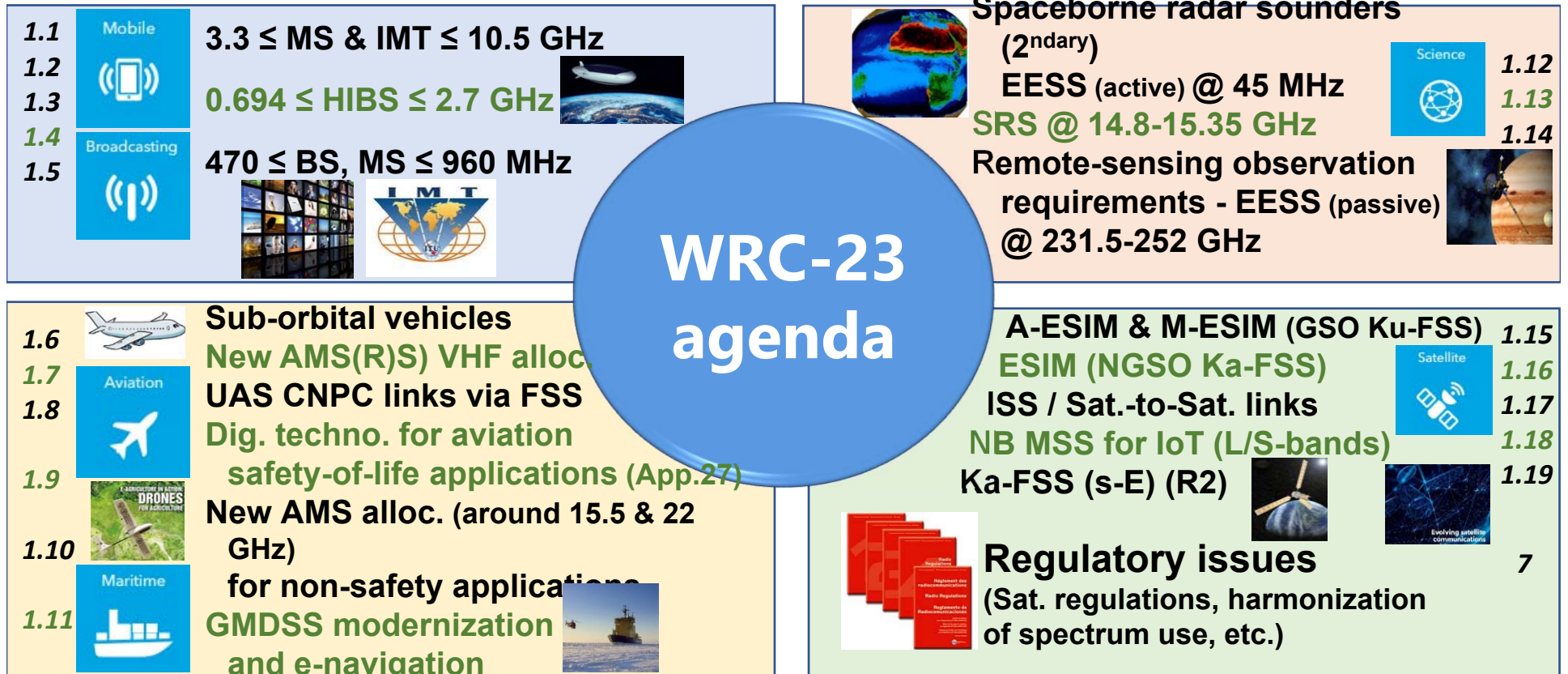
WRC-23 Process



CITEL

Topics on the WRC-23 Agenda

WRC-19 agenda item 10



Note: WRC-23 agenda item numbers indicated in italic

► 19 specific and 11 standing items, see Res. 811 (WRC-19)



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GRACIAS

Joaquin RESTREPO

mayor información:

joaquin.restrepo@itu.int

